
ICT Documentation

Release 1.0

RW

November 02, 2016

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All documents for ICT teachers are now online on this site.

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Lab Setup & Maintenance Handbook

All necessary information on setting up an E-Learning Centre can be found in this handbook.

If you have any queries, please contact Camara. All Camara E-Learning Centres must meet our high standards in security and safety; equipment will NOT be installed in sub-standard labs.

Layout in Scribus

Camara Education

www.camara.org

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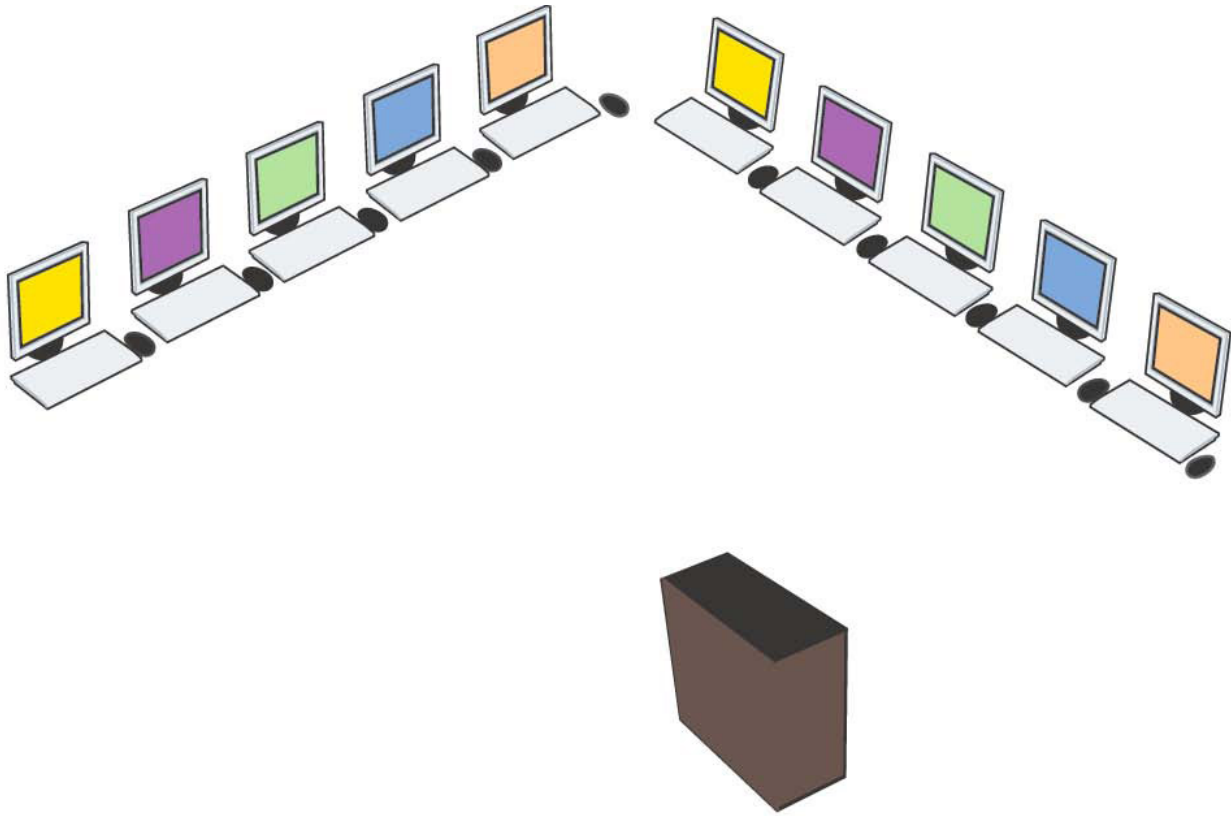
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1.2 1. LAB SIZE AND SHAPE

1.2.1 1.1 L-Shaped

ADVANTAGES OF AN L-SHAPE

- The teacher can observe each computer screen in the classroom without having to walk around.
- Students can see the whiteboard without obstruction.
- It enables a lab to be set up in a smaller space



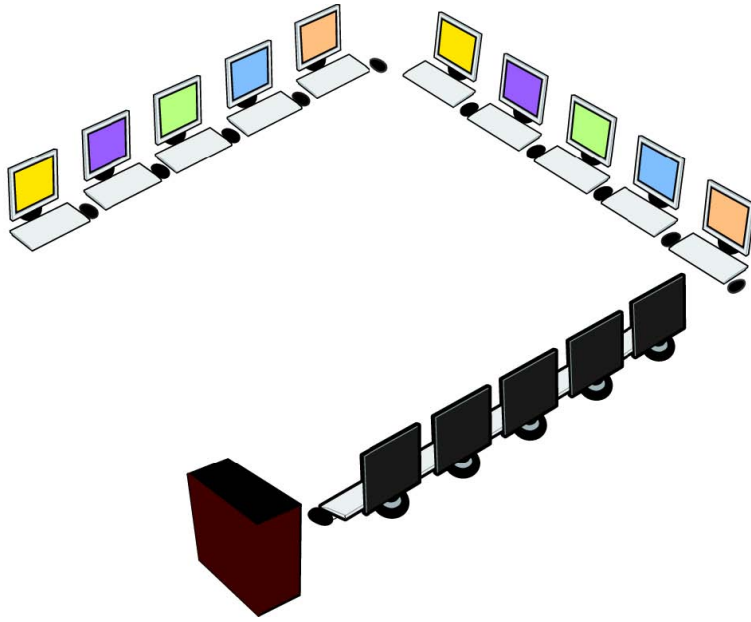
It is important that you correctly measure the room that is proposed will contain the computer lab. Also, note the location of all electrical sockets in the room

1.2.2 1.2 U-Shaped

Camara recommends that all labs be set up in a U-shape.

ADVANTAGES OF A U-SHAPE

- The teacher can observe each computer screen in the classroom without having to walk around.
- Students can see the whiteboard without obstruction.
- In large classrooms, it maybe useful to have chairs and tables in the middle of the room for the theoretical or discussion sections of the class, so that students are not distracted by the computers.
- This lab arrangement avoids cables in the centre of the room which helps to prevent tripping or other accidents.



1.2.3 1.3 E-Shaped

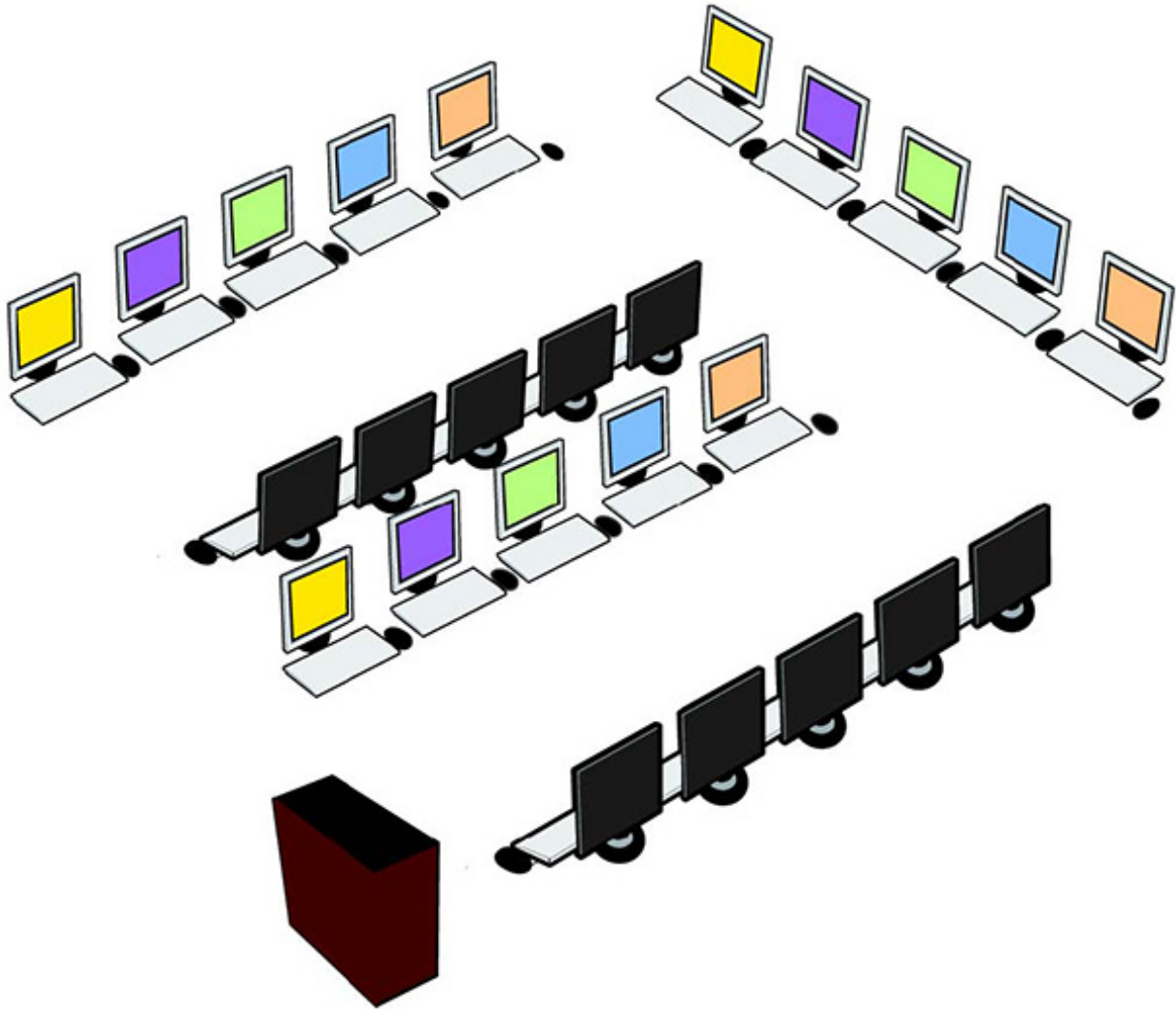
In some cases, e.g Polytechnic Colleges, Camaralabs maybe in an Eshape.

ADVANTAGES OF AN E-SHAPE

- Increases the amount of available space for learning and equipment.

DISADVANTAGES OF AN E-SHAPE

- Difficult to teach in as the teacher does not have full control of the room.
- Cables and wires must be carefully covered with secure trunking to prevent tripping and breakage



1.2.4 1.4 Double U-Shaped

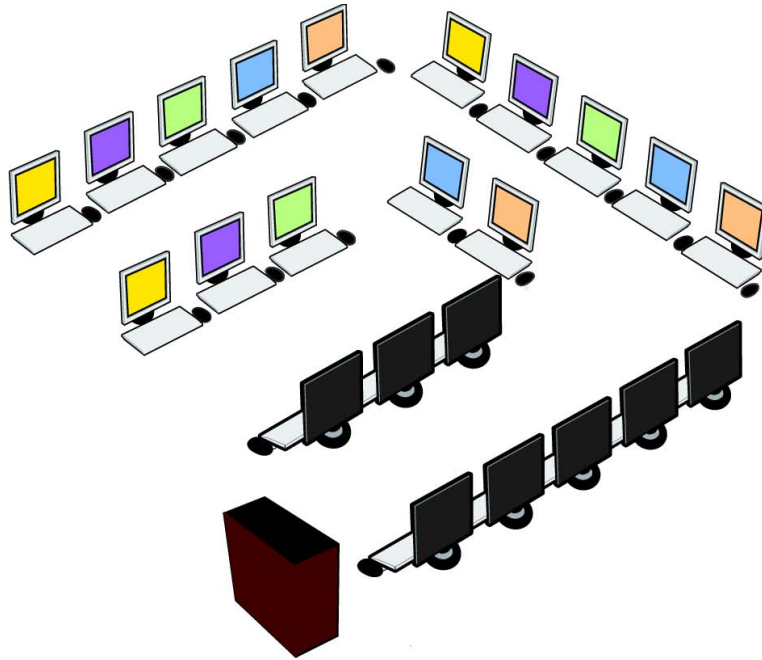
In some cases, e.g Polytechnic Colleges, Camaralabs maybe in a Double U-shape.

ADVANTAGES OF A DOUBLE U-SHAPE

- Increases the amount of available space for learning and equipment.

DISADVANTAGES OF A DOUBLE-SHAPE

- Are difficult to teach in as the teacher does not have full control of the room.
- Cables and wires must be carefully covered with secure trunking to prevent tripping and breakage.



1.2.5 1.5 Accessibility & Safety

ACamara computerlab should be arranged so as to facilitate any student with impaired mobility.

ACCESS FOR PEOPLE WITH MOBILITY IMPAIRMENTS



Doorway Openings:

- at least 81.5 cm (32") wide

Work Surfaces:

- 76 cm (30") high
- 70-75 cm (29") floor clearance
- at least 51 cm (20") deep
- minimum width of 1.5 cm (36") to allow leg space for the seated individual

Aisle width:

- 107cm (42") to 122cm (48") sufficient to operate a wheelchair.

Ideally, provide at least one adjustable workstation in your computer lab

FIRE SAFETY



- The trainer should not leave the class while students remain present.
- All cables should be safely installed inside trunking to avoid impeding exit. Contact your Emergency Fire Control Centre for design advice

Adequate thought and planning in setting up the lab helps to create a safe and productive learning environment

1.2.6 1.6 Minimum Lab Sizes

Empowerment E-Learning Centre 10 PCs	Progress E-Learning Centre 15 PCs	Light E-Learning Centre 20 PCs	Development E-Learning Centre 25 PCs
Minimum Room Size 4m x 4m (16m²)	Minimum Room Size 6m x 6m (36m²)	Minimum Room Size 6m x 10m (60m²)	Minimum Room Size 9m x 10m (90m²)

1.2.7 1.7 Furniture & Fittings



Camara PCs must be supported on strong, stable and sufficiently large tables, with students using sturdy chairs or benches.

Computers should be spaced approximately 90 cm apart - this is to ensure that students are not cramped in the classroom, particularly when students are sharing workstations. Tables should be approximately 70 cm high.

All Labs should have a whiteboard (formica) but NOT a blackboard as chalkdust causes damage to computers.

1.3 2. INSTALLATION

1.3.1 2.1 Peripherals

Computer peripherals include mice, keyboards, monitors and printers.

All devices and peripherals should be plugged in at bootup. USB drives, headphones, etc. maybe plugged in after boot up.

The **power cable** is connected at the back of the PC. All Power cables are plugged into a surge-protected power bar or UPS (Uninterrupted Power Supply) battery powered power supply unit.

The **mice and keyboard** are connected to the PS/2 ports at the back of the computer.

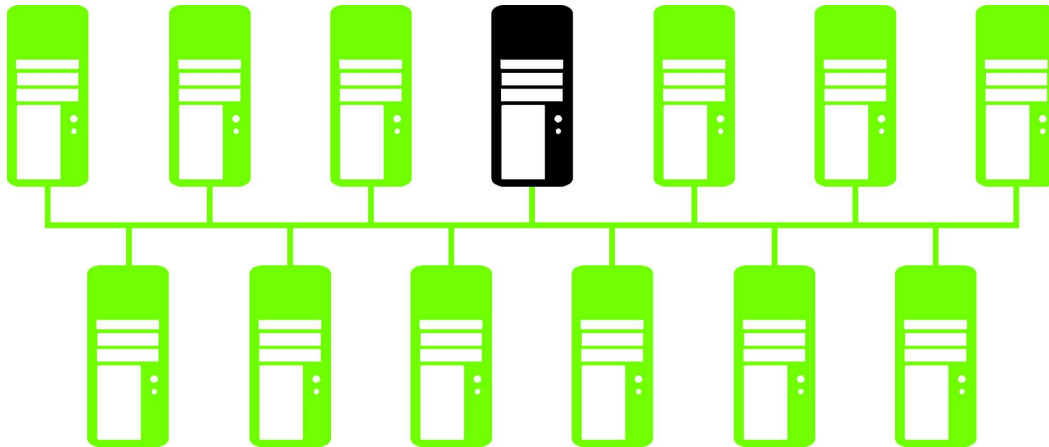
A flashing green light next to the **ethernet** port, when an ethernet cable is connected, indicates an active network connection.

The **monitor** is plugged into a video card port at the back of the computer with a VGA cable. Note: The video card may have a DVI port. If so, a DVI to VGA adapter is required in order to attach a VGA monitor. The adapter must be firmly attached to the computer port.

This section contains essential information to help you set up a Camara computer lab and understand the importance of certain aspects in creating the optimal environment.

1.3.2 2.2 Networking

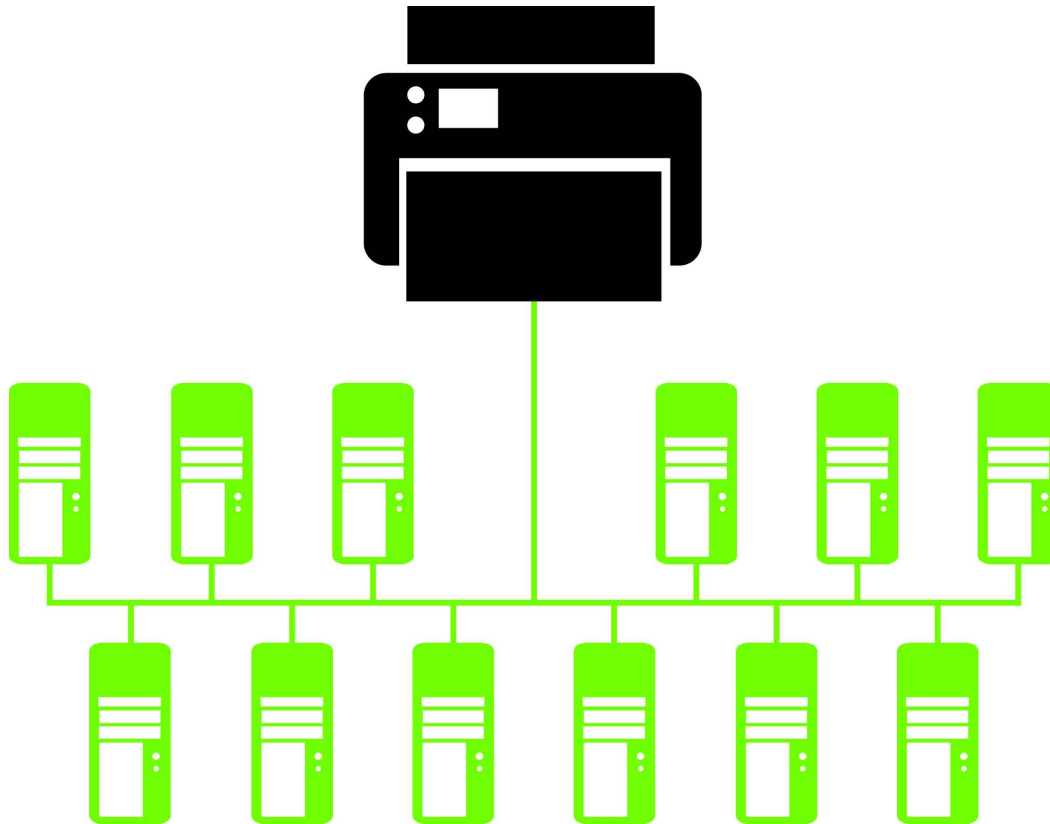
If your lab is networked, you may have access to a very large range of extra software, including server-based teaching tools such as Moodle. If an Internet connection is present you may have access to email and the Web at each PC.



1.3.3 2.3 Printers

It is necessary, before buying a printer, to ensure that is compatible with the installed version of Camarabuntu (Ubuntu).

If a network is present, the printer may be attached and accessed by all networked computers in the lab.



1.4 3. POWER & PROTECTION

1.4.1 3.1 Surge Protection

All Camara Labs MUST have a surge protection unit installed at the E-Learning Centre. This will prevent damage to the equipment when there are spikes or drops in power.

UPS - UNINTERRUPTED POWER SUPPLY

Camara recommends that an Uninterrupted Power Supply (UPS) be used with computers and equipment where a loss of power could cause a permanent loss of information; UPS's provide short-term electrical power should the normal supply fail.



1.4.2 3.2 Cables, Sockets & Trunking

Each Computer-Monitor pair must have one twin socket. For example, a 10 PC lab needs 10 twin sockets for the computers and monitors. You will need additional sockets for networking, wall fans, printers, scanners and projectors.

INSTALLATION

Sockets should be installed below the table line, this will prevent younger students from interfering with them.

All electrical wires should be contained within sealed, insulated trunking. The thickness of the wiring should be 2.5mm or higher. This will prevent shorting due to leaks, loss of current and injury to students and staff.

The thickness of the wires connecting the mains to the surge protection should be between 6-10mm.



1.4.3 3.3 Backup

It is important to regularly make copies of (or back up) data so that these additional copies can be used to restore information in the event of a data loss.

Backups can restore a system state following a disaster; you can also restore small numbers of files after they have been accidentally deleted or corrupted.

Consult your Camara Technical Representative.

1.5 4. SECURITY & SAFETY

1.5.1 4.1 Securing the Lab

It is essential that the computer lab be fully secured. Camara will not install PCs in an insecure location.

1.5.2 COMPUTERS LABS MUST HAVE

- A solid steel or grilled door with a strong lock
- Grilled windows (with the bars firmly attached to the wall)
- Solid walls with no gaps or holes
- Sealed and secured roof/ceiling (if the lab is in a building of its own, a ceiling is not essential provided that the roof is sealed and secure). The ceiling should be strong and made of three-ply or stronger, to stop dust and falling objects from entering the room.
- Cemented floors. These can be covered by carpet or another material, as long as it is non-slip and well-maintained (i.e. no torn edges which can cause people to trip).
- Windows that can be opened. Louvres should be placed over the windows to prevent dust and rain from entering the room; this will also allow light to pass through.
- An alarm system will add further protection, but this is not mandatory for receiving Camara computers.

1.5.3 4.2 Lab Safety

1.5.4 REDUCE THE RISK OF DAMAGE TO COMPUTER PERIPHERALS

- No smoking, food, or drink should be permitted in computer labs, as they can damage the equipment and attract insects or rodents.
- Supply garbage bins, and keep workspaces clean and clear of sharp objects and debris.
- Secure monitors, keyboards, mice and audio hubs to prevent removal and theft.
- Attach a small padlock to the back of each PC to prevent internal components, especially RAM, from being stolen.

The standard user account is camara (password: camara). The administrator's password should not be disclosed to students.

1.5.5 4.3 Inventory & Lab Access

Camara will supply a full inventory of all equipment supplied upon the completion of any installation. This record is an important document and should be treated as such.

Camara computers are valuable items and access to the lab should only be afforded to appropriate people, the lab should remain locked outside of school hours unless an officially-sanctioned event/training is taking place. Also, a teacher should always remain in the lab when students are present; this is both for the safety & security of the lab, and the students.

Some computer malfunction may be because of missing internal components. The supplied inventory can be referred to, e.g. to compare the amount of installed RAM in a PC to the amount of RAM originally supplied by Camara (min. 512 MB).

1.5.6 4.4 Ventilation

A computerlab must have good air circulation.

AVOID DAMAGE TO ELECTRONIC COMPONENTS DUE TO OVERHEATING

Computers can generate a lot of heat. Without good air flow it may be difficult for anyone to use the lab for extended periods of time. Camara Labs must be well ventilated as computers are easily damaged by the excess heat.

Classrooms can become quite hot and computers increase the room temperature. In hot regions, rooms must be kept cool by adequate airflow provided by windows and fans, or air conditioning. It is advisable to place thin netting over the windows or louvres to prevent dust from entering the room. This will still allow light and air to pass. Rooms should have fans placed at regular intervals.

Fans may be either wall- or ceiling-mounted, as pictured.

Fans may be either wall- or ceiling-mounted, as pictured.



1.6 5. MAINTENANCE

1.6.1 5.1 Safety & Repair

Only trained individuals should fix faulty equipment. Please contact Camara in the event of any problems.

All machines should be powered off and disconnected from the mains before being opened for inspection or cleaning. Even small electrical charges or static can cause irreparable damage to equipment.

Computers contain small and valuable parts that are easily removed – often with little visible change to the machine, but rendering the computer completely inoperable. It is important that only trusted individuals have access to, or are allowed to open, the computers.

The school administration and teachers should be familiar with the parts of a computer and conduct regular checks to ensure nothing is missing or taken. Camara will provide you with a full inventory, including parts, when you receive the computers for your lab.

1.6.2 5.2 Troubleshooting

Here are some tips to guide you if the following situations occur:

KEYBOARD NOT RESPONDING

Press the **Num Lock** key to ensure the keyboard is connected and active. (The corresponding LED light should blink on and off).

1.7 6. COMPUTER PARTS



1.7.1 RAM

RAM: Random Access Memory. A computer may have multiple RAM sticks. Camara computers have at least 512 MB of RAM (e.g. 1 X 512 MB, 2 X 256 MB). If all the RAM sticks are removed, the computer cannot function and will not turn on. If some, but not all, of the RAM is removed the computer will operate very slowly.



1.7.2 Hard Drive

The hard drive stores all of the computer's information; Hard Disk Drives (HDD's) come in a range of sizes – the larger the hard drive the more space there is to store information. Without a hard drive, the computer cannot operate.



1.7.3 Motherboard

The motherboard contains all of the components, including the Central Processing Unit (CPU), and all parts of the computer are connected to it. If the motherboard is damaged, the computer will not work. If the processor is taken

out, the computer will not work. A processor is very difficult and not generally viable, to replace.

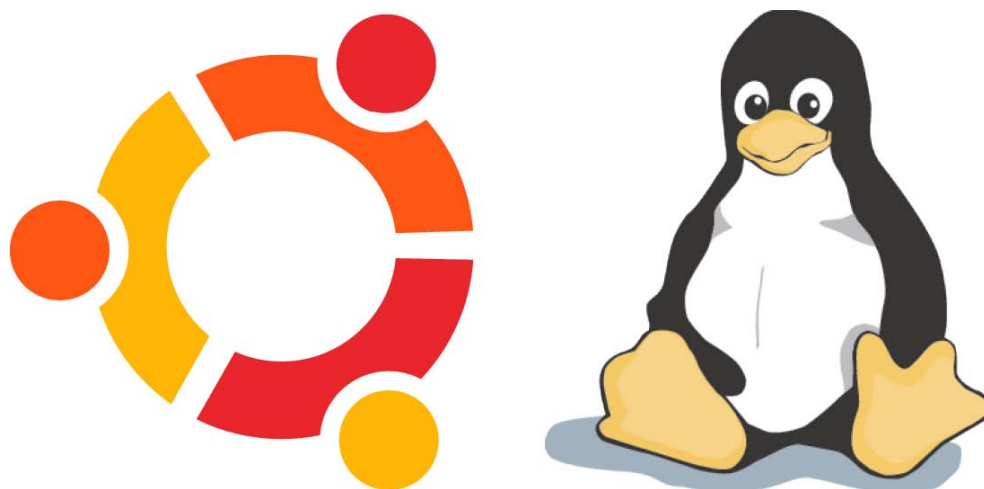
1.8 7. CAMARABUNTU

1.8.1 7.1 Introduction

The type of operating system determines how someone can use the various programs and interface on a computer. Examples of different operating systems are: Windows 7, Windows XP, Ubuntu Jaunty and Apple's Snow Leopard.

The Ubuntu Operating System is Free and Open Source Software (FOSS). This means that you do not need to pay a licence fee to use it. Unlike non open source software, you can also make changes to it and give it to your friends and colleagues without breaking the law. There are number of other advantages of using Ubuntu:

- It is affected by very few viruses
- It is very stable
- It takes less time for programs to load and so is faster than many other operating systems.
- You can access thousands of programs and educational tools at no cost.
- You can run many Windows programs on Ubuntu, including Microsoft Office.



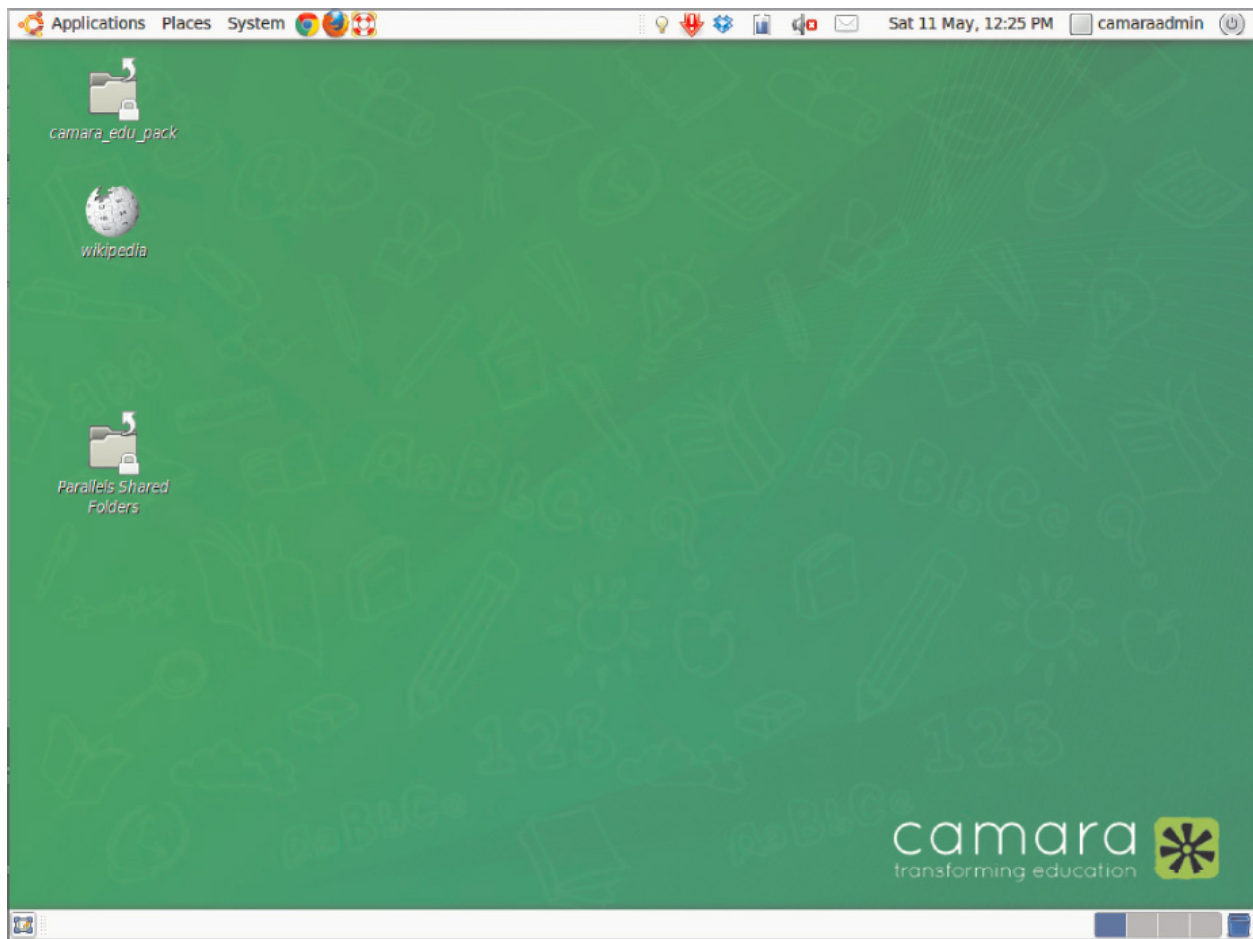
1.8.2 7.2 Navigation

For most users, the most substantial difference between Ubuntu and other Operating Systems is the user interface and navigation.

Ubuntu is simple to navigate and you will notice only small differences between Windows and Ubuntu. After completing Camara training, teachers will be able to use the educational materials and tools to teach students confidently and comfortably.

In the case of any problems, Camara is on hand for ongoing support and guidance. In Camara's experience, students taught how to use Ubuntu are able to easily adapt to and use other operating systems and programs.

Camara supplies its own version of Ubuntu – Camarabuntu – which includes much educational software and tools. The server provided to each lab holds a large software store, so schools can install programs without Internet access or CDs/DVDs.



1.9 8. PRODUCT LIST

1.9.1 8.1 Product List

SECURITY

- Steel Doors
- Grilled Windows
- Internal Locks
- External Padlocks
- Three Ply (Ceilings)
- Softboards (Ceilings)
- Nails
- Screws
- Concrete

POWER & PROTECTION

- Surge protection

- UPS (optional)
- Twin sockets
- Twin switch box
- Screws & Nails
- Wood pegs
- Electrical Cable x 2 types
- Trunking Tube
- Lights

VENTILATION

- Steel Doors
- Ceiling Fans
- Wall Fans
- Louvres
- Air Conditioning Units

FURNITURE & FITTINGS

- Timber
- Tables
- Desk
- Chairs
- Whiteboard

1.10 9. COMPUTER COMPONENT & INSTALLATION GUIDE

1.10.1 9.1 Computer Component Introduction

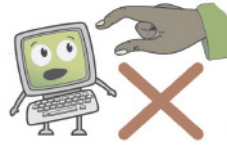
The components or layout illustrated here may be different from your yours. For specific hardware installation, you may refer to the Quick User's Guide.

You can browse any section of this guide, however, if you read the manual from the front to the back, you will find a logical installation progression.

SYMBOLS USED IN THIS SECTION



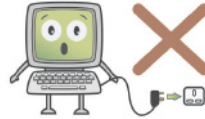
WARNING! Proceeding may cause injury or permanent damage.



WARNING! Touching may cause injury or permanent damage.



CAUTION! Attempting to repair or modify the hardware may cause injury or permanent damage.



WARNING! Connecting power may cause injury or permanent damage.

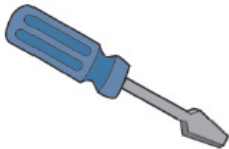


TIP! Information which may be useful when installing hardware.



TOOLS NEEDED

For the sake of safety and convenience, have these tools to hand before starting work. A cross- or flat-head screwdriver, can be used for most of the installation.



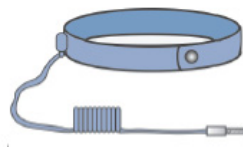
A cross- or flat-head screwdriver, can be used for most of the installation.



Forceps or Tweezers can be used to pick up tiny screws or set up the jumpers.



Pliers can be used as an auxiliary tool to pull out the power connectors or remove the brackets.



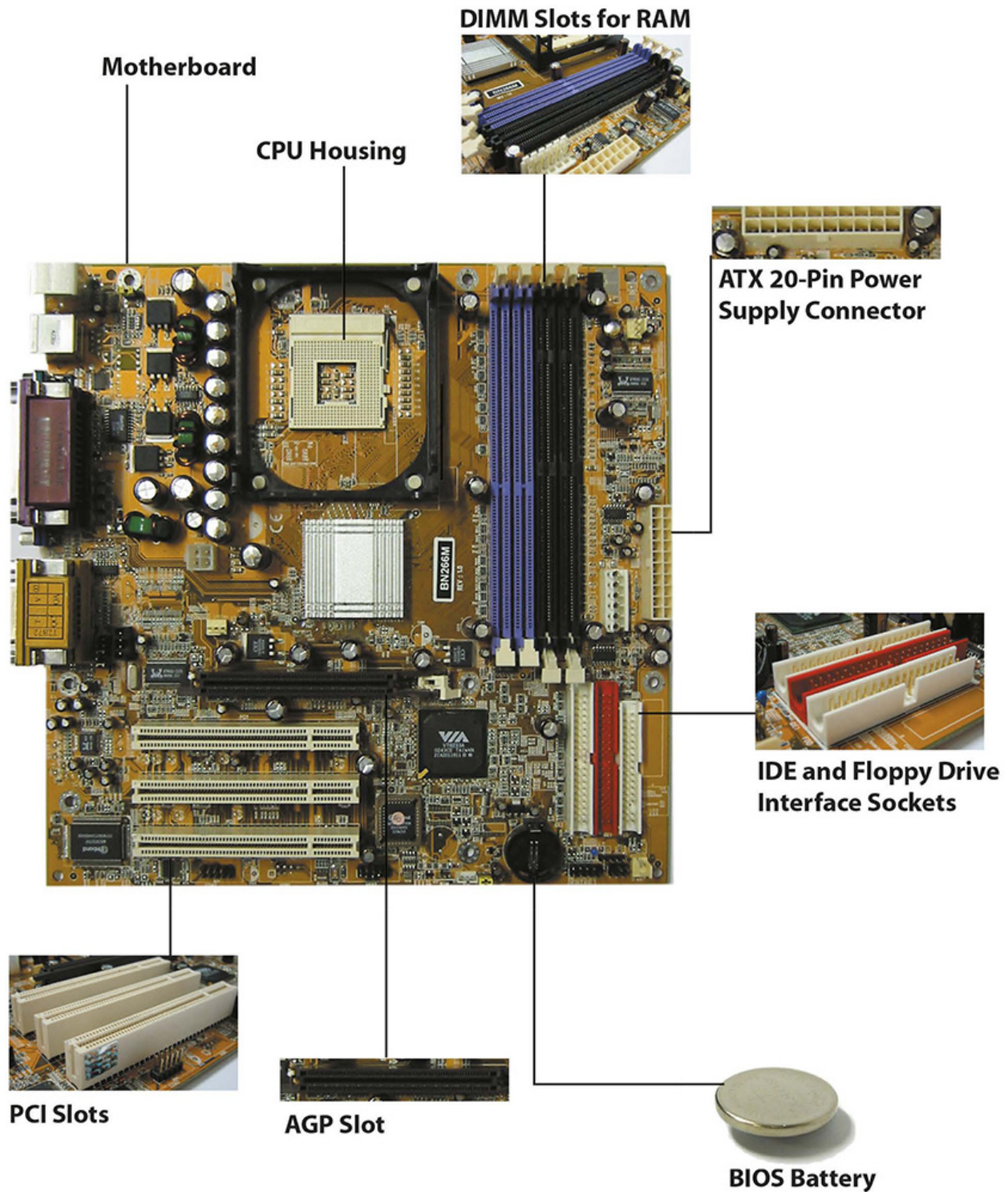
An electrostatic wristband can cuts and injury from static electricity.

Pliers can be used as an auxiliary tool to pull out the power connectors or remove the brackets. Forceps or Tweezers can be used to pick up tiny screws or set up the jumpers.

An electrostatic wristband can cuts and injury from static electricity.

1.10.2 9.2 General Layout

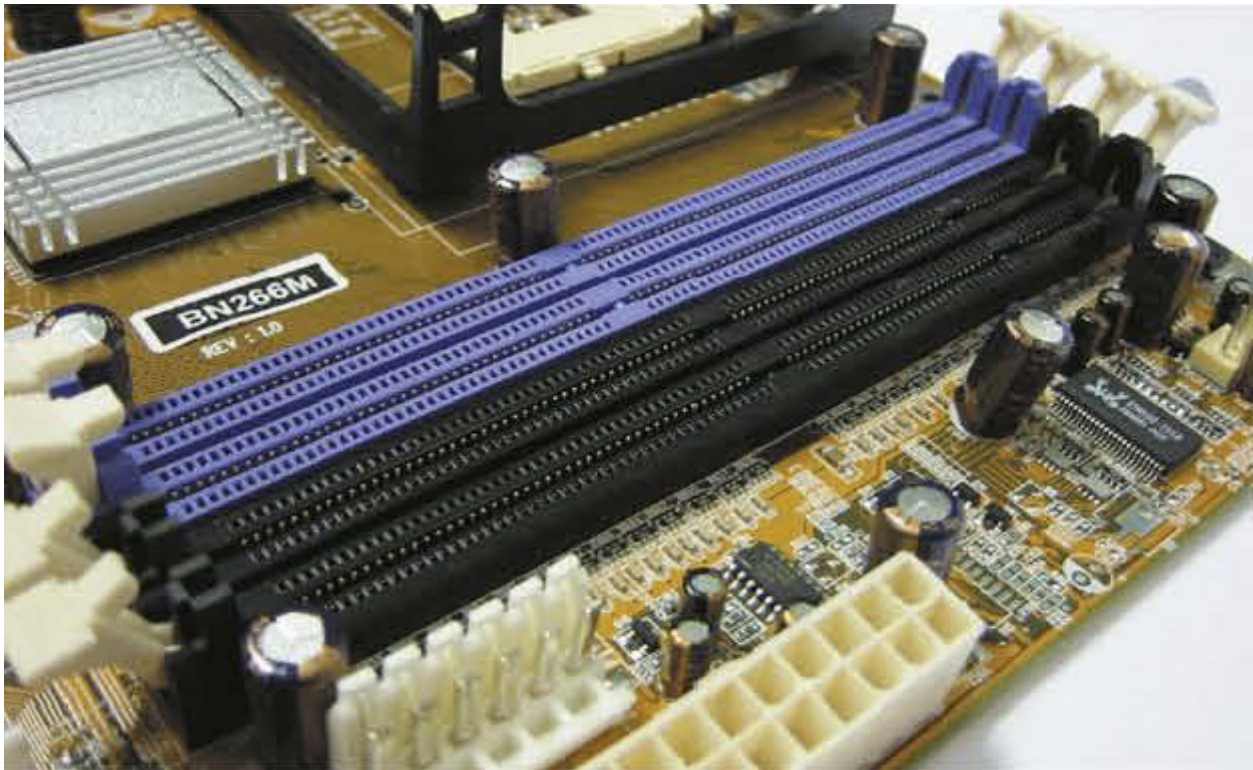
Below is an example of a typical general installation. The layout of your mainboard may be different from the image below.



1.10.3 9.3 Components in Detail

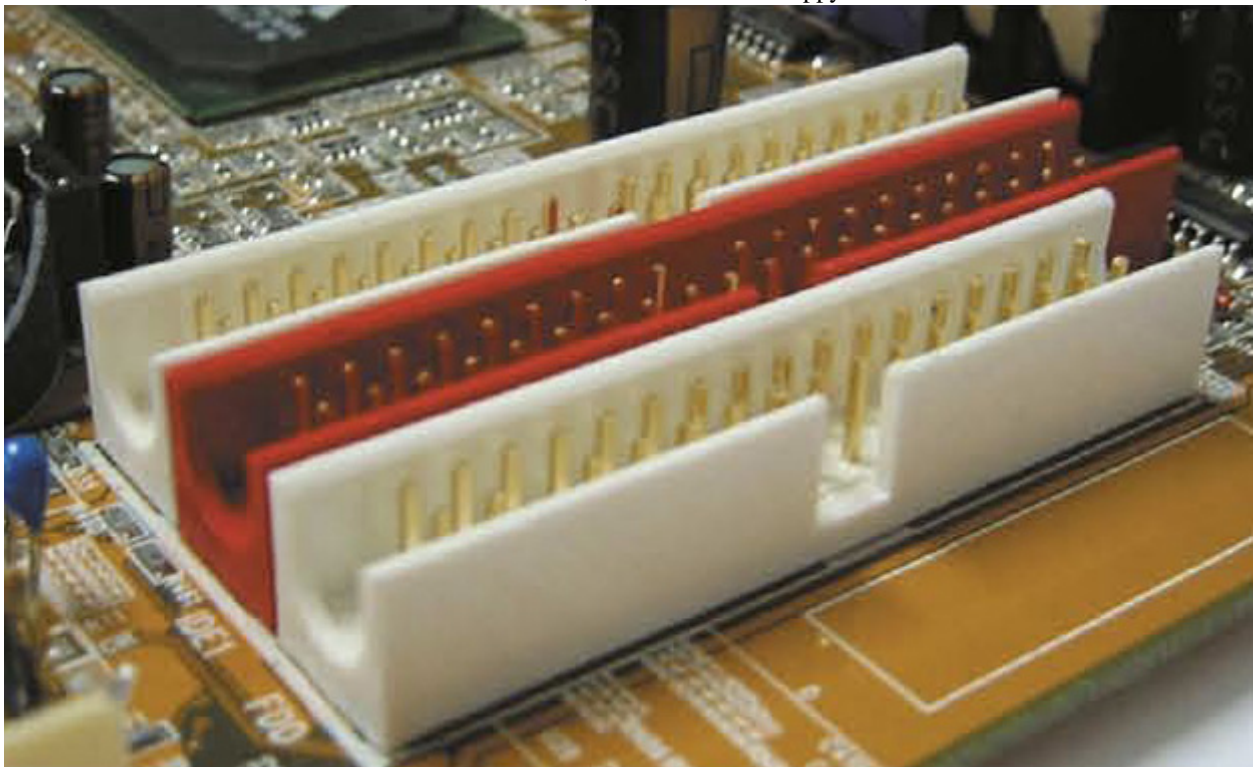
DIMM/RAM SLOT

The DIMM slot is used for installing RAM modules.



IDE AND FLOPPY DRIVE INTERFACE SOCKETS

These connectors allow the installation of IDE devices, such as Hard & Floppy Disk Drives.



IDE DEVICE CONNECTOR

The connector, or ribbon cable, enables the installation of IDE devices, e.g. CDROM Drive.



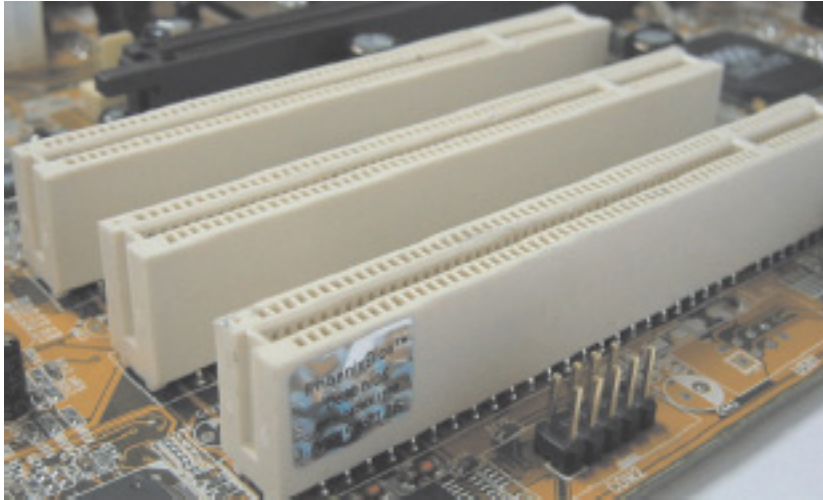
ATX 20-PIN POWER SUPPLY CONNECTOR

This connects the ATX power and provides power to the motherboard.



PCI SLOT

This slot is provided for expansion card with PCI interface. Example - an Audio card for dedicated audio control.



RAM MODULE

Random Access Memory is used when an application, such as a word processor, is in use. The computer temporarily saves the data to the RAM until the user saves the document.

This is why data is lost if the computer is switched off accidentally or improperly.



BIOS BATTERY

The BIOS battery is a standard metal oxide battery.

It does two jobs; first it keeps the computers clock going when it is off; second, it stores information such as RAM size, computer speed and hard drive size.



AGP SLOT

The Accelerated Graphics Port is a slot provided for VGA cards with an AGP interface.

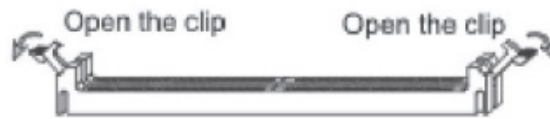
These are primarily used for monitors with high display resolutions. They can also allow the computer to be connected to a projector.



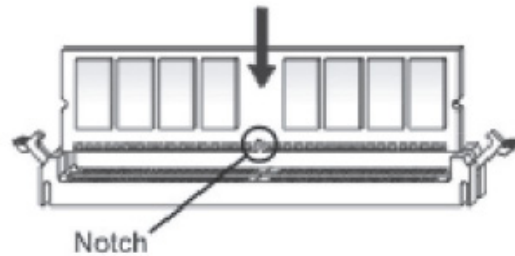
1.10.4 9.4 Installing RAM Modules

We take the DDR (Double Data Rate) RAM modules as an example to show you the installation process. Consult your agent for the proper RAM modules.

1. Open the plastic clips at each side of the DIMM slot.



2. Insert the RAM modules vertically into the DIMM slot. Then push it in.



3. The clips will close automatically.

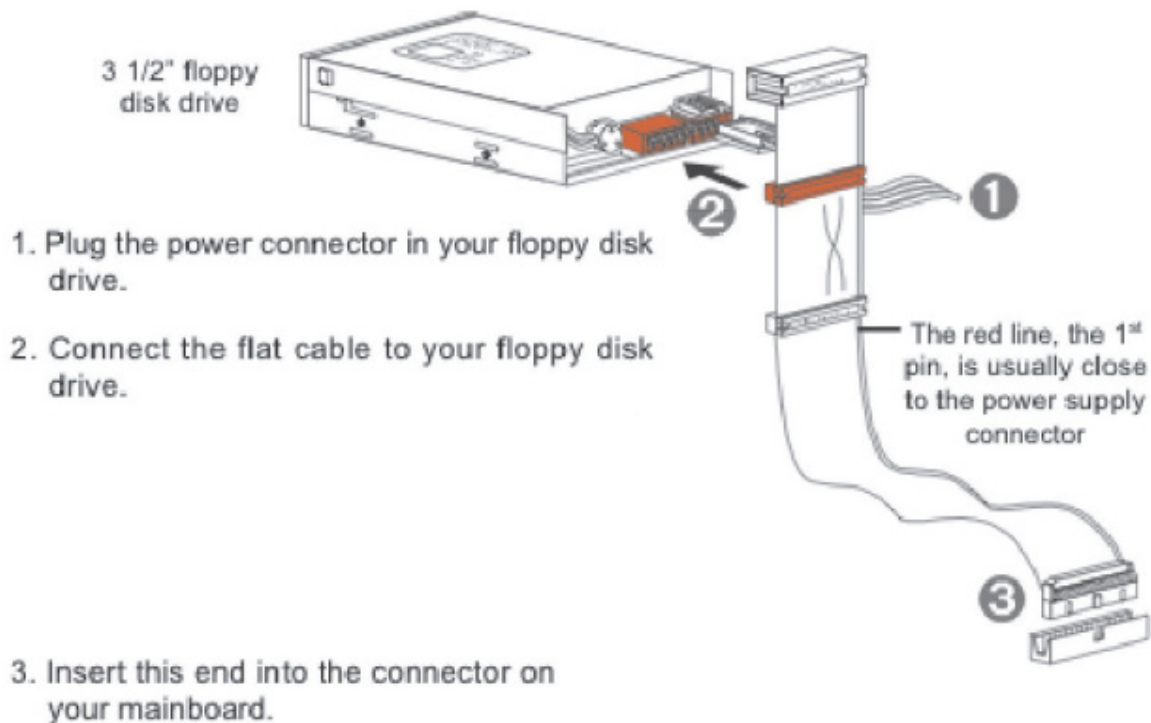
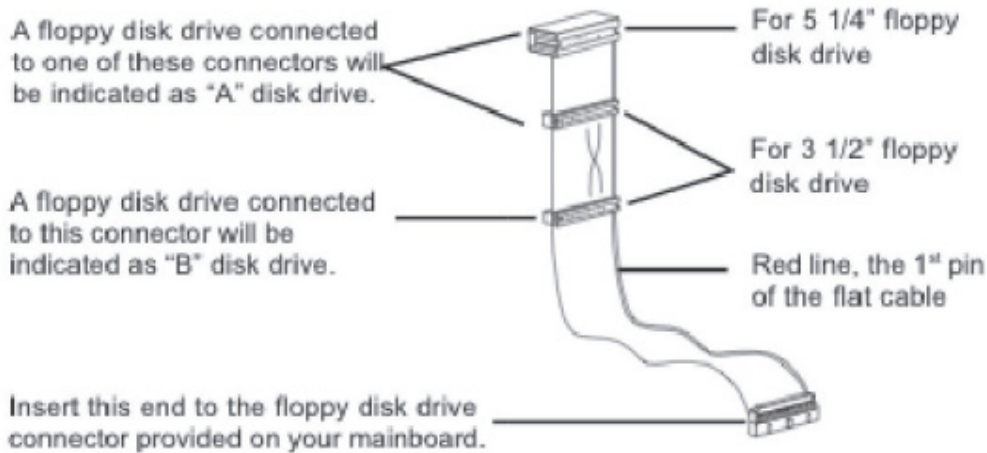


TIP! The RDRAM, also called RAMBUS, can only work in pairs. When your mainboard uses the RDRAM modules, remember to buy them in pairs or you should buy a C-RIMM instead.



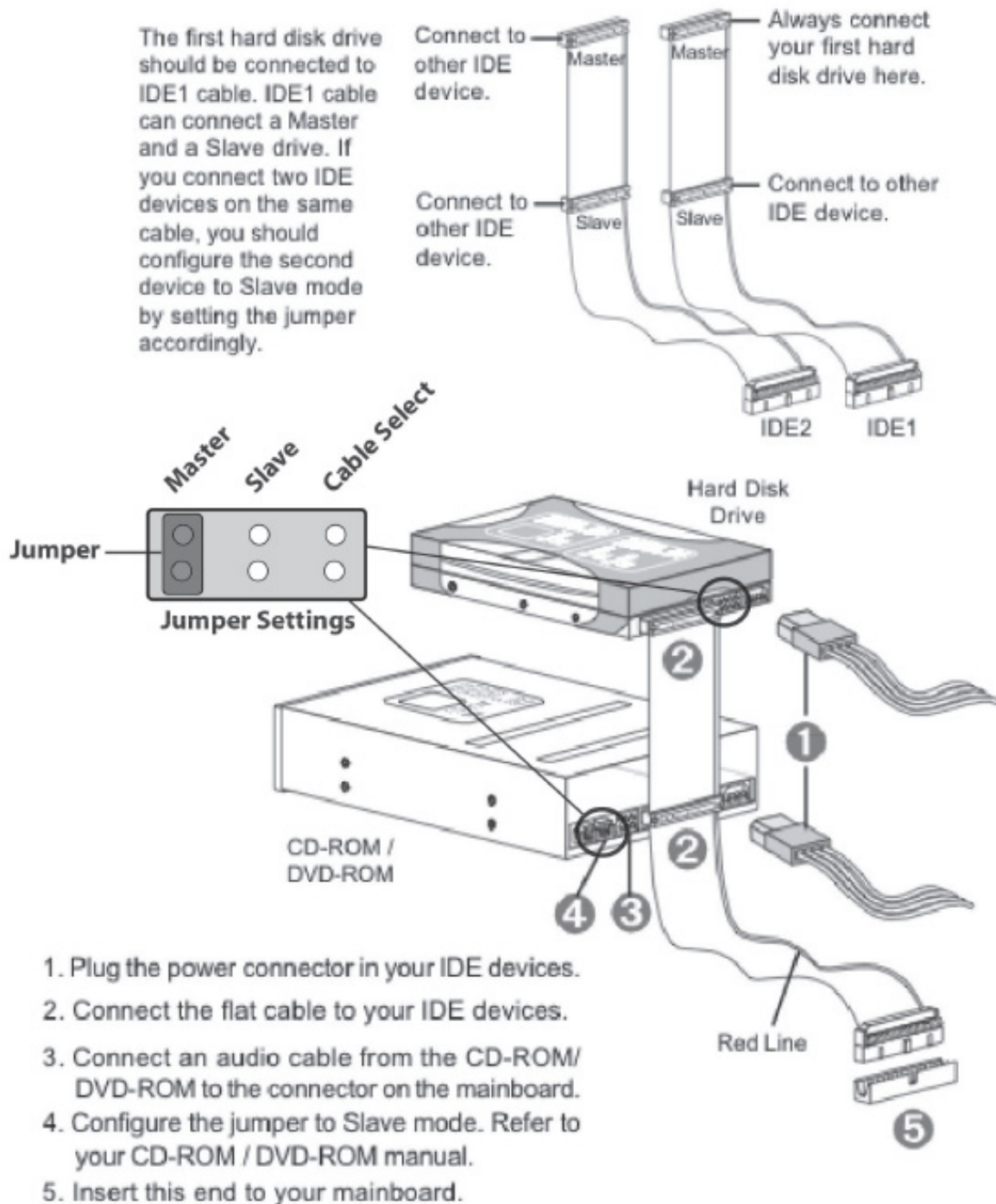
CAREFUL! Do not touch or hold the RAM modules by the pins, also called golden fingers. Oil on the pins or dust in the slot may cause the RAM modules to work improperly. You can use a soft cloth to wipe the pins or compressed air to blow the dust off the slot. Do NOT use solvent, which may erode the metal content.

Installing the Floppy Disk Drive

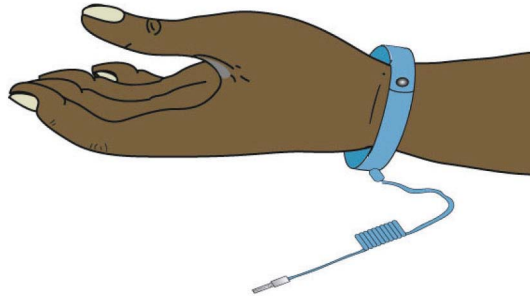


WARNING! There is no indication of wrong connection on the floppy disk drive. If your floppy drives LEDs don't work, then reverse the connector and reconnect it again.

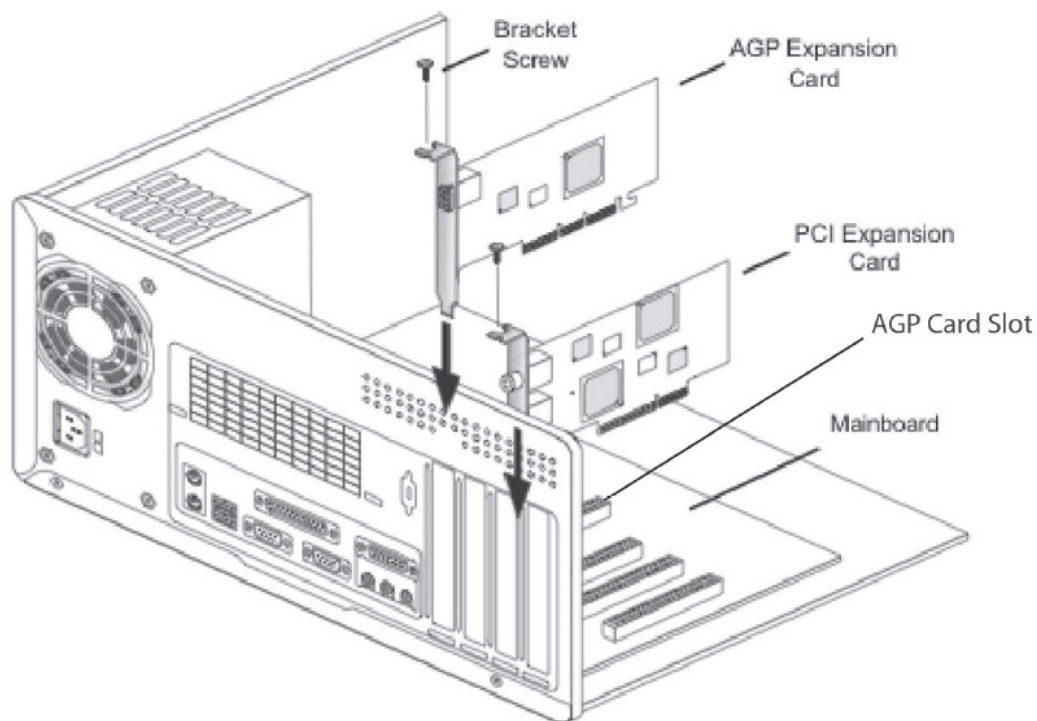
1.10.5 9.5 Installing IDE Devices



CAREFUL! Handle your hard disk drive with care. It may not work properly if roughly handled. Never move a computer while it is turned on; doing so may irreparably damage the hard drive.



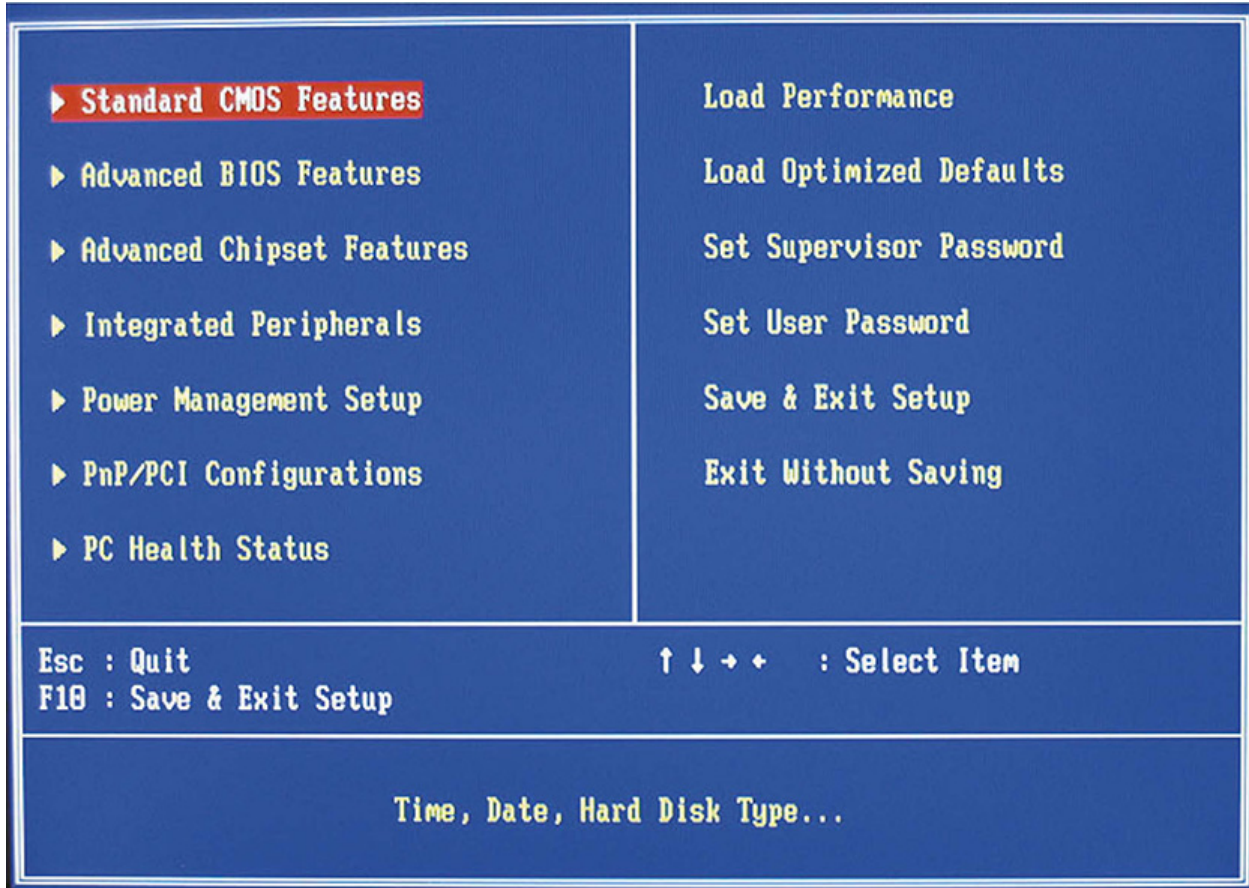
1. Remove the computer case.
2. Remove the corresponding bracket obstructing the expansion card.
3. Locate the AGP slot on your mainboard.
4. Put the card directly over the proper slot and press one end of the card into the slot first. Gently but firmly press the other end until it is fully seated in the slot.
5. Secure the card with a bracket screw.
6. Install all other cards and devices and connect all the cables, and then replace the case.



WARNING! Do not remove the bracket with your naked hands. Make sure you wear your Anti-static Wristband when performing any repairs inside the computer.

1.10.7 9.7 Installing the BIOS/CMOS-Battery

The CMOS (Complementary Metal-Oxide Semiconductor) battery is located on your computer's motherboard. It's similar to that in a handheld calculator.



1. GET ACCESS TO THE MOTHERBOARD

Unplug the computer and disconnect all of the cables. Remove the side or top panel to reveal the motherboard.

2. LOCATE THE BATTERY

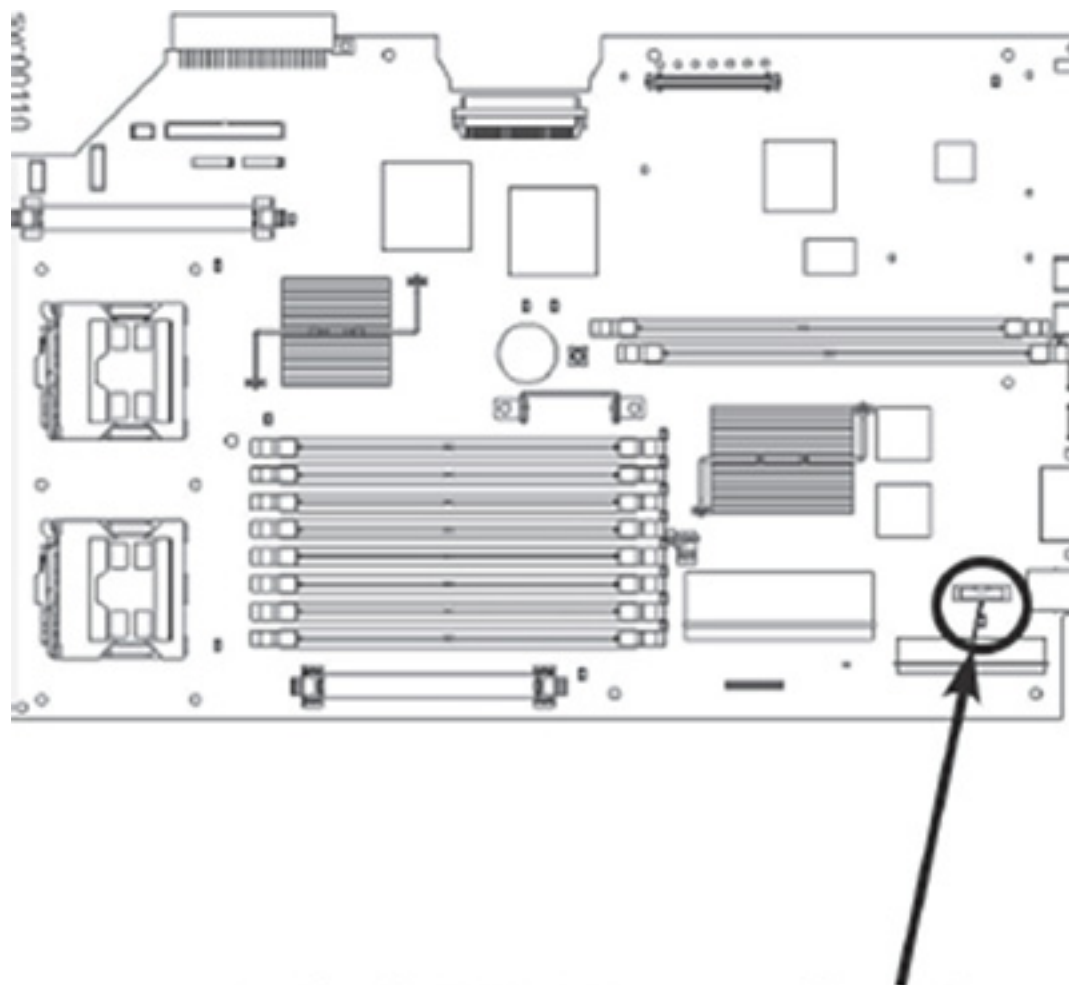
The most common type of CMOS battery is CR2032, a round, silver-colored battery about the size of a US dime coin.

3. REMOVE THE OLD BATTERY

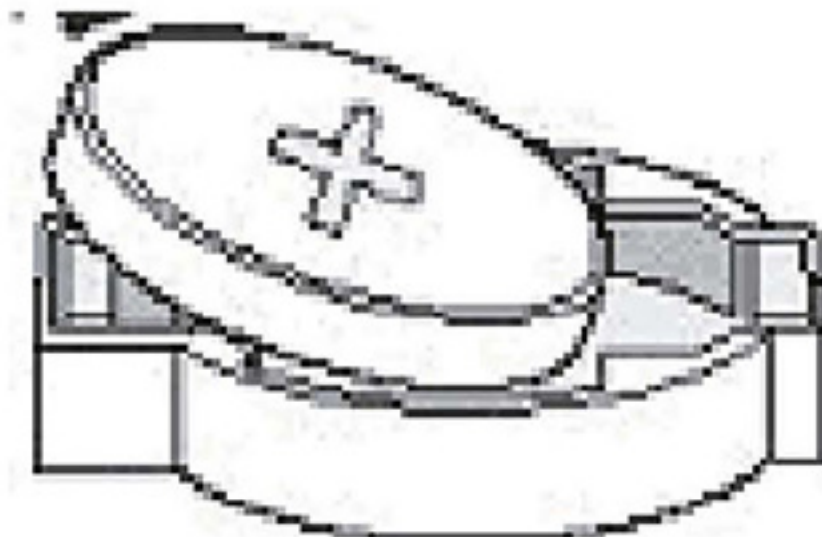
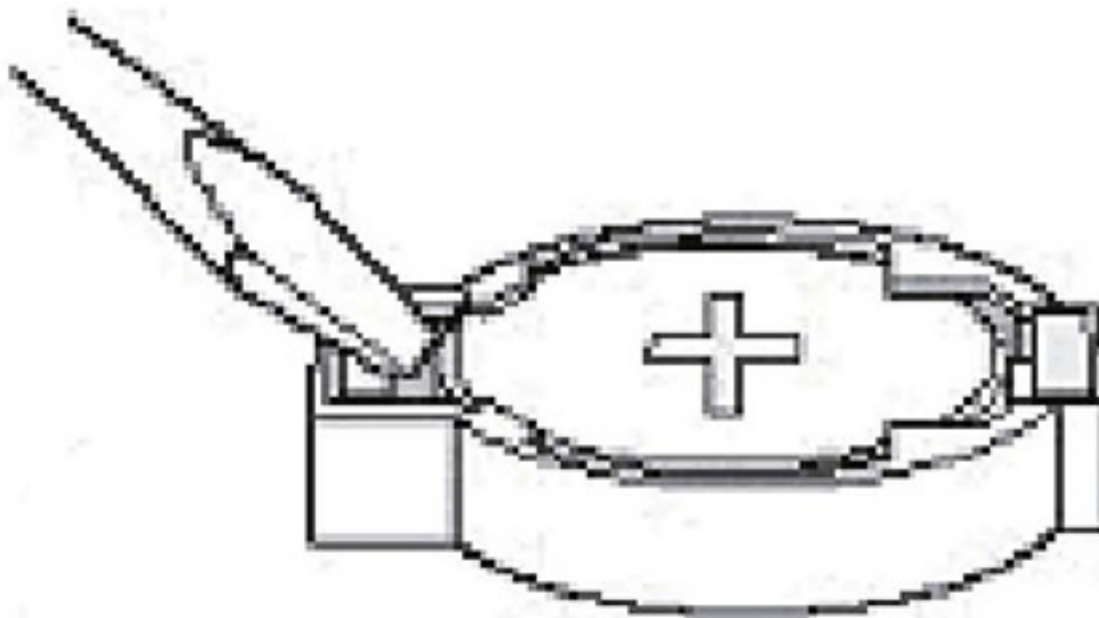
Next, remove the old battery. Different motherboards have various configurations of clasps that keep the battery clipped to the motherboard. Be careful not to break the retaining clips, or anything else, on the motherboard.

4. INSTALL THE NEW BATTERY

Now install the new battery. Be sure to put the poles in the same position as the original battery: For a CR2032, the positive pole (marked with a plus sign [+]) should be facing up. Use the clips to hold the battery in place.

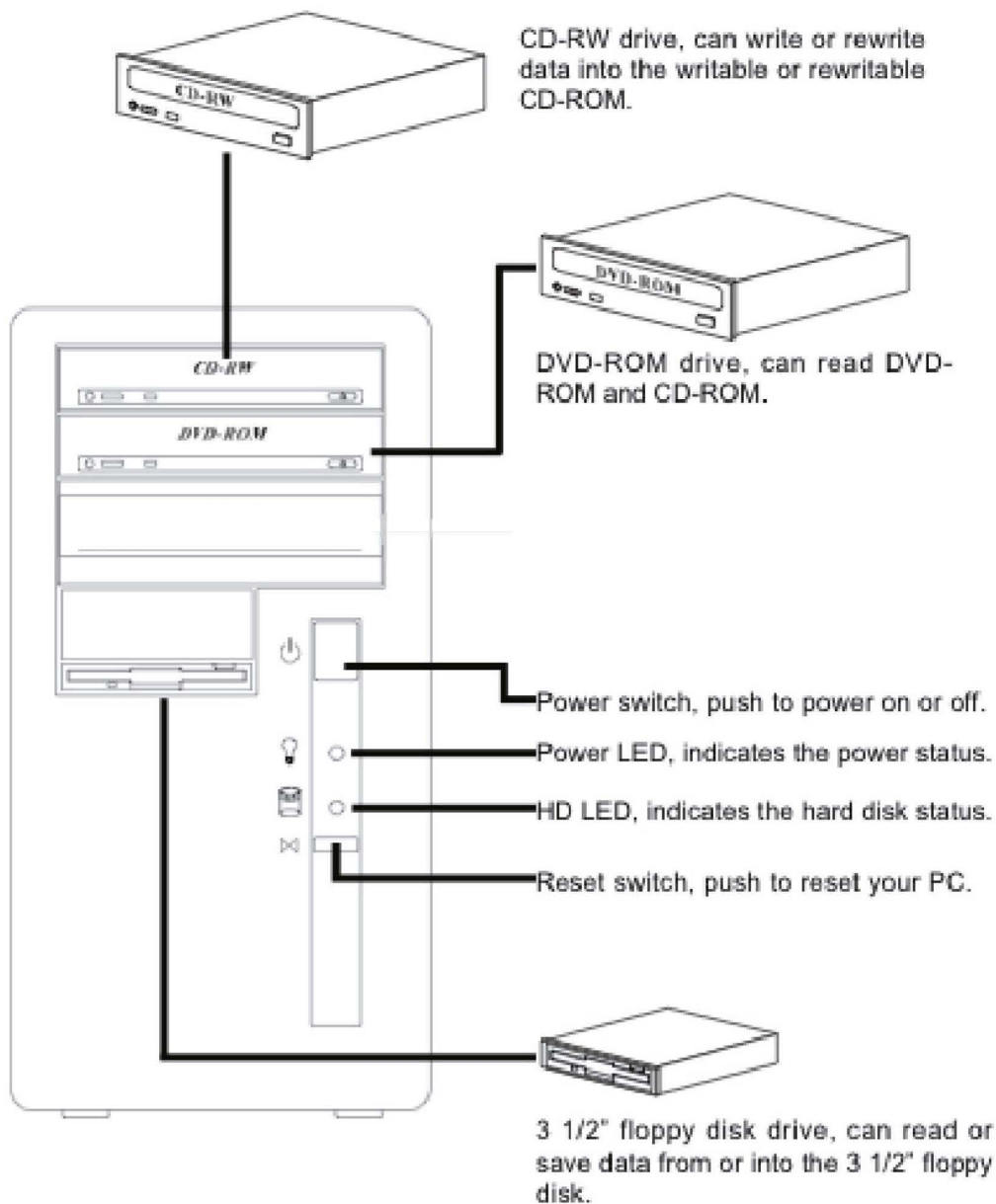


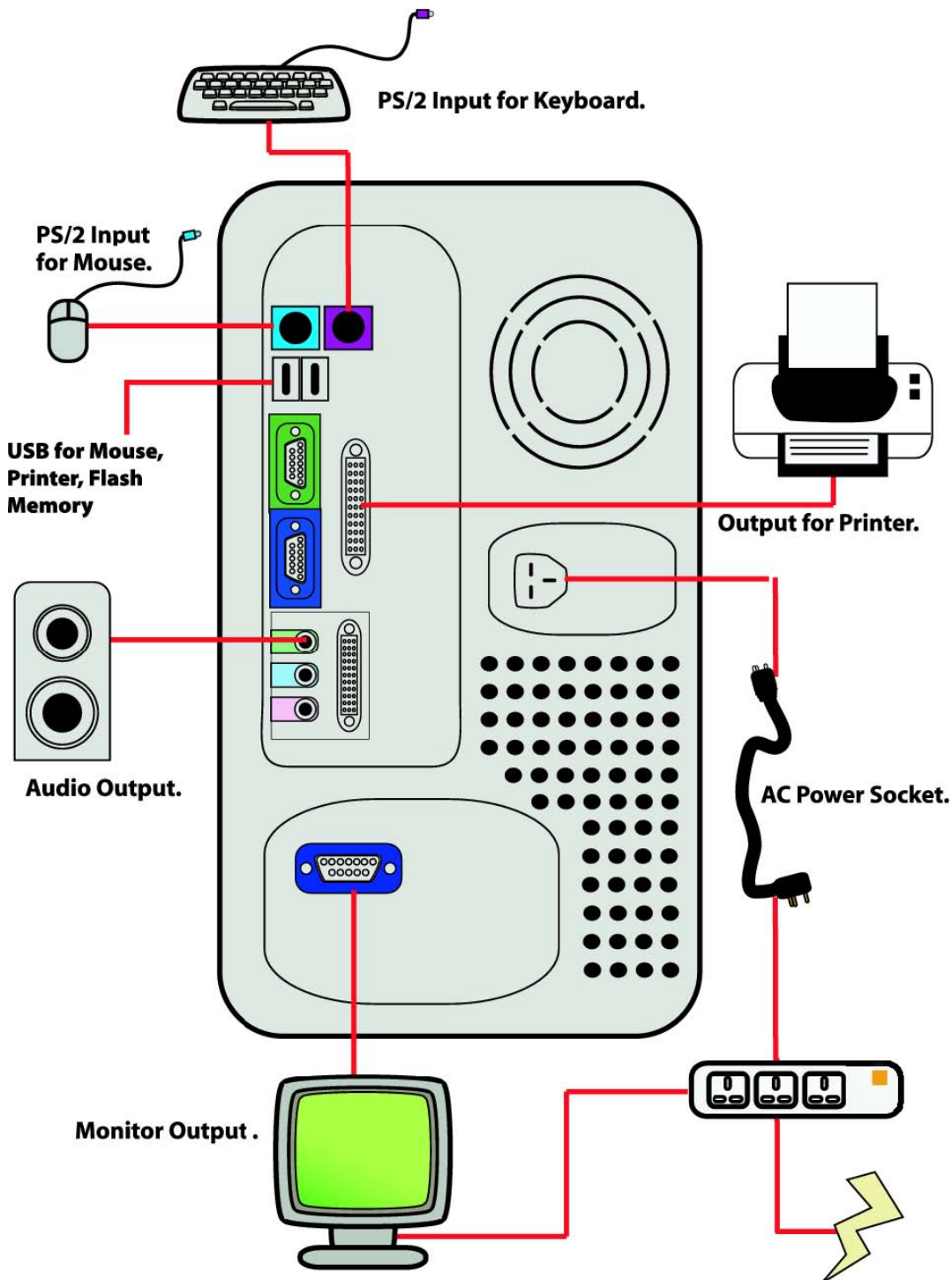
Typical CMOS Battery location.



1.10.8 9.8 Front & Back Panels

The front and rear panels on your computer may differ from those illustrated here.

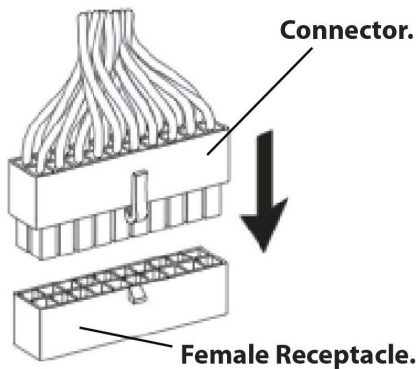




1.10.9 9.9 Connecting Power

INSTRUCTIONS

1. Plug the ATX 20-pin power connector in the female receptacle provided on your mainboard.
2. The connector is entirely plugged in securely when you hear the click sound.



BEWARE! Never plug the power cord in the outlet when you are installing your PSU.



CAUTION! Never try to repair the PSU when it doesn't work or change its power distribution for your need. Consult your agent if there is any problem with your PSU.



TIP! You should check the AC input slide switch before you finish all hardware installation and are ready to power on your PC. The wrong AC input may cause damage to your power supply or even burn it.



CAREFUL! Never touch your PSU with your wet hands even the PSU doesn't connect to the AC power. The remaining water will cause short when the PSU is on.

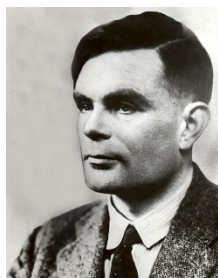
1.10.10 9.10 CheckList

Please use this check list to ascertain the status of your proposed lab. Once all the boxes are ticked, please notify us so that we can verify that your lab is ready to receive computers.

- ☐ Is there a steel door?
- ☐ Is there a cemented floor?

- ☐ Are there concrete walls?
- ☐ Is there a ceiling?
- ☐ Are there grilled windows?
- ☐ Are there glass windows?
- ☐ Is there adequate ventilation?
- ☐ Is there a whiteboard?
- ☐ Is there power in the lab?
- ☐ Does the lab have surge protection?
- ☐ Are there secure, stable, sufficiently large tables?
- ☐ Are there enough sockets?

ICCES Manager training: Basic Computer Skills and Maintenance



The story of modern electronic digital computing should start with Alan Turing, the man for whom the Turing Trust is named. Turing published a paper in 1936 *On Computable Numbers, with an application to the Entscheidungsproblem*. The paper proved that you could build a machine capable of processing a digital stream of 1s and 0s according to programmed instructions and it would be capable of solving any computable problem. As it happens, the set of problems included in this definition is the universe of mechanically solvable problems. Hence, the Turing Machine is also known as the *Universal Machine*, the theoretical precursor to the electronic digital computer which we use today.

So what is a computer? The computer's like the human brain. Your brain's there inside your body and controls everything your body does, but the only way you can see it is if you take a look inside your head. When it comes down to it, the computer is a brain, too; it's a tiny chip inside a machine such as a desktop or a laptop, a phone or a car, which, with your help, controls how the machine works. You don't need to know how the chip does its job. It does what it's told, using instructions programmed into it by people who know how to tell it what to do.

So the way the computer works is really quite simple. The computer (the tiny chip) receives *input* in the form of data, which it *processes* according to programmed instructions, and then *outputs* the processed data in a form that meets our needs. Input-Processing-Output (IPO). That's it. The computer repeats this IPO process over and over again, millions of times a second, to produce something useful for you and me.

Software, programs such as a word processor or a video game or a spreadsheet, runs on the computer and accepts *input* from people like you and me. The input can also come from other computers if it's connected to a network like the Internet. Input can even come from sensors that have been set up to capture data from the environment (like weather sensors, or traffic sensors, or cameras, and so on). Inside the computer are what are called *processors*, which accept the input and process it according to the instructions in the program (the software). After the processing is complete, the computer *outputs* the processed data onto some kind of output device, such as a screen, or a printer, or a speaker, depending on what you, the *user*, want it to do.

Who would have thought that such a simple machine could do all the wonderful things that we rely on computers for today? Most manufacturing today is done on machines controlled by computers. Most office work is now handled by computers. Hospitals rely on computers to manage all that patient data and to process all those medical tests and screenings. Every car on the road has dozens of little computers inside, monitoring the car's performance; the same for planes and trains, and ships and spaceships. The internet (and your phone now relies on the internet) has transformed our world into a global village, where everyone everywhere is now no more than a few seconds away from everyone anywhere else in the world. We go shopping on the Internet; we use the Internet to find out anything we want to know.

And we're just beginning to discover what the computer can help us do!

2.1 Part I: The Components of a Computer & Basic Operations

2.1.1 Chapter 1: Hardware



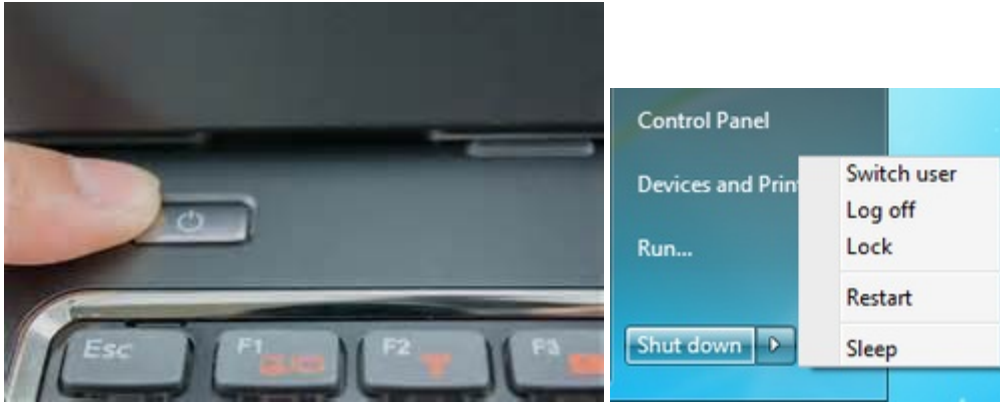
Turning the computer on

Booting

Booting your computer is the process of starting or restarting it and starting the operating system. Turning it on may include turning on the screen as well as the computer. If the screen is separate from the computer, you will need to turn on the screen first so that you can see what's happening when you turn on the computer itself.

Hard and soft boot

A hard boot is when you start the computer using the power button (see left Figure below). This is also sometimes called a cold boot, because the computer is not yet warmed up by the flow of electricity. A soft, or warm, boot is when you *restart* the computer without turning it off. You do this using the **Restart** option in the Start Menu (see right Figure below).



The Processor

ALU—the Arithmetic & Logic Unit

All you need to know about the ALU is that it's the central “brain” of the computer; it does all the computation that the software tells it to do. As such, it's the most important component in a computer, though it's the one we're least aware of.

Memory

The computer would be just a useless machine without somewhere to store all the data used during the processing done in the ALU. Memory enables the computer to store and save the data before and after processing.

There are two types of computer memory: Primary memory and Secondary memory.

Primary memory (RAM and ROM)

Primary memory is really part of the ALU. Read Only Memory (ROM) contains special programs the system needs to start itself up during the boot process explained above. These programs, such as the Basic Input-Output System (BIOS), are hardwired on the chips inside the ALU (see Figure below).



Intel's Core 2 Duo logic board

Random Access Memory (RAM), also called working memory, is made up of a lot of other chips, all interconnected, which, at any one time, contain the programs (software, applications like Word or Internet Explorer or a video game)

that are actually running on the computer when you're using it to do work, or when you're playing video games, and so on.

Secondary memory

This is the memory that you have on the computer's hard drive, or on your USB drive, or on CDs and DVDs, or Flash memory cards, like the ones in your camera (see Figure below).



There are lots of types of Secondary memory, even what they call "The Cloud," which is Secondary memory that companies like Google or Microsoft manage for you so you can store all your data (photos, video clips, Word documents, Spreadsheets, etc.) out there on the network. We'll talk more about networks in a bit. There's no limit to the size of Secondary memory; it's literally as big as you want it to be so you can store all your stuff. We'll talk about how to sensibly store all your stuff in a bit, too.

Input devices

A picture tells a thousand words, so here's a picture which illustrates all the different types of input devices (see Figure).



The Keyboard

The most traditional input device.

Mouse

The input device that is now commonly part of the Graphical User Interface (see Part I, Chapter 3, p. 11).

Touch pad

Most common on laptop computers, used with your finger or a stylus instead of the mouse to scroll and move the mouse pointer on the screen.

Touch screen

Most modern mobile phones use a touch screen so you can scroll through pictures or text on the phone's screen. But now regular desktop and laptop computers come with touch screens if you have the latest Microsoft operating systems.

Microphone (voice input)

A microphone can be plugged into your computer, or it can come built-in to the computer screen, so you can speak into the computer and record your voice, or send your voice over the network when you're chatting with someone online.

Camera (video input)

A camera is now more often than not a part of your computer screen, and certainly built into any modern mobile phone, allowing you to take pictures or video that you can share with others on the network, or simply store for your own use.

Scanner

The scanner (illustrated on the previous page) allows you to make a copy of any paper document or picture and scan it into the computer as a digital image made up of thousands or millions—even billions—of bits or pixels, depending on the quality of the scanner's resolution. A pixel (**P**icture **E**lement) is another name for one of the dots that make up the scanned image. The more dots, the better the resolution. Low resolution (thousands of bits) is not nearly as sharp an image as high resolution (millions or billions of bits).

Output devices

A picture tells a thousand words, so here's a picture which illustrates all the different types of output devices (see Figure).



The Screen (Monitor)

The computer screen (or the display on a mobile phone) is the most traditional computer output device.

Speakers (voice output)

Speakers are built into your computer so you can listen to music or speech, or hear someone you're chatting with over the network when you're online.

Camera (video output)

A camera (such as a webcam) is built into most every modern computer—desktop or laptop or phone—so you can see who you're chatting with online, or play back video that you've captured using the camera.

Printers

There are all kinds of printers. The most traditional printer is the one attached to your computer, whether it's inkjet or laser. Inkjet printers are cheap and provide pretty good colour images, but laser printers are much higher resolution and also produce the printout much faster than an inkjet printer. But today they have 3D printers—printers that actually **MAKE THINGS** like models and all kinds of 3-dimensional objects. Hold onto your seat, but they're now using 3-d printers to make human body parts (from stem cells)! Yes, it's mind-boggling, like so much to do with computer technology.

Communications

Communication is not the same thing as Communications.

Communication, without an “s” on the end of the word, is all about the art of communicating using writing (in books and magazines, etc.) and speech (where one or two people are chatting together or where an audience is gathered for a formal or informal address). Communications with an “s”, on the other hand, is all about using *electronic* media, such as those we’re going to discuss in this section, for the purpose of Communication. It’s a subtle difference, and one of which most people are unaware, but it’s good to know, all the same.

Networks (LAN and WAN, wired and wireless)

In general, electronic media such as the phone and so forth operate over networks, which can be Wide Area Networks (WANs), linking people in a village or a town or a city or a nation or between nations, and Local Area Networks (LANs), linking people in the same house or the same building. LANs are usually linked to WANs. Today we think of the whole world as one big networked planet. The WANs and LANs are linked together either over physical wires and cables strung from telegraph poles or buried underground or even running along the ocean floor, as well wireless transmissions via satellites orbiting the earth and microwave towers dotted over the landscape.

Phone

Today, the modern phone works hand-in-hand with the Internet. It’s become what they call an “Edutainment device”—something you can use not just for chatting with your family and friends and business associates and so forth, but also to access the Internet (see next section), to go shopping, to book airline flights and call a taxi, and even to watch movies. You can also use it to write memos and so forth (see personal organizers in Part I, Chapter 2). The modern phone is rapidly becoming something that you really cannot be without, which is why they’ve become mobile, of course.

Email

Email is a method of exchanging digital, computer-based messages from an author to one or more recipients. Modern email operates across the Internet. The neat thing about email is that it enables you to send messages more or less instantaneously around the globe. By contrast, traditional mail (using the Post Office) is still relatively slow, which is why it’s called *snail mail*!

Internet

So the Internet is the mother-of-all communications devices. It incorporates phone technology and, with the rapidly increasing number of apps (applications) that are being written for it, the Internet-capable phone, as a mobile device, is becoming an integral part of all aspects of our daily lives. It’s like you really want to pick it up and go. Yes, you can access it on your desktop computer, but you can’t take your desktop with you. You want it in your pocket or your purse, and that’s where it will soon (easily within 10 years) be for almost everyone alive on the planet. Already, in 2014, almost 90% of people on earth have a mobile phone—that’s 9 out of 10 people. It’ll be closer to 100% by 2014, guaranteed.

Skype

Skype is a free internet telephone service which incorporates video as well as speech. It is pretty good, too, though the images are not as sharp as if you pay for it using a subscription service, and the sound quality may not be so good either. But it is a free video phone service.

Social Media

Some of the more popular apps available on the internet are what are called Social Media—Facebook, Twitter, Instagram, and so on. These apps make it very easy for you to interact all day and all night with family and friends—if you can afford the internet subscription. The world is becoming a tiny village where anyone anywhere can quickly and easily touch base with anyone else. This is changing the way we live.

2.1.2 Chapter 2: Software

Software Applications in general

An application is a computer program designed to help people use the computer to perform an activity. Examples include an accounting system, a library management system, a phone network management system, a manufacturing control system, an image processing program such as Adobe *PhotoShop*, video games of all kinds, and so on.

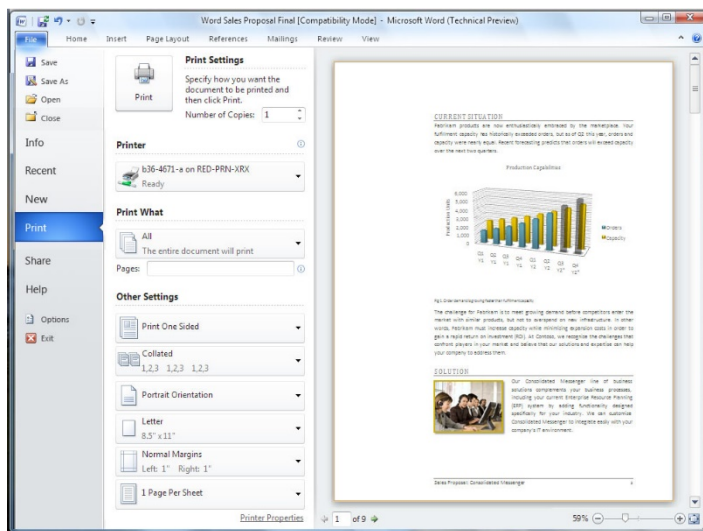
There are literally thousands of applications such as these, and more are being written by programmers every day.

Office Productivity Software

Office productivity software, such as Microsoft *Office*, has been designed to *standardize* applications such as word processing, spreadsheets, database management, and presentation software, as well as drawing and personal organizer software. Standardization means that each of these office productivity tools has a similar look and feel, which makes them easier to learn and use.

ICCSE, in collaboration with The Turing Trust, is making available a separate set of tutorials to help you learn many of the features of these Office Productivity tools. Let's briefly take a look at each of them now so that you know what to expect when you work your way through the Office tutorials.

Word processing



A word processor, such as Microsoft *Word* or LibreOffice *Write*, is designed to help the user with the composition, editing, formatting, and sometimes printing of any sort of written material, such as letters, papers, memos, résumés and curriculum vitae (CVs), contracts, advertising flyers and other signs, greeting cards of all kinds, and so on. The most useful features of a word processor are that (a) it makes correcting mistakes easy; and (b) it makes editing, updating, and formatting of text a snap once you've learned how to use the software. Above all, the word processor makes you look good!

The Spreadsheet

Office Excel 2007 Store Sales Business Intelligence Demo - Microsoft Excel

Total Sales by Store

Store	Sales
Amsterdam	310,730
Madrid	366,144
London	323,894
Paris	360,350
Frankfurt	308,890
Rome	290,554
Lyon	375,312
Cologne	301,753
Edinburgh	312,381
Leeds	410,054
Brussels	264,830
Lisbon	318,036
Zurich	314,983
Manchester	307,972
Munich	322,013

Total Sales by Category

Category	Sales
Automotive	507,571
Gardening	581,427
Electronics	605,848
Jewelry	498,465
Sporting	562,722
Housewares	748,638
Books	624,478
Toys	558,747

Total Sales by Region

Region	Sales
North	1,670,008
South	1,278,509
East	627,285
West	944,968

Sales for All Stores by Category

Store	Automotive	Gardening	Electronics	Jewelry	Sporting	Houseware	Books	Toys
Amsterdam	30,741	8,326	39,697	46,802	33,048	32,998	61,556	57,562
Madrid	59,197	60,972	29,450	52,588	45,012	53,092	53,632	12,201
London	10,972	28,782	49,859	59,392	35,020	63,645	62,131	14,093
Paris	46,319	41,073	46,000	46,345	59,850	42,714	54,198	23,851
Frankfurt	51,981	31,493	31,654	27,876	12,223	54,077	30,287	69,299
Rome	10,999	13,815	50,292	17,055	30,696	51,809	50,294	65,594
Lyon	39,205	66,354	60,311	26,704	61,515	26,761	32,054	62,408
Cologne	35,620	49,297	62,381	16,096	11,378	44,066	58,672	24,243
Edinburgh	8,426	5,712	23,145	28,093	34,159	48,566	25,421	38,859
Leeds	49,915	54,231	68,326	47,019	17,857	66,758	56,982	48,966
Brussels	33,075	28,330	19,760	26,233	68,858	53,469	21,185	13,920
Lisbon	19,857	37,129	45,857	15,879	25,498	44,976	12,140	16,700
Zurich	30,490	66,825	24,136	35,086	47,295	61,831	31,425	17,895
Manchester	28,847	39,007	33,846	19,666	40,269	51,127	47,511	47,699
Munich	51,927	50,081	21,134	33,631	40,044	52,749	26,390	45,457
Total								558,747

Ready Calculate 50%

Historically, spreadsheets were maintained in accounting journals or ledgers. They date back to the 14th and 15th centuries. Nearly 500 years later, in 1978, Dan Bricklin, a young graduate student at the Harvard School of Business in the USA, came up with the idea for an interactive spreadsheet and, together with Robert Frankston, developed the first computer-based electronic spreadsheet application (called *Visicalc*).

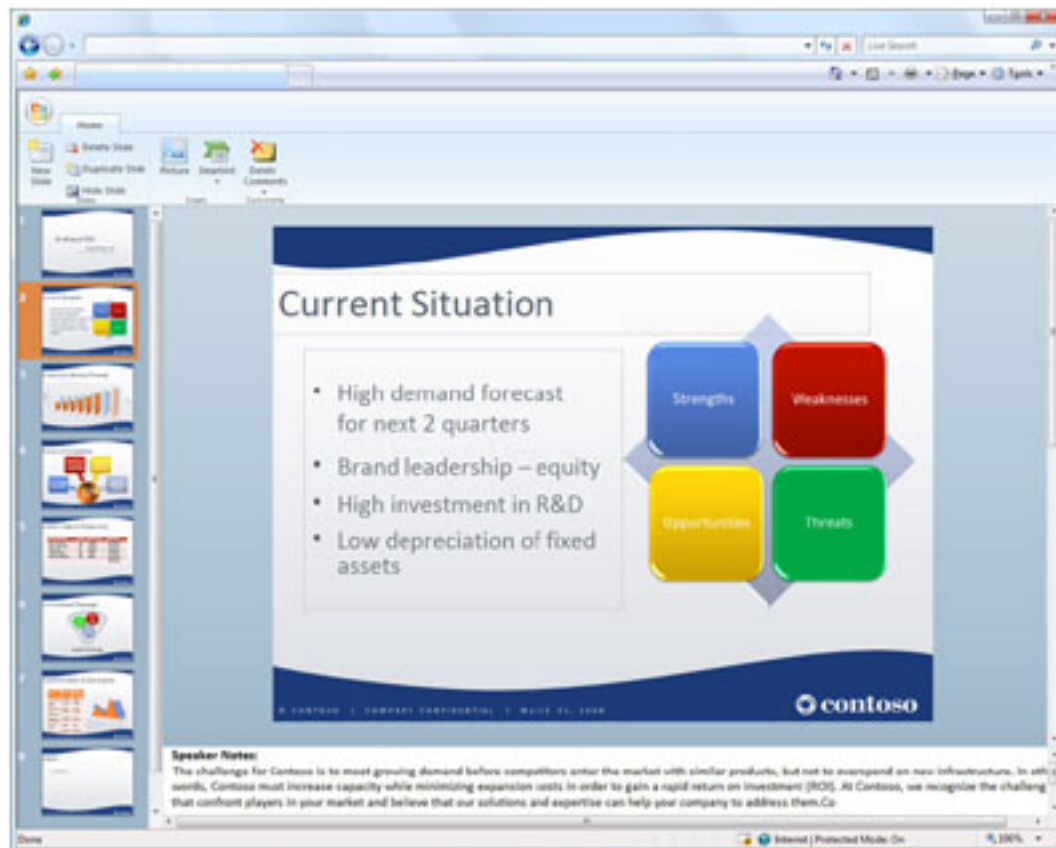
Pretty soon, every large and small business in the world wanted an electronic spreadsheet to help them manage their business accounting. And not long after that, the application (called *Excel* in Microsoft *Office*, *Calc* in LibreOffice) was being used to manage any kind of columnar/tabular data, such as weather info, scientific/research data, even simple apps like an address book or a CD collection. It has all kinds of built-in mathematical functions and formulas, along with easy-to-use formatting and layout tools. Think of it like a word processor for *lists* of data, whether the lists be numbers or text.

Database Management

Last Name	First Name	Middle Initial	Gender	Date of Birth	Age	Status	Address
Green	Howard	D.	Male	9-Mar-60	44	NSC	33 Ridgemount Close, Mandeville
Raddcliffe	Tom	F.	Male	9-Apr-64	40	NSC	New Broughton, Manchester
Richardson	Daniel	A.	Female	15-Jun-45	59	NSC	Resourse, Manchester
McLean	Alexander	J.	Male	6-Aug-52	52	NSC	75 Ward Avenue, Mandeville
Dorough	Angelica	K.	Female	7-Oct-47	57	NSC	5 Williams Drive, Mandeville
Ainsworth	Junior	D.	Male	9-Jan-54	50	NSC	Dunsinaine, Manchester
Chen	Damion	Q.	Male	18-Dec-48	56	NSC	3 Woodlawn Road, Mandeville
Biggerstaff	Angelica	S.	Female	19-Nov-50	54	NSC	Rudds Corner, Manchester
Mortenson	Orlando	V.	Male	4-Sep-49	55	NSC	Georges Valley, Mandeville
Wood	Oliver	B.	Male	12-Nov-55	49	NSC	82 Manchester Rd, Mandeville
Daniels	Elijah	F.	Male	9-Dec-52	52	NSC	5 Caledonia Road, Mandeville
Johnson	Paul	G.	Male	2-Jan-55	49	NSC	33 Knowles Close, Mandeville
Carter	Greg	R.	Male	10-Dec-40	64	SC	29 Main Street, Mandeville
Felton	Brian	T.	Male	14-Jun-36	68	SC	Cross Keys, Manchester
Littrel	Kevin	H.	Male	11-May-34	70	SC	Smithfield, Manchester
Smiths	Brad	S.	Male	24-Nov-32	72	SC	Knockpatrick, Manchester
Swaby	Catherine	C.	Female	10-Nov-40	64	SC	Newport, Manchester
Rudd	Kateri	D.	Female	16-Oct-35	69	SC	Bouganville Heights, Knockpatrick
Bloom	Christy	O.	Female	18-Jan-37	67	SC	May Day, Manchester
Anderson	Sally	Y.	Female	8-Dec-44	60	SC	81A Ward Avenue, Mandeville
					0		

A database is an electronic storage system that holds any and all data that you need to access and use. A database Management System is a collection of programs that enables you to store all that data, modify it, and extract information from the database. “Knowledge is power”; data is the raw material of knowledge. But data is only useful if you can easily access it and use it to help you in your daily life. That’s where a database like Microsoft Office *Access* or LibreOffice *Base* comes in handy. It’s like a library that’s organized in such a way that you can use it to answer questions and accomplish tasks that would be very hard, if not impossible, without it.

Presentation Software



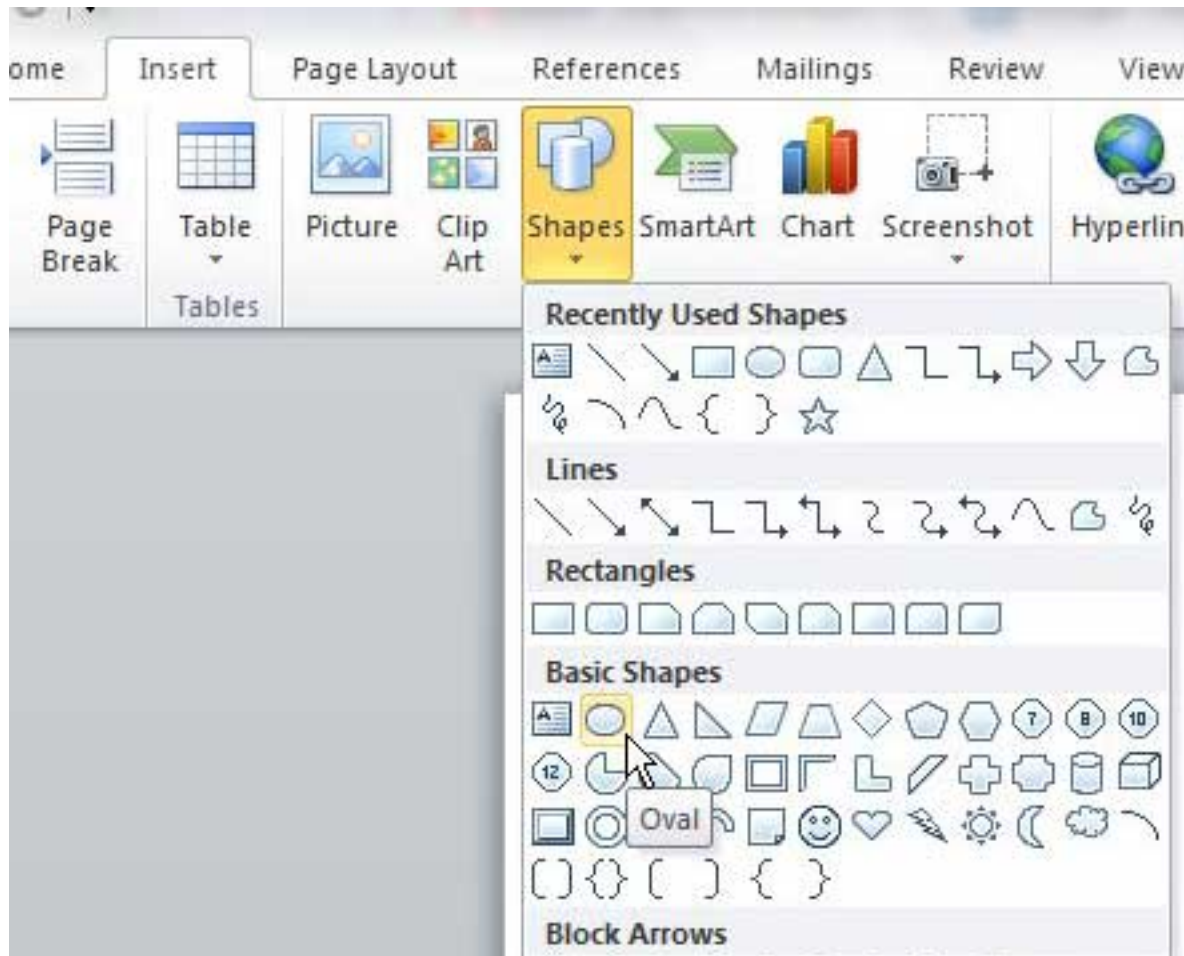
Presentation software such as Microsoft Office *PowerPoint* or LibreOffice *Impress*, are tools designed to help you present data in the form of multiple media—*multimedia*—that might be text, still images, video and/or sound. Presentations are not designed to teach as such; rather they are designed to *help* you teach. But they may, nonetheless, be useful as

standalone tools for presenting useful information.

So, computer-based presentations have various uses. A good teacher or presenter will often want to use *audio-visual* multimedia material to help the members of his or her audience to learn. Computer-based presentation tools enable the presenter to gather together this instructional media and organize into attractive, eye-catching, audio-visually appealing slides that are more likely to engage the audience's attention and understanding than simple speech.

A well-designed computer-based presentation can also be displayed online or in the foyer of a building to give the viewer an overview or description of some topic of interest, such as a company or university's history and goals.

Drawing/Graphics Tools



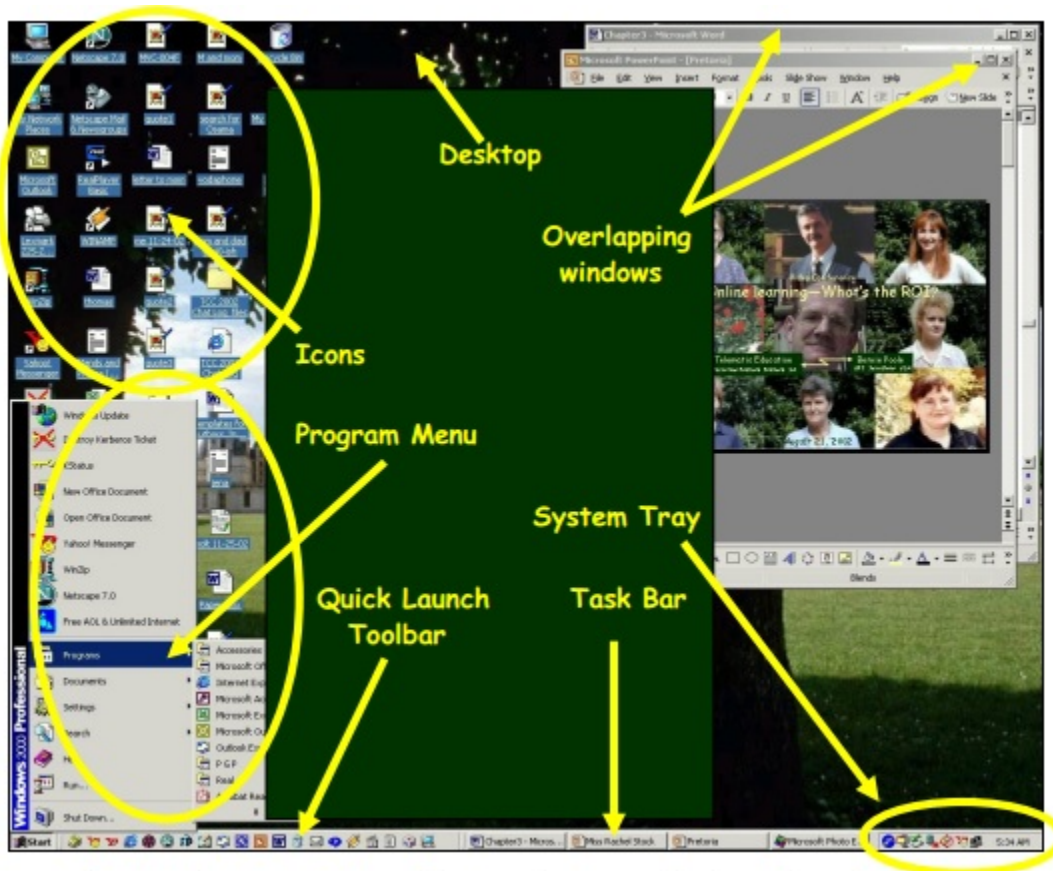
Each of the Office applications is designed for a particular purpose. *Excel* is a number cruncher, *Word* is a powerful word processor, and *PowerPoint* is a presentation application extraordinaire. Although you use the different Office applications for different purposes, graphics—images, shapes, and clip art—are used for pretty much the same purpose in all the applications.

Graphics enable you to enhance information and add interest to the spreadsheets, documents, and presentations that you create. In MS Office or LibreOffice, the commands and tools used to insert and modify images, shapes, SmartArt graphics, and clip art are very consistent across the different applications in the Office suite. So, if you know how to use graphics in Word, you can apply that knowledge to another Office application, such as PowerPoint.

2.1.3 Chapter 3: The Graphical User Interface (GUI)

WIMP

The key features of GUIs are the **Windows**, **Icons**, **Menus**, and **Pointers** (the components of the so-called WIMP interface) which are now common to all types of computers—whether it's a desktop computer, laptop, tablet, or phone.



Touch screens have now been added to the GUI mix, and the point is that these interaction tools have made it possible for more or less anyone to use a computer—even children as young as two years of age.

So you have no excuse for not becoming skilled in the use of a computer. All you have to do is practice and, as we all know, practice makes perfect! You're no doubt already familiar with the GUI from your experience using computers at various times and in various places during the course of your life. It's hard to avoid computers these days. But you might like to learn some of the keyboard shortcuts that by-pass the GUI and let you get things done more quickly than if you use the mouse and point and click.

Quick keyboard shortcuts

Take a moment to try out each of the shortcuts illustrated in the Figure below, and keep this Figure handy for future use.

Microsoft Office Shortcuts

Quick Keyboard Commands

	Word	Access	Excel	PowerPoint
Ctrl-A	Select entire document	Select All	Select All cells	Select All
Ctrl-B	Bold	Bold	Bold	Bold
Ctrl-C or F3	Copy	Copy	Copy	Copy
Ctrl-F	n/a	Find Request	Find	n/a
Ctrl-G	Go to	n/a	n/a	n/a
Ctrl-H	n/a	Replace text	n/a	n/a
Ctrl-I	Italics	n/a	n/a	Italics
Ctrl-M	n/a	n/a	Format a Number	Add (create) slide
Ctrl-N	New document	New document	New document	New presentation
Alt-N	n/a	Create new object	n/a	n/a
Ctrl-O	Open	Open	Open	Open
Ctrl-P	Print	Print	Print	Print
Ctrl-Q	Quit	Quit	Quit	Quit
Ctrl-R	n/a	New Record	Fill Right	n/a
Ctrl-TAB	Save As	Display Page	Save As	n/a
Ctrl-S	Save	Save Query	Save	Save
Ctrl-U	Underline	n/a	Underline	Underline text
Ctrl-V	Paste	Paste	Paste	Paste text
Ctrl-X	Cut	Cut	Cut	Cut
Ctrl-Z	Undo	Undo	Undo	Undo
Ctrl-1 (one)	n/a	n/a	Format cell	n/a
F1	Help	Help	Help	Help
F7	Spelling/Grammar check	Spelling check	Spelling check	Spelling check
Ctrl-[n/a	n/a	n/a	decrease font size
Ctrl-]	n/a	n/a	n/a	increase font size

Shortcuts when selecting Text

Selection Task	Shortcut
Select adjacent text	Click and drag over the text
Select a word	Double-click on the word
Select a line	Triple click on the line
Select a paragraph	Click 4 times in the paragraph
Select from the insertion point to the beginning or end of paragraph	Press Shift-Option-Up arrow or Shift-Option-Down arrow
Select an extended section	Click at one end of the section, then Shift-Click at the other end
Select whole document	Ctrl-A or Triple click in selection area
Select from the insertion point to the beginning or end of document	Press Shift-Ctrl-Home or Shift-Ctrl-End

2.1.4 Chapter 4: Working with Files

In computer terminology, a file is any kind of digital object^[1] that you have created using the computer. Over the years since the digital computer was invented by Alan Turin in 1936, people have come up with various ways of using just 1s and 0s to represent *text* (the characters on the keyboard), *still images* and video (which is really just still images running rapidly one after the other to create a motion picture). It is also possible to use 1s and 0s to represent *sound* and even *smells* (scents) and *tastes* (there are computers that have been programmed to taste wine, for example).

The most common files that you are likely to create and save are text files and image files (photos, charts, drawings, for example), and you'll also often store files that combine text and images. If you learn to use Office *Word*, you'll be creating mostly text files, though you'll sometimes include images among the text. If you learn to use Office *Access*, you'll be creating and saving database files. If you learn to use Office *Excel*, you'll be creating and saving spreadsheet files. And if you learn to use Office *PowerPoint*, you'll be creating and saving presentation files.

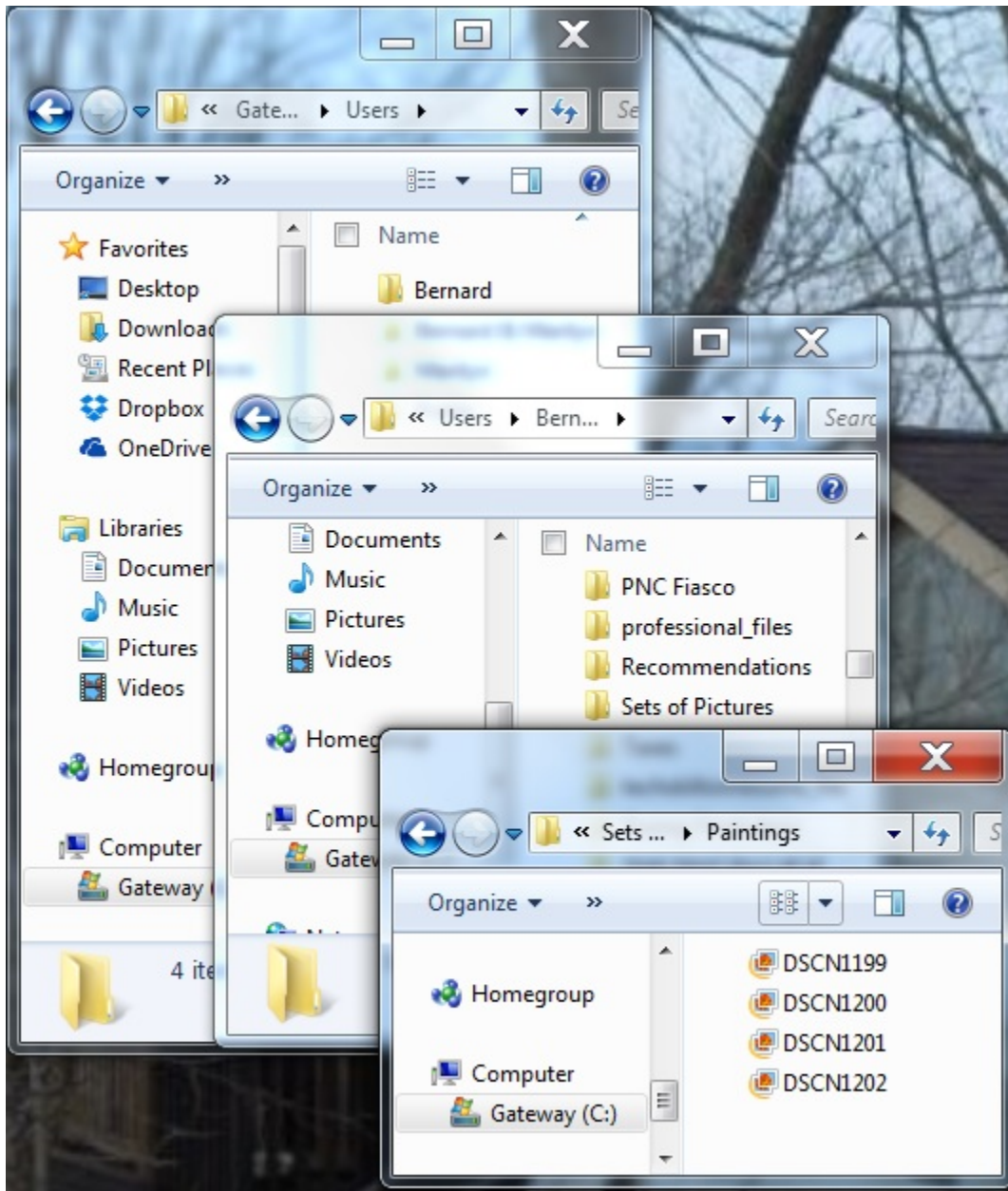
Creating files

Every time you take a photo with your phone or any modern camera, you're creating a file. It's a digital file in one of several image formats, such as .jpg, or .gif, which is automatically saved with a default name on the memory card in your camera or phone. Every time you use Office *Word* to Open a New Blank doc, you're creating a file, which is empty until you type some text into the document, such as a letter, and this new file, too, is saved with a default name—unless you name it yourself.

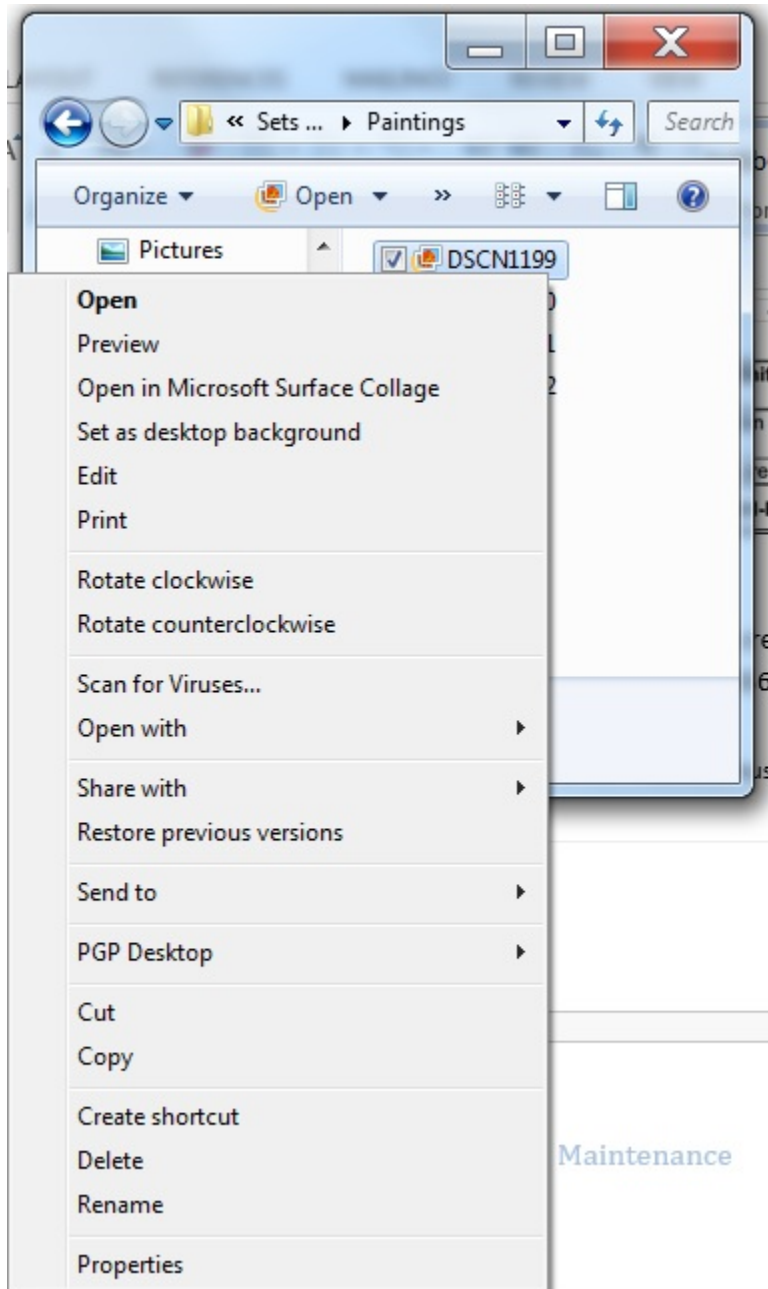
Naming and renaming files

Naming files is VERY important. Who knows what an image file called DSCN1525 contains? That's the kind of default name your camera or phone gives to the photo files you take. What you should always do, when you upload the pictures from your phone or camera to a computer such as a desktop, laptop, or tablet, is *rename* the picture files with a name that describes in a couple of words what the picture is all about. Likewise, if you have a Word document on your computer with a default name that doesn't describe what's in the document, you should rename it. This is easy enough to do.

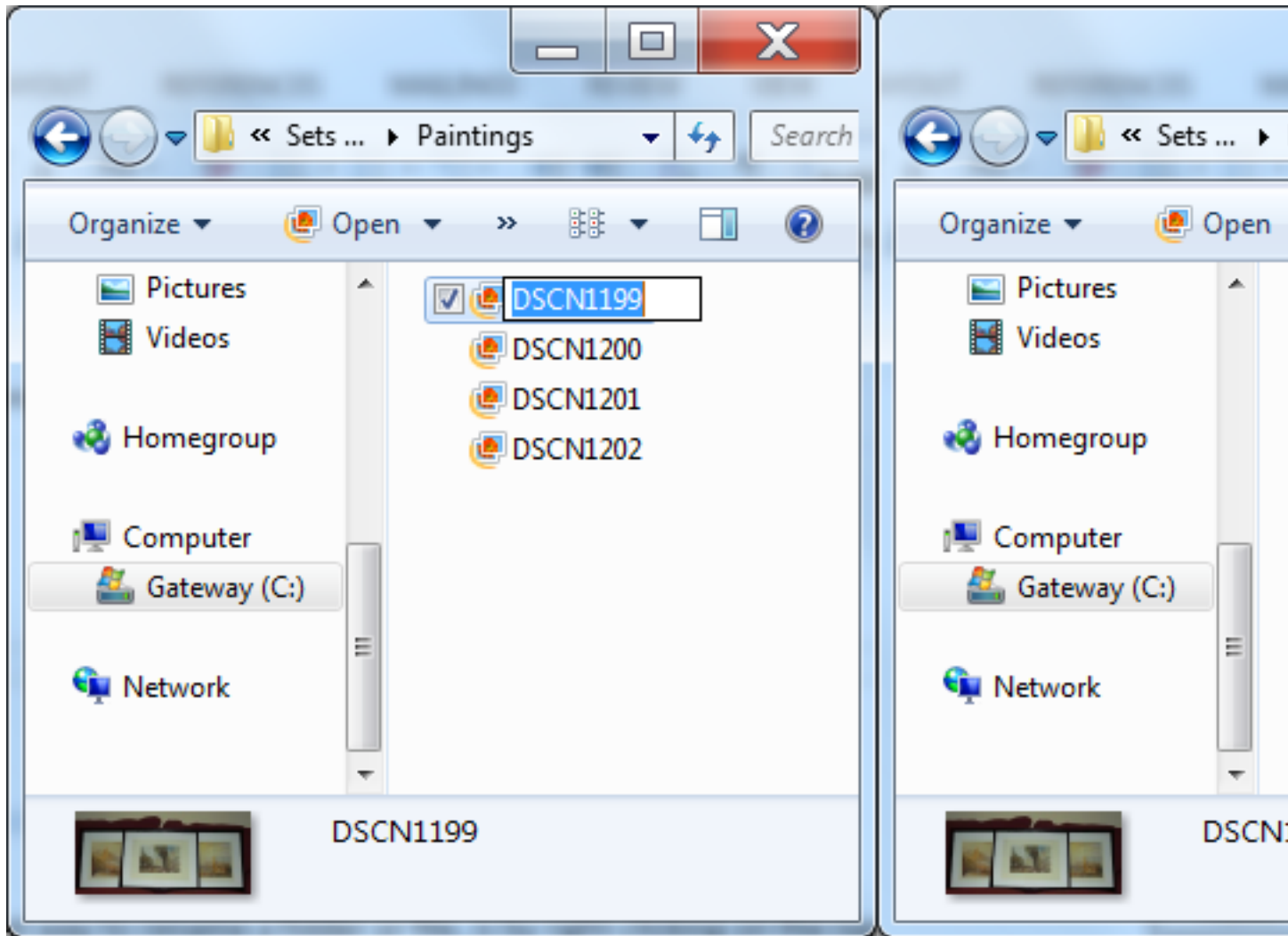
As illustrated below, the computer stores all your files in a hierarchy of folders:



The easiest way to rename a folder or file is by *right-clicking* on the *name* of the folder or file, which brings up what's called a *Context menu* (see Figure).

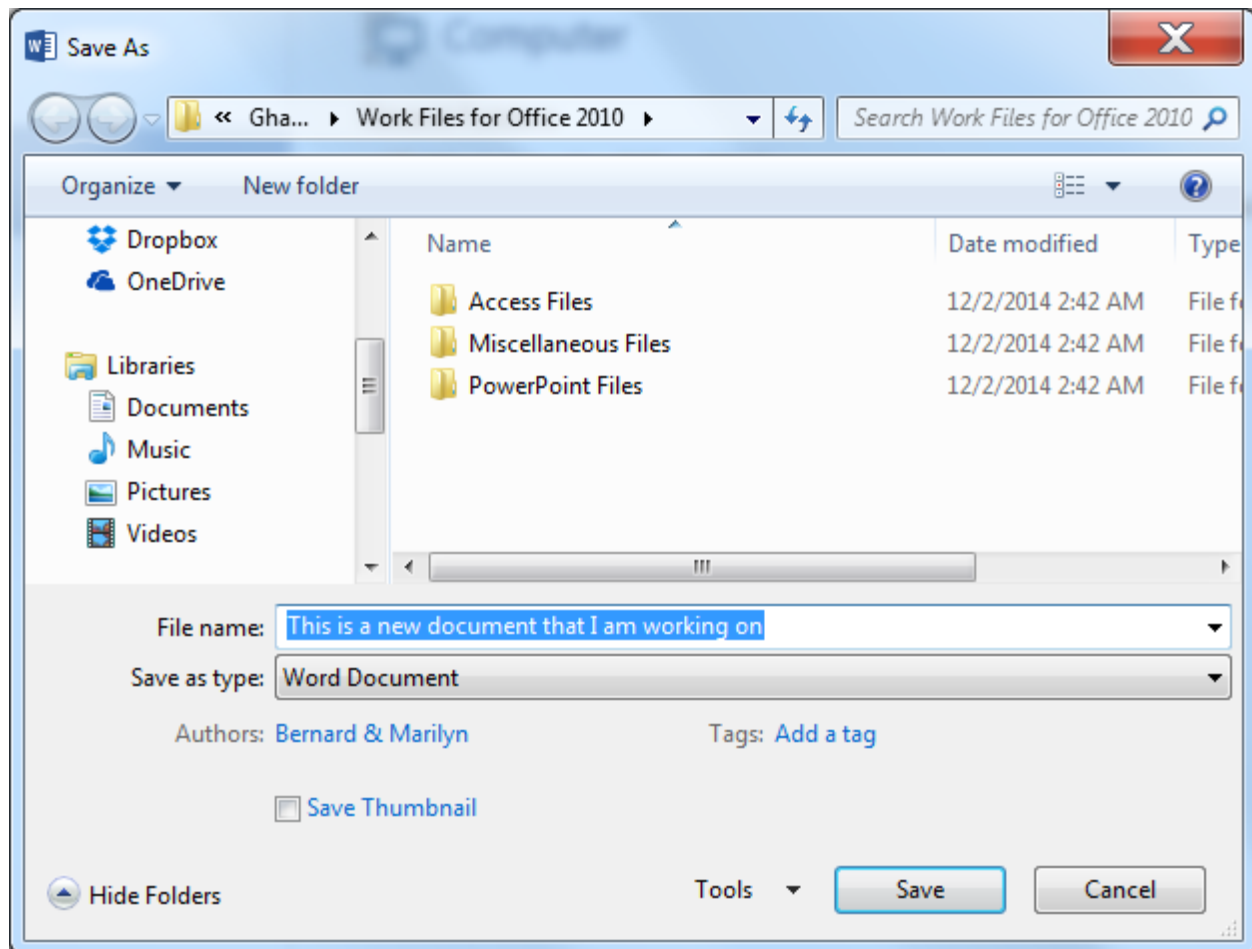


So whenever you *right-click* on any object on the screen a Context menu pops up, which gives you a menu of options that you can carry out on the object you're pointing at—such as the option to *Rename* the file called DSCN1199. In the Context menu, you select the option to *Rename*, and the system highlights the name of the file in blue. Now all you have to do is type the new file name and hit the Enter key on the keyboard. Easily done.

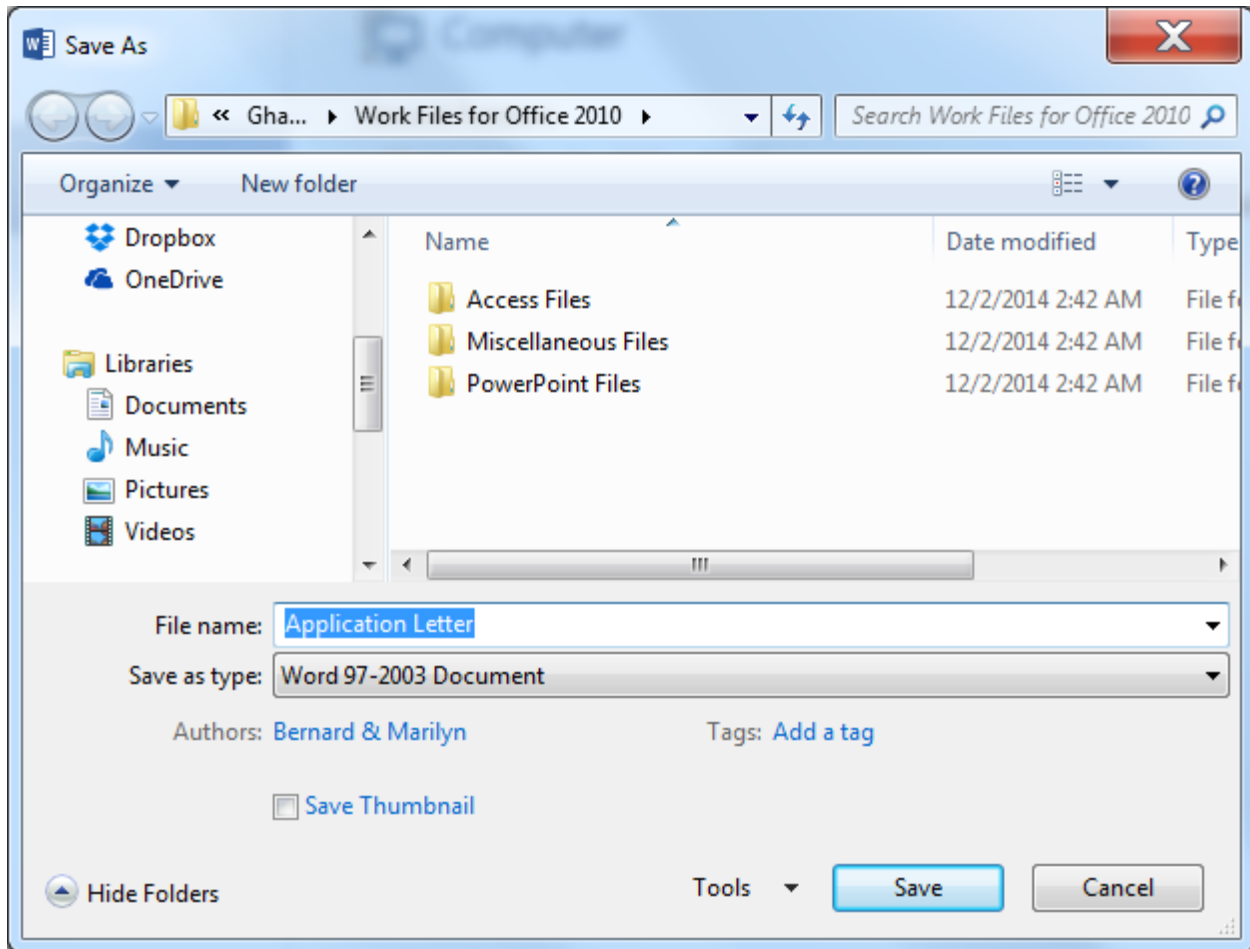


Saving files (Save and Save As)

When you create a new document in Word or any of the other Office programs, and you go to Save the file, Office will assume that you'll want to give the new file an appropriate name. So it will display the *Save As* dialog box to prompt you to do this. Notice (see the first Figure below) that Office automatically chooses a file name based on the *first few words* of the new document you're saving. At this point you also have the opportunity to decide where you want to save the file—on the desktop or in one of the folders you already have on your disk drive. You'll have the opportunity to practice doing this many times when you work your way through the ICCES Office tutorials.



While this Office default name is still highlighted in Blue, you'll go ahead and type a file name that briefly describes the content of the document—in this case *Application Letter*—and then, still in the dialog box, click on the *Save* button (see Figure below).

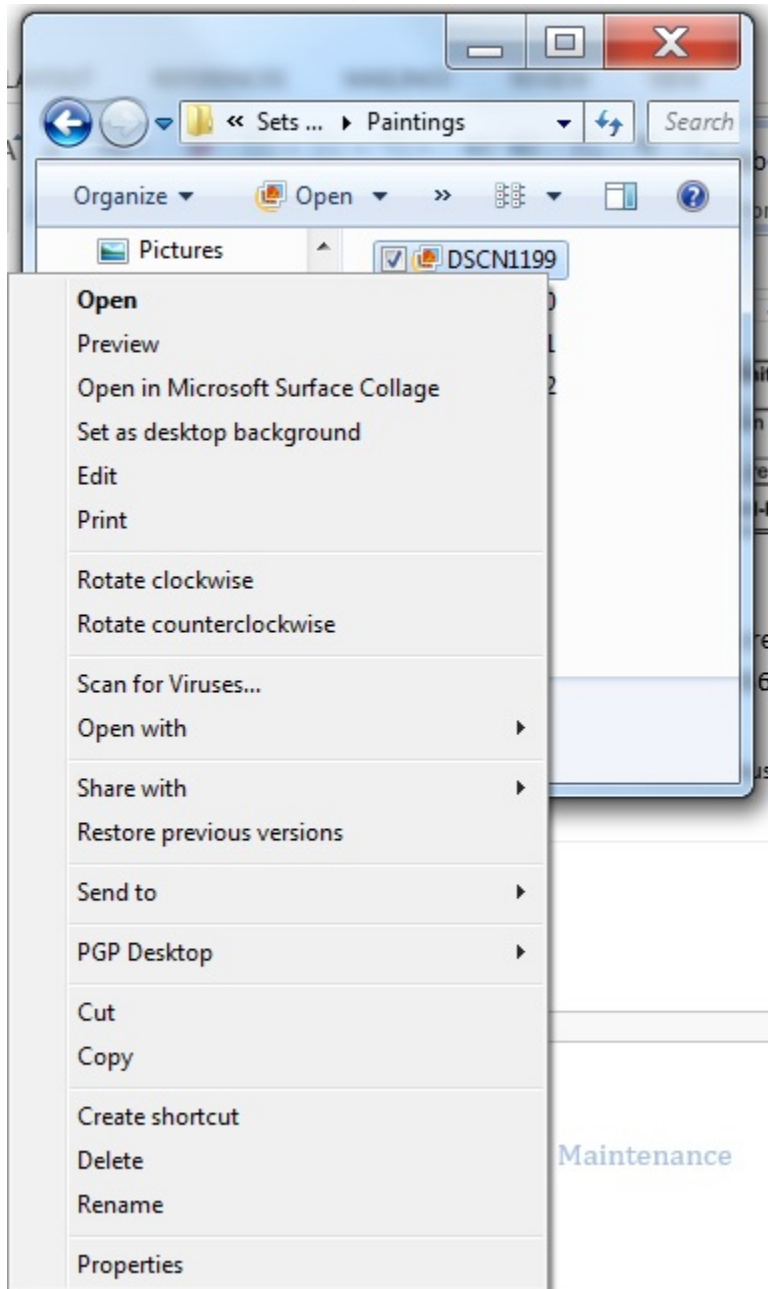


Organizing files

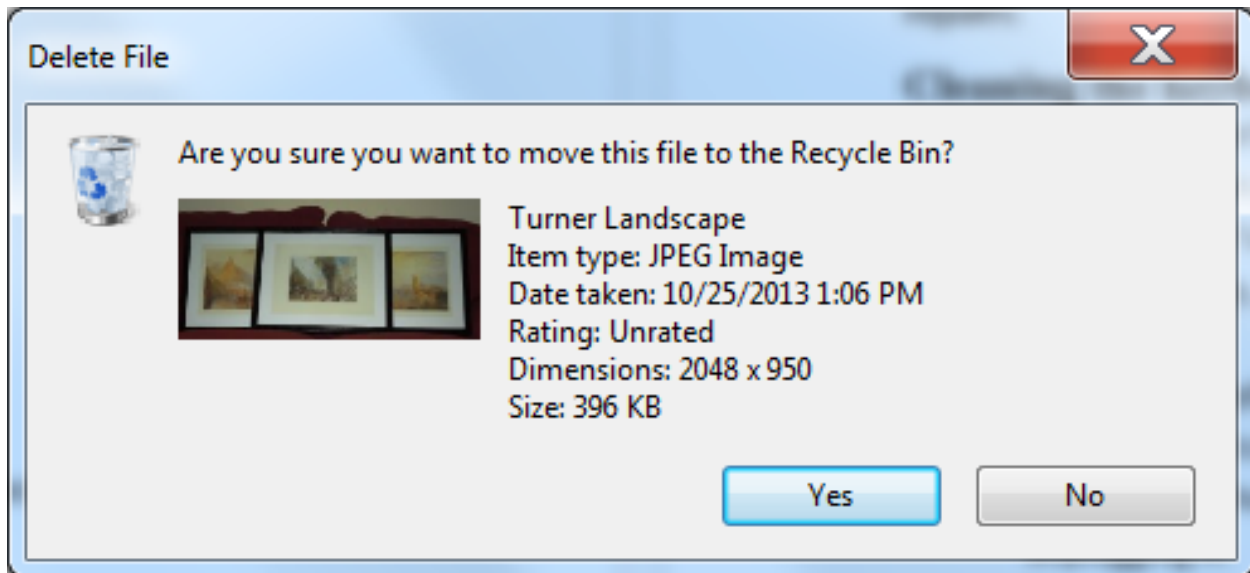
As illustrated above on pages 14-16, you really should be careful to give good names to your files and organize them all into folders on your disks so that they are easier for you to find when you need them. It can be a pain to do this, but in the long run you'll be glad you did. When you work your way through the various ICCES Office tutorials, you will have lots of opportunities to practice doing this, so you don't need to worry about the process at this time. Just be aware that it is **IMPORTANT**, in the same way as it's important that you store things in your house in some tidy fashion so that you know where everything is.

Deleting files

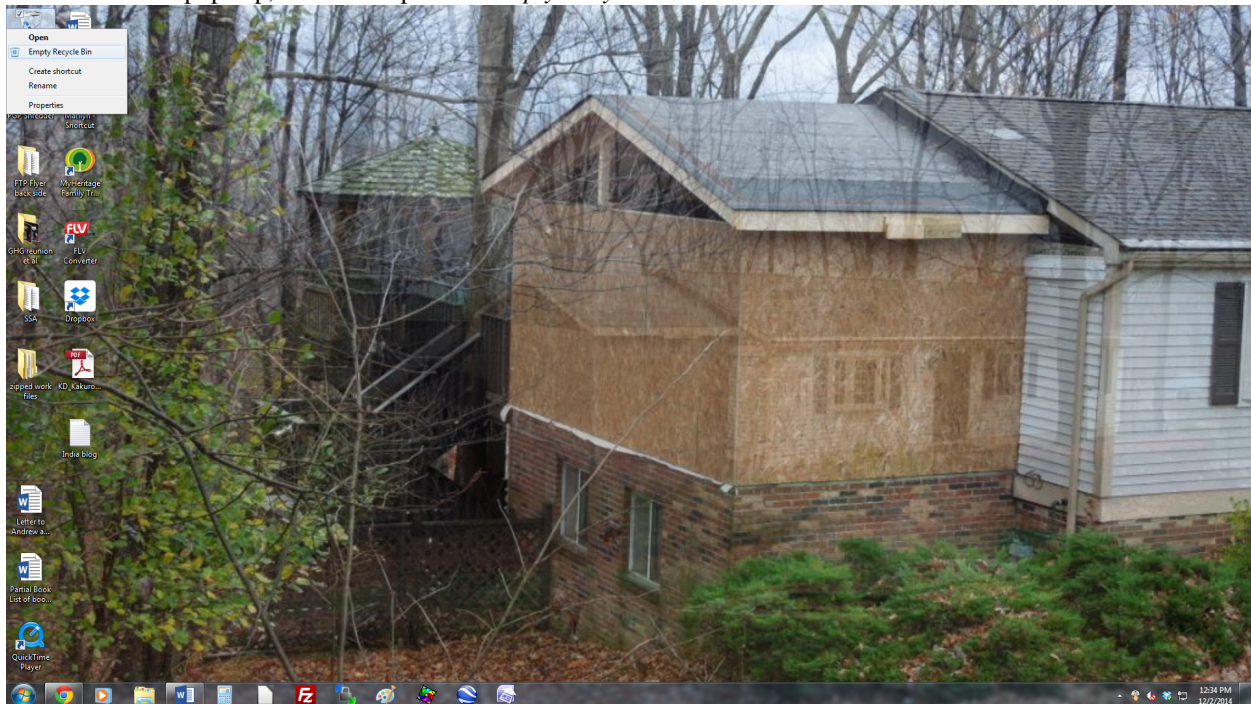
Deleting files is a bit like the process of cleaning house. After a while you'll have hundreds, even thousands, of files on your disk drives. You may well have duplicates of files all over the place, or you may have files that you no longer need or want. Deleting them is easy to do. Basically it's the same process as when you rename a file. The easiest way to delete a folder or file is by *right-clicking* on the *name* of the folder or file, which again brings up a *Context menu* (see Figure).



This time, instead of Renaming the file, you want to *Delete* it. When you select the option to Delete the file, you'll be prompted to confirm that this is what you want to do.



When you click on the *Yes* button, the file is still not actually gone altogether. Windows (the Operating System on your computer) puts the deleted file in the *Recycle Bin* on your desktop and leaves it there till you decide to actually throw it away by emptying the Recycle Bin. In other words, you can still recover the file if you want. To empty the Recycle Bin, you just go to the Desktop and *right click* on the Recycle Bin icon to bring up the Context menu (see Figure) and, in the menu that pops up, select the option to *Empty Recycle Bin*.



2.2 Part II: Basic Computer Maintenance

2.2.1 Chapter 1: The importance of keeping your computer healthy

A computer is an expensive piece of equipment, and as with all big purchases you will want to protect your investment. A computer can help your school progress. It gives you a means of writing reports, saving photos, accessing the internet, sending emails. . . . and so much more.

This booklet provides step-by-step instructions to help you prolong the life of your computer and to help keep it working at a consistently high level.

This booklet covers three main areas: keeping it **physically clean**, protecting it from **malware**, and **backing up** your important files. There is also a short section at the back detailing ways to prevent personal strain and injury which can result from long periods at a computer.

2.2.2 Chapter 2: Keeping your computer physically clean

The main natural physical threats to your computer are:

- Dust
- Heat
- Moisture

Any of them can potentially cause problems for your computer, leading to very costly repairs or even irreparable damage.

YOU are another threat to your computer. If you eat or drink in front of it, it is likely that some food or drink will end up on the keyboard of the computer, which could make some of the keys unusable.

It is good working practice to go away from your computer to get a drink or to have some food. Getting away from the computer every hour or so gives you a chance to move around and stretch your legs.

By cleaning your computer regularly, you can help to **keep it working properly** and **avoid expensive repairs**.

Cleaning the keyboard

A dirty keyboard doesn't look nice and can cause your keyboard to **not work** properly. Dust, food, liquid, and other particles can get stuck underneath the keys, which can prevent them from working properly.



Check your owner's manual to see if the manufacturer has provided you with instructions for your specific keyboard. If so, follow them. If not, the following steps are basic cleaning tips that can help keep your keyboard clean:

1. Unplug the keyboard from the USB or PS/2 port. If the keyboard is plugged into the PS/2 port, you will need to shut down the computer before unplugging it.
2. Turn the keyboard upside down, and gently shake it to remove dirt and dust.
3. Use a can of compressed air to clean between the keys (see Figure above).
4. Moisten a cotton cloth or paper towel with rubbing alcohol (surgical spirit), again turn the keyboard upside down, and use it to wipe clean the tops of the keys. **Do not pour alcohol (or any other liquid) directly onto the keys!**
5. Reconnect the keyboard to the computer once it is clean and dry. If you are connecting it to a PS/2 port, you will need to connect it before turning the computer on.

Dealing with liquids

If, heaven forbid, you *do* spill liquid on the keyboard, quickly shut down the computer, disconnect the keyboard and turn it upside down to allow the liquid to drain.

If the liquid is sticky, you will need to hold the keyboard on its side under running water to **rinse** the sticky liquid away. Then turn the keyboard upside down to drain for two days before reconnecting it. The keyboard may not be repairable at this point, but rinsing the sticky liquid off of it is the only chance for it to be usable again.

The best way to avoid this situation is to keep drinks away from the computer area.

Cleaning the mouse

There are two main types of mice: **optical** and **mechanical**. Each is cleaned in basically the same way, although the mechanical mouse requires a bit more work.



- **mice** require **no internal cleaning** since there aren't any rotating parts; however, they can get **sticky** over time as dust collects near the light emitter. This can cause erratic cursor movement or prevent the mouse from working.
- **Mechanical mice** are especially susceptible to **dust** and **particles** that can accumulate inside the mouse, which can make it difficult to track—or move—properly. If the mouse pointer does not move smoothly, the mouse may need to be cleaned.

Before you clean the mouse, check the owner's manual to see if the manufacturer has provided you with instructions for your specific mouse. If so, follow those instructions. If not, the following steps are basic cleaning tips that will help keep your mouse clean.



1. **Unplug** the mouse from the USB or PS/2 port. If the mouse is plugged into the PS/2 port, you will need to shut down the computer before unplugging it.
2. Moisten a **cotton cloth** with rubbing alcohol, and use it to clean the top and bottom of the mouse.

3. If you have a **mechanical mouse**, remove the **tracking ball** by turning the **ball-cover ring** counterclockwise. Then clean the tracking ball and the inside of the mouse with a **cotton cloth** moistened with rubbing alcohol.
4. Let **all of the parts dry** before reassembling and reconnecting the mouse. If you are connecting it to a PS/2 port, you will need to connect it **before** turning the computer on.

If you just want to give the mouse a quick cleaning, place it on a clean, white sheet of paper and move the mouse back and forth. Some of the dust and particles should rub off onto the paper.

Cleaning the monitor



Dirt, fingerprints, and dust can make your computer screen difficult to read. However, it's easy to clean your screen when needed. Although there are monitor-cleaning kits you can buy, they may do more harm than good if they are designed for a different type of monitor. For example, a monitor cleaner that is designed for glass screens may not work with some non-glass LCD screens. The safest method for cleaning any monitor is to use a soft, clean cloth moistened with water.

Do not use glass cleaner (such as Windex) to clean a monitor. Many screens have anti-glare coatings that can be damaged by glass cleaner.

1. Turn off the computer.
2. Unplug the monitor from the power. If you are using a laptop, unplug the laptop.
3. Use a soft, clean cloth moistened with water to wipe the screen clean.

Do not spray any liquids directly onto the screen. The liquid could leak into the monitor at the edges and damage it.

Tips for cleaning other computer surfaces

From time to time, you should clean your computer case and the sides and back of the monitor to avoid buildup of dust and dirt. Here are a few tips you can use when cleaning these surfaces:



- Dust is your computer's main enemy. Use an anti-static wipe to lightly dust your computer casing. Don't use furniture cleaners or strong solvents.
- Use a can of compressed air with a narrow nozzle to blow out debris from the air intake slots.
- Spray cleaning solution (such as diluted ammonia cleaner or glass cleaner) on a paper towel or anti-static wipe. Clean the monitor housing and case (not the monitor screen) by wiping in a downward motion.
- A safe cleaning solution for computer surfaces (not computer screens) is ammonia diluted with water, or glass cleaner comprised mostly of ammonia and water (check the label). Remember, the milder the solution, the better. **Do NOT use these solutions on the computer screen!**

Cleaning Methods Overview

Computer Part Cleaning method

Keyboard Shake it upside down to remove dust and dirt

Can of compressed air to clear dirt between the keys

Wipe with a cotton cloth moist with rubbing alcohol

Mouse Both Optical and mechanical: wipe with a cotton cloth moist with rubbing alcohol

Quick method: move up and down on clean white paper

Monitor Wipe the screen with a clean cotton cloth moistened with WATER

Computer case Wipe with an ant-static wipe to prevent dust

Air intake slots Blow out dust with compressed air

Monitor housing Wipe with a cleaning solution such as water and ammonia or a glass cleaner

Keep it cool

Don't restrict airflow around your computer. A computer can generate a lot of heat, so the casing has fans that keep it from overheating. Avoid stacking papers, books, or other items around your computer.

Many computer desks have an enclosed compartment for the computer case. If you have this type of desk, you may want to position the case so it is not against the back side of the desk. If the compartment has a door, you may want to leave it open to improve airflow.

2.2.3 Chapter 3: Safeguarding against malware

What is malware?

Malware is any type of software that is designed to damage your computer or gain unauthorized access to your personal information. It includes viruses, worms, Trojan horses, spyware, and other types. Most malware is distributed over the Internet, often bundled with other software. It can also insert its way into your computer from a USB drive or CD/DVD disc.

The easiest way to think about it is as if it was a virus, infecting a body. If it gets in, and is not treated, it gets worse and can affect other computers by passing the virus on to them.

How malware infects your computer

Malware infects your computer in lots of different ways. Some of the most common ways are as follows:

- Through emails from other infected computers;
- When you download programs or files from the internet; and
- When you visit internet websites that are infected or set up by people who write programs deliberately set up to infect your computer.

Signs that your computer is infected

Unlike with a person, it is hard to tell when a computer is infected! A number of signs are as follows:

- Your computer is running slower than usual;
- Your friends tell you that they have received emails which you didn't send yourself;
- You get error messages;
- Internet browsers or programs open, even if you didn't try to open them!

How you can avoid malware

Antivirus software

The best way to guard against malware is to install antivirus software. Antivirus software does three main things:

- Prevents your computer from being infected;
- Searches your computer to see if you have any infections; and
- Removes any malware found.

Although it might sound daunting, downloading and installing antivirus software is relatively easy, and step-by-step instructions are available online, and have been written for newcomers to computers.

There are many different companies supplying antivirus software – we aren't going to recommend a specific one here. Please search the internet, or talk to a supplier for the package that suits your needs and budget (some are even free!).

New malware is being created all the time, so it's important to update your antivirus software frequently – this should be done automatically by the antivirus program when you connect to the internet. But if not, there is an easy way to change the settings.

Also, antivirus software, such as the software illustrated below, may run out (for example, after 1 year). It is thus important to know when that happens so you can update to the newest version.



*General good practice *

It's important to **stay smart** when you're browsing the Web or using email. If a website or email attachment looks suspicious, trust your instincts. Keep in mind that your antivirus program may not catch everything, so it's best to avoid downloading anything that might contain malware. You might say that a little paranoia is a good thing. When it comes to malware such as viruses, you should always be wary of anything you download to your computer!

What to do if you think your computer is infected

- If you have antivirus software – disconnect from the internet and run the software. Let it find the malware and delete it from the system. If this does not work, you will need to contact an IT specialist.

- If you do not have antivirus software (why not?!) – download one from the internet and follow the above steps.

2.2.4 Chapter 4: Backing up the data on your computer

Why is backup important?

Imagine what would happen if your computer suddenly stopped working. Would you lose any important documents, photos, or other files? You could lose years of work in 1 second!

It may be possible to repair your computer, but your files may be **lost forever**. Luckily, you can prevent this by creating **backup** copies of all of your files (or just the important ones) on an **external hard drive** or an **online backup service**.

External hard drives



- You can purchase an **external hard drive** and copy the contents of your computer to it. The **initial backup could take several hours**, so you will need to select a period of time when you do not need access to your computer. Running the backup overnight usually works best.
- Follow-up backups should be conducted on a regular basis, but will not take as long because the drive will only need to copy your most recent files.
- **Western Digital**, and **Seagate** produce popular external hard drives. Conduct some research on which product best suits your storage needs, or ask a computer sales representative for recommendations.
- One drawback, compared to online backup services, is that your external hard drive can be lost, damaged, or stolen just as your computer might be. Therefore, it is important to keep your drive in a **secure location** when not in use.

Online backups

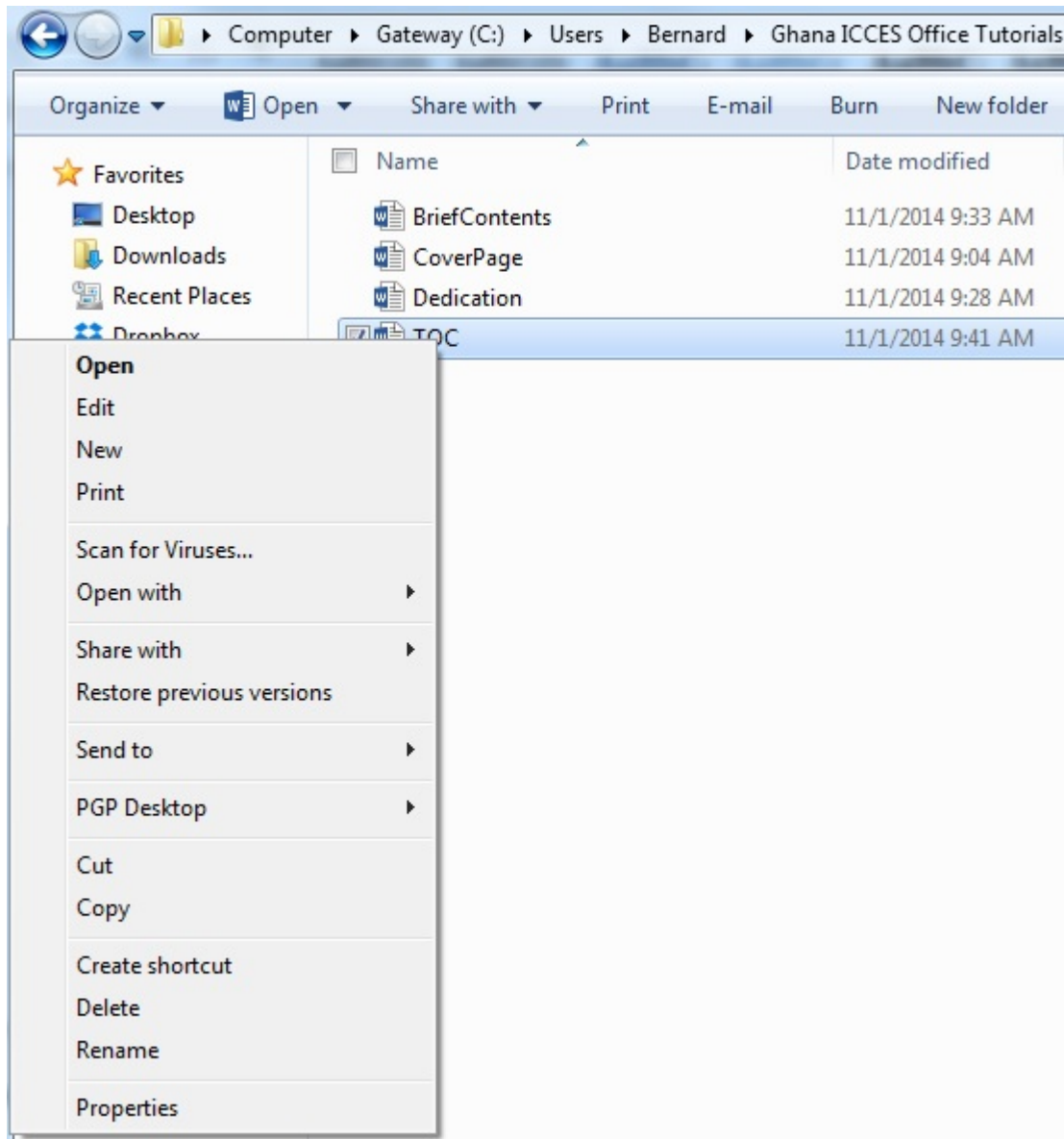
- You can also backup your files to one of the **online backup services** like [Mozy](#), [Carbonite](#) or [Box](#), and your files will always be accessible to you, as long as you are connected to the internet.

- The amount of storage space provided by these sites varies, and you may have to pay a monthly or yearly fee for adequate storage.
- Again, do your research, as these services are constantly changing and offer varying features.
- One drawback to online backup services is that the initial backup can be slow and may even take days to upload if you have a large number of files. However, subsequent backups should not take as long.

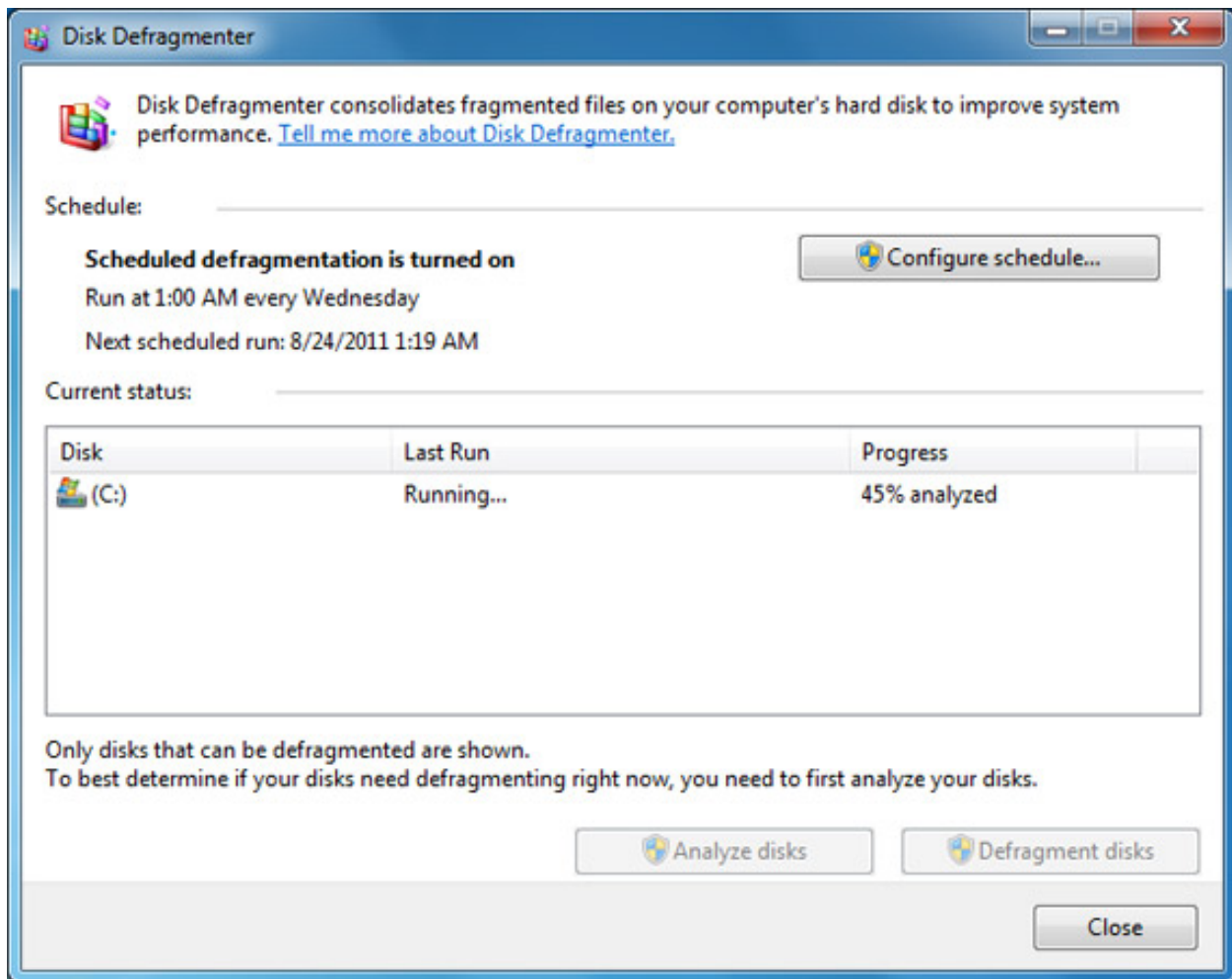
2.2.5 Chapter 5: Other maintenance techniques and personal health

Other maintenance techniques

- To keep your computer running smoothly, it's important to keep files and folders **uncluttered**. Cluttered or unorganized folders make it more difficult to find the files you need.
- Additionally, unwanted files can eventually fill up your **hard drive**, which will make your computer slower and more difficult to use. Here are a few things you can do to delete unwanted files and improve your computer's performance:
- **Delete files:** If you have any unwanted files, you can delete them manually. To do this, simply drag them into the **Recycle Bin** (or **Trash**), then empty the Recycle Bin. Another way to delete a file is to **right click** on it, which brings up a **Context menu** (see Figure on next page). Then scroll down the menu to select the **Delete** option.

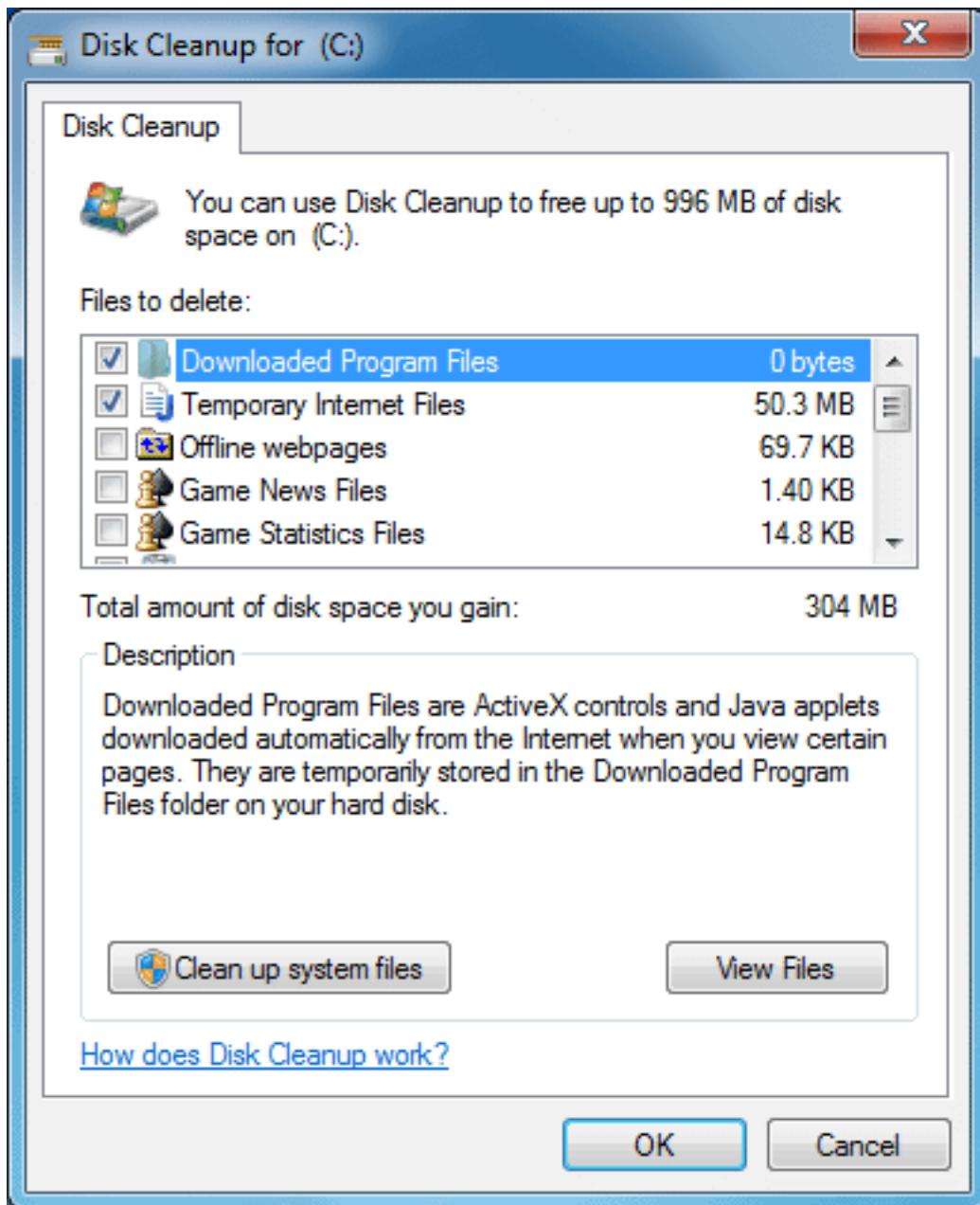


- **Disk Defragmenter:** Windows includes a **Disk Defragmenter** program in the Control Panel (see Figure below). It **scans** the files on your hard drive and **rearranges** them so it can read them faster. If your computer is running slowly, running Disk Defragmenter can help to speed it up.



- **Disk Cleanup:** Windows also includes a **Disk Cleanup** program

in the Control Panel (see Figure on the next page). It scans your computer for **temporary files** and other files that can be deleted. You can then delete the files to free up space on your hard drive.



Avoiding strain and injury

In addition to keeping your computer healthy, it's important to think about **your own health**. **Computer ergonomics** is the science of equipment design and how specific equipment usage and placement can reduce a user's discomfort and increase productivity.

Using a computer involves a lot of repetitive motions such as **typing** and using the **mouse**. Over time, these motions can begin to take their toll on your body, especially your **wrists**, **neck**, and **back**.

Staring at a monitor for long periods of time can also cause **eye strain**.

To minimize, or even altogether avoid, these problems, the simplest solution is to take frequent breaks from work at the computer. Every hour at least, get up, take a stroll, relax your arms and wrists and shoulders—**take a break!**

You should also take a few moments to make sure your workspace is arranged in a comfortable and healthy way. Some equipment is designed with special attention to ergonomics, such as **ergonomic keyboards** and **ergonomic chairs**.

Correct seating position

- **Adjust your chair:** Make sure your chair is adjusted to allow you to sit in a natural, comfortable position and at a height where your eyes are looking slightly **down** at the screen to minimize strain on your neck. Use a cushion or pillow if your chair is not adjustable. A good office chair is specially designed to **support the lower back** and promote good posture (see Figure below).



- **Keep the keyboard at a comfortable height:** Try to place the keyboard in a position that allows you to keep your wrists straight and relaxed to avoid wrist strain. Many desks have a keyboard tray that can keep the keyboard at a better height. You can also buy an **ergonomic keyboard** that is designed to minimize wrist strain (see Figure below).



- **Keep the mouse close to the keyboard:** If possible, place the mouse right next to the keyboard. If the mouse is **too far away**, it will be uncomfortable or awkward to reach after a while.
- **Place the monitor at a comfortable distance:** The ideal position for a monitor is **20 to 40 inches** away from your eyes. It should also be **at eye level** or **slightly lower**.
- **Avoid clutter:** The computer area can quickly become **cluttered** with papers, computer accessories, and other items. By keeping this area as uncluttered as possible, you can improve your productivity and prevent strain or injury.

2.2.6 Chapter 6: Daily, Weekly, Monthly, Quarterly and Annual Maintenance

Daily Maintenance

- **Virus Scan** - A regular virus scan is essential to the safety of your computer. We recommend scheduling your anti-virus software to run a virus scan once a day.
- **Data Backups** - We recommend at least daily saving of essential files to a CD-R. Backing up data is a simple process with today's CD drives and burning software or you can run the backup utility provided with Windows
- **Shut Down** - When you're done using your computer each day, I recommend shutting down the system. This saves electricity and wear and tear on your system's operating system and hardware. Just doing this can extend the life of your computer significantly.

Weekly Maintenance

- **Disk Cleanup** - running system cleanup at least once a week deletes unnecessary temp files, temporary internet files and your recycle bin freeing up hard drive space that can slow down your computer. You can access System Clean up by clicking on

Disk CleanupStart > All Programs > Accessories > System Tools >

Disk Cleanup.

- **Disk Defragmenting** - as you create and edit files on your computer they get saved on your hard drive. Each file is allocated so much space within on location on your hard drive and for large files they may take up more space, thus having to take up more than one space on the hard drive. Running disk defragmenter at least once week will keep your file fragments down and allow your hard drive to work more efficiently. You can run disk defragmenter by

All Programs > Accessories > System Tools > Disk DefragmenterStart >

All Programs > Accessories > System Tools > Disk Defragmenter and then select the drive you want to defragment.

- **Update Virus Definitions** - This is very important to ensure your computer is up to date on the latest virus threats in cyberspace.
- **Shut Down** - We recommend doing a complete shut down of your computer at least once a week when practical. It is very important for the operating system to have a complete reboot at least once a week to lower operating system degradation.

Monthly Maintenance

- **Windows Updates** - This is a good chance to ensure your operating system is running up to date with the latest security patches. You can update your Windows Operating System by going to www.update.microsoft.com.

Quarterly Maintenance

Clean the Computer - Often overlooked, cleaning your computer vents of dust and other fuzz is very important. With a brush and vacuum cleaner or a can of air, you can clean the vents for the power supply and side vents on the computer.

- Before cleaning ensure the power is off and follow the instructions on the can of air to safely accomplish this task.

- Be careful not to breathe in suspended dust particles. We recommend wearing a dust mask to avoid setting off any allergies.

Annual Maintenance

Your local computer repair technician should be scheduled to have the inside of your computer cleaned, CPU fan checked, and cables and circuit cards checked for sound connections.

[^1]: A digital object is any object that can be “read” by a computer, which means it must be represented in the binary 1s and 0s of computer language.

LibreOffice Tutorials for Turing Trust Students

ESSENTIAL *LibreOffice* Tutorials for Turing Trust Students in Ghana

by Bernard John Poole
Associate Professor Emeritus
of Johnstown, PA, USA

Dedicated to



Alan Mathison Turing, PhD, OBE, FRS
1912-1954

British mathematician, logician, cryptanalyst, philosopher, pioneering computer scientist, mathematical biologist, and marathon runner

and to



Pharra Joy DeWindt, PhD – Yaa Nyarkoa
1957-2005

Founder and Executive Director of the Digital Literacy Alliance (DLA), non-profit organization dedicated to facilitating the educational advancement of the youth of Agona Duakwa, a village in the Centrale region of Ghana, West Africa.

“Literacy is the beginning of freedom.”
(motto of the Digital Literacy Alliance)

3.1 Lesson 1 Introduction to *WRITER*

1 Introduction to *WRITER*

Writing a Conference Call letter

LEARNING OUTCOMES

In this tutorial, along with some helpful hints to bear in mind when word processing, you will learn the steps required to produce a word processed document from scratch and carry out basic formatting and editing functions. These include:

1. opening and naming a new word processor document
2. entering and saving a document
3. updating and simple formatting of a document
4. checking a document for spelling and grammar errors
5. printing a document
6. making a backup copy of a document

BEFORE YOU BEGIN

Lesson 1 makes the assumption that you are already familiar with the *Windows* computing environment, though you may not be an expert in its use. If you are using a computer in a lab at school, you'll also know:

1. where to find the computer lab on campus;
2. how to turn the computer on;
3. how to log on to the system (using your login name and password).

You also should be familiar with the **Windows, Icons, Menus, and Pointers** (the so-called **WIMP** interface) with which you interact with the computer. If not, your instructor will make this clear to you before you proceed with these tutorials.

Lesson 1 assumes that you have received a copy of the set of *Work Files for LibreOffice* that accompany these tutorials. These files ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You also will need a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

If you do not have these four folders and files ready, prepare them now before proceeding with this tutorial.

Here are the steps to take:

First, **Unzip** the set of **Work Files for LibreOffice** by double clicking on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 1.1).

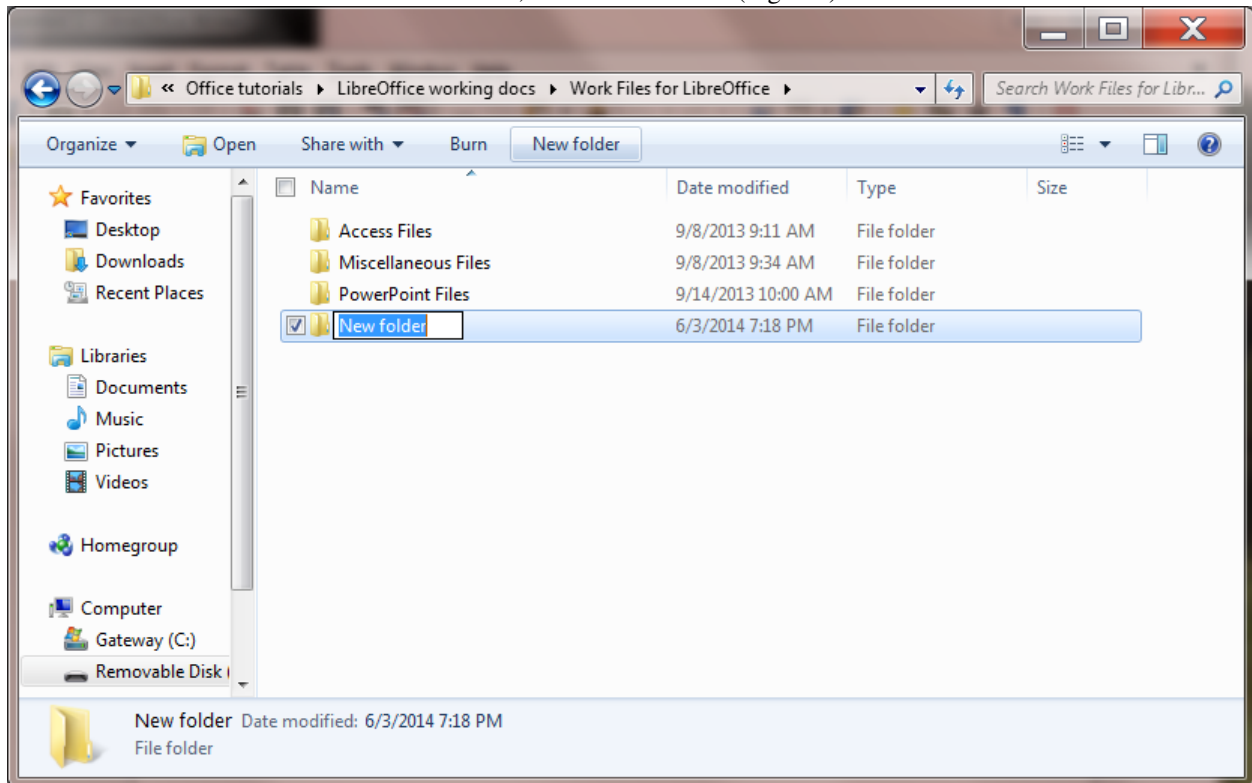


Fig. 1.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 1.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

1.1 Opening, naming & saving a new *Writer* document

Opening a new *Writer* document

Before you can use *LibreOffice*, you must first open the program. Every system is slightly different in the steps to open a program, so we'll assume that you already have that figured out, or you have someone, such as your instructor or a friend, who can help you get started.

Fig. 1.2 illustrates the screen you will see when you first open a new *Writer* document.

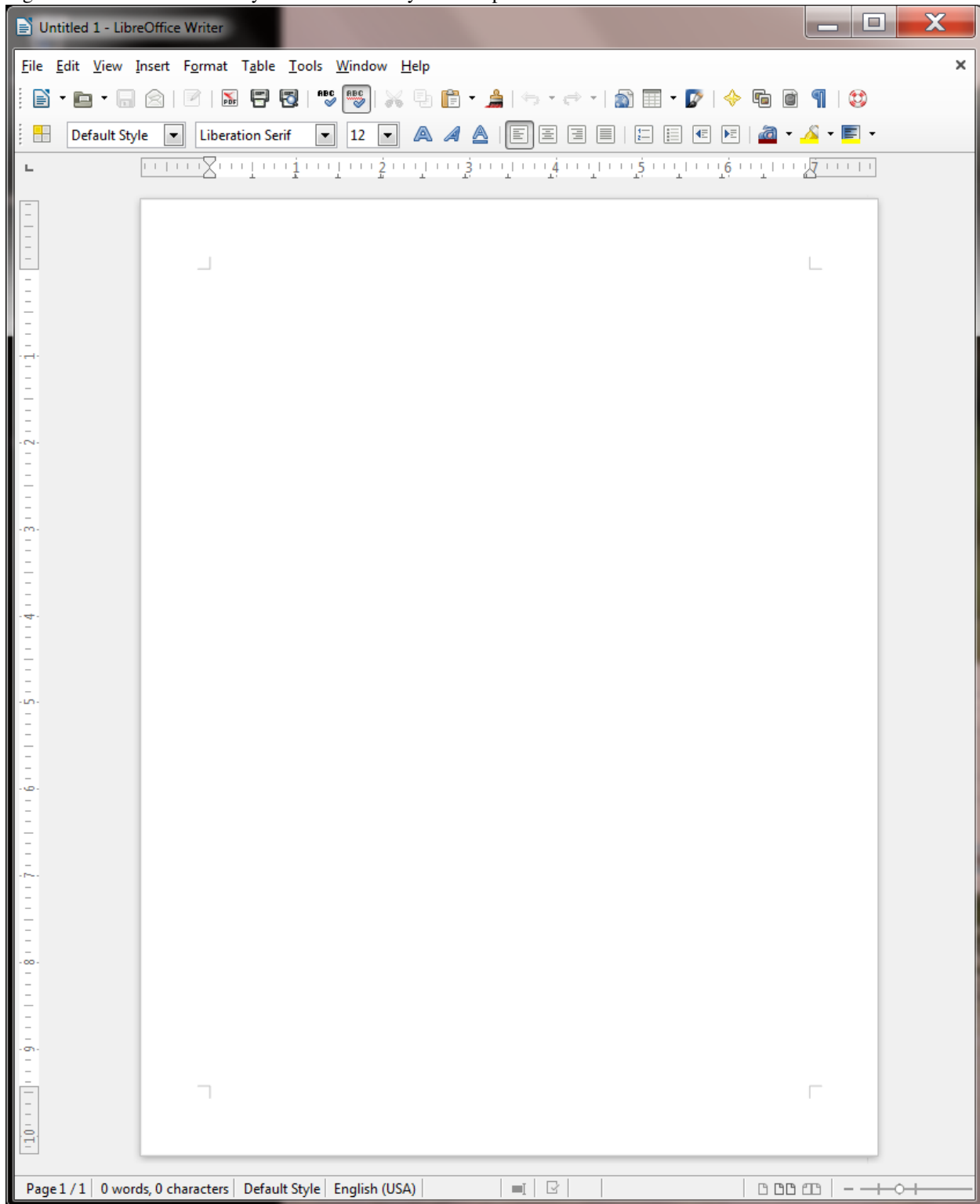


Fig. 1.2 New blank *Writer* document (annotated)

Fig. 1.2 illustrates the Ruler Bar, along with the tool for setting *tab stops* and the tools for setting *indents*—called *indent markers*.

Check out the tool for setting **Tab stops**; it's on the same line as the **Ruler bar**, but at the **left edge** of the *Writer* window (see Fig. 1.2 above)—it's so small you could easily miss it (and a lot of *Writer* users do!)

Make a mental note of the **Indent Markers** too; they're on the left and right sides of the **Ruler bar** (Fig. 1.2 again)

Naming and saving a new *Writer* document

Here are the steps to save this first *Writer* document on your flash drive.

Look at the new document's **default name** (it'll be **Untitled1**) at the **top left** of the *Writer* window (see Fig. 1.1 above)

The document is given this default name by *LibreOffice* because you haven't yet given it a name of your own. It is ALWAYS a good idea, however, to immediately—and thoughtfully—name a new document before you even enter any data, and then save the document on the drive and in the folder where you intend to keep it.

Make sure your Flash drive is inserted in your computer, then, from the **File menu**, select **Save As**

Writer displays the *Save As* dialog box (Fig. 1.3).

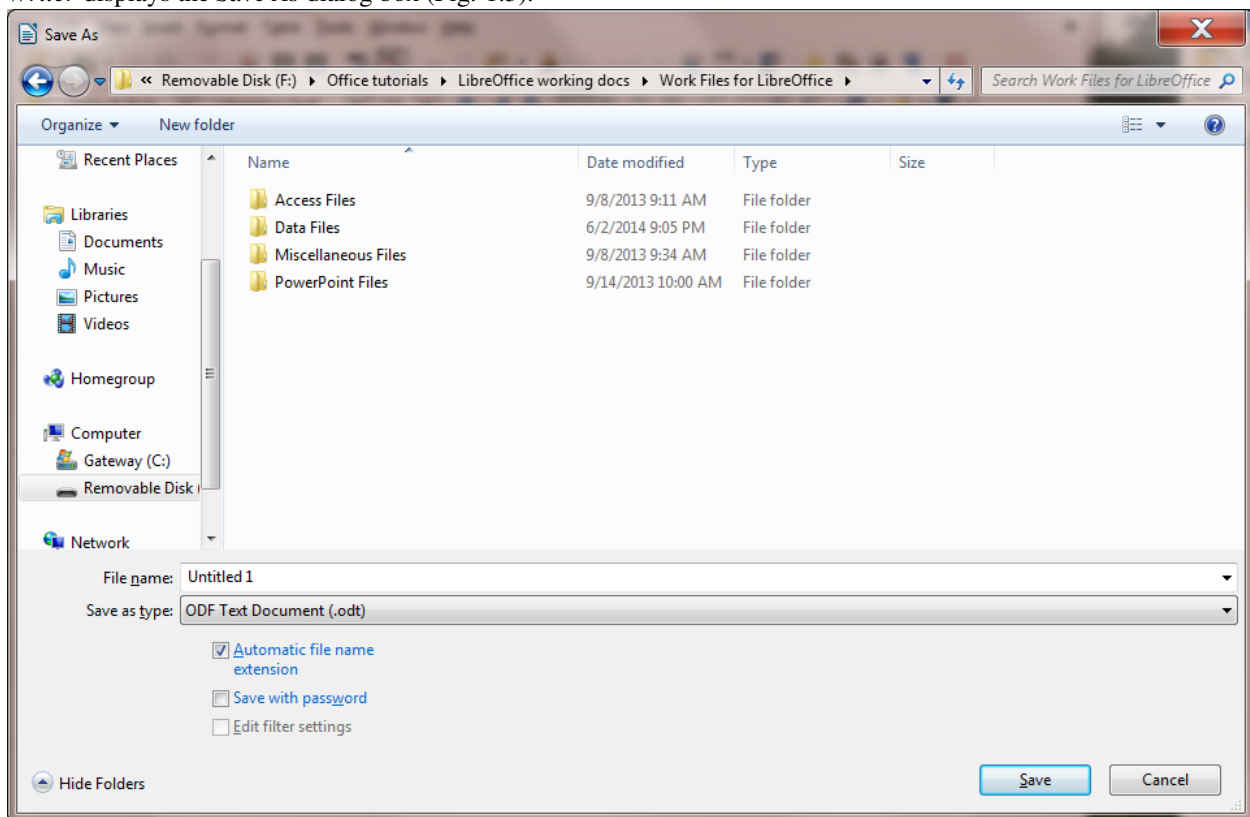


Fig. 1.3 The *Save As* dialog box

The *Save As* dialog box prompts you, among other things, to

- (1) select the *location* or disk drive where you want to save the new document (in this case your Flash drive or Removable Disk);
- (2) navigate to, and then either create or select, a *folder* on that drive in which to save the new document (in this case, your Data Files folder);

(3) type a *name* for the document before clicking on the Save button.

The Save As dialog box thus lists the various locations where your files can be saved.

Make sure your **flash drive** is in one of the available **USB ports** in the computer then, in the left frame of the **Save As dialog box**, click on **Removable Disk** to **open** it (Fig. 1.3 on the previous page)

Now, in the list of various folders and files that may be on your flash drive, **locate/navigate to** the folder named **Work Files for LibreOffice** (you may need your instructor to help you find it on your computer this first time) and **double click** on it to **open** it

You should now see a list of four folders, including the Data Files folder you created when you prepared it for use with these tutorials.

Double click to open the **Data Files** folder (see Fig. 1.3 previous page)

Creating a new folder on a disk

Inside the Data Files folder you need to create a new folder to store all the documents you will create using *Writer*.

Still in the **Save As** dialog box, click on the **New Folder** icon (Fig. 1.4)

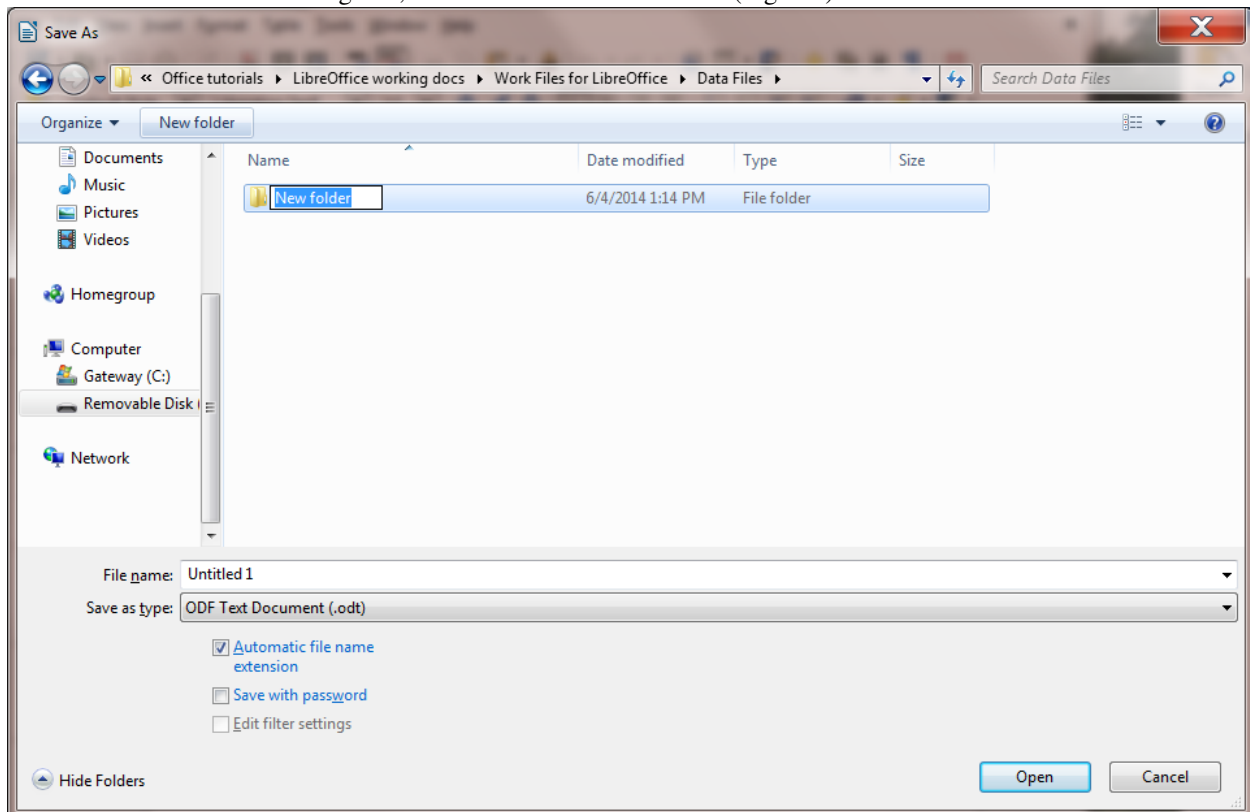


Fig. 1.4 The New Folder icon in the Save As dialog box

As you can see, the system immediately creates a New Folder with a default name highlighted in blue, inviting you to type a name of your own for the New Folder.

Type **Writer Documents** for the new folder's name, hit the **Enter** key, then **double click** on the folder to **Open** it

Writer opens the new folder so that you can save the new document inside it (Fig. 1.5).

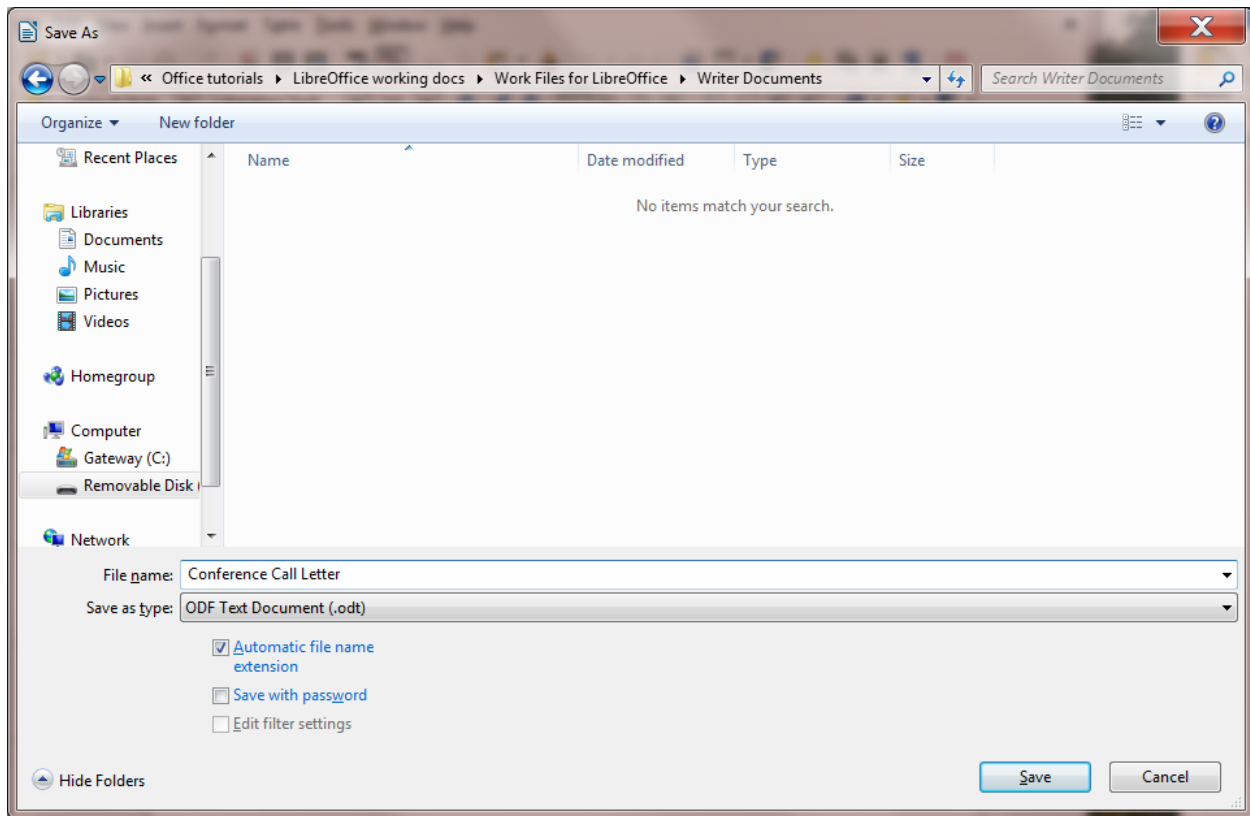


Fig. 1.5 Naming the Conference Call Letter

In the **File name:** data entry box (Fig. 1.5), type **Conference Call Letter** to replace the default name and press **Enter** (or click the **Save** button)

The *Save As* option thus allows you to *name* your documents and at the same time determine the *location* (the folder, on a particular disk) on which you want to store them.

From now on, you do not need to select *Save As* to save the document *unless* you want to save a backup or save it in some other location. Whenever you simply *Save* this particular file, it will be saved with the name Conference Call Letter in this same folder (Writer Documents) on your flash drive.

1.2 Some HELPFUL HINTS WHILE USING WRITER

When you are using a computer, the only time you need to hit the Enter key is *at the end of a paragraph*, whether the paragraph is an empty line, one word, one line, or several lines.

Type the following passage (next page) for practice now—remember, *don't* press the **Enter** key until you get to the end of the paragraph^[^1]

And though he tried to look properly severe for his students, Fletcher Seagull suddenly saw them all as they really were, just for a moment, and he more than liked, he loved what he saw. No limits, Jonathan? he thought, and he smiled. His race to learn had begun.^[^2]

Now press **Enter** at the end of the paragraph

Notice how the word processor took care of the end of each line.

Removing unwanted Returns (using the Show ¶ option)

You can have *Writer* show you exactly where, in your document, you hit the Enter key (say, at the end of paragraphs). The easiest way to do this is to click on the Show ¶ icon in the *Standard Toolbar* (Fig. 1.6).

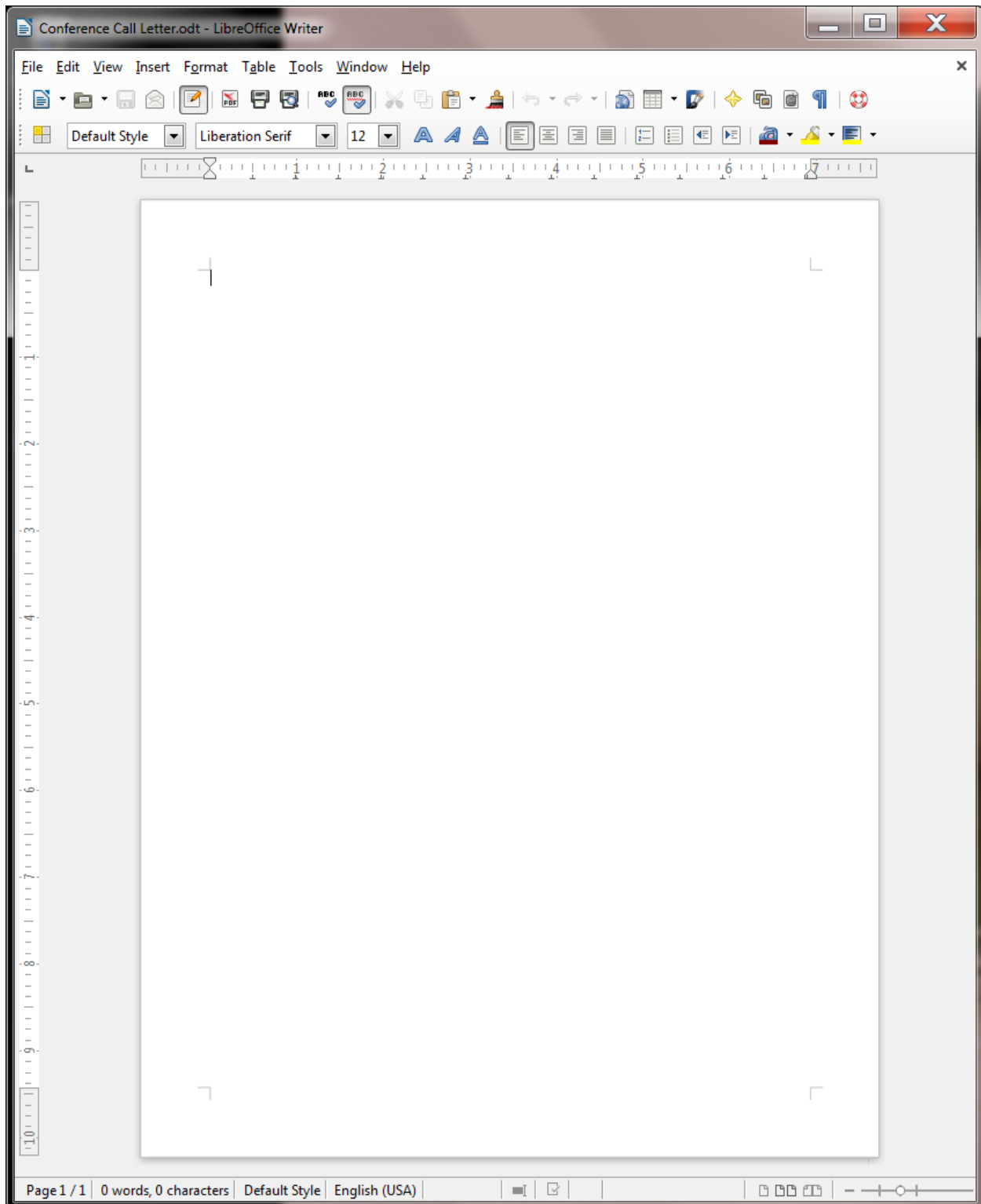


Fig. 1.6 The **Show ¶** icon on the Standard toolbar

Click on the **Show ¶** tool now

The Show ¶ tool also puts a dot to show wherever there is a space anywhere in the text.

Position the cursor immediately before the sentence that begins “**No limits, Jonathan?...**”, then hit the

Enter key twice

Notice the ¶ symbols that show you where you hit the Enter key—one at the end of the previous line, and the other on the empty line ahead of the cursor.

Now remove the **Paragraph marks** you just entered by pressing the **Backspace** key **twice**

Finally, click on the **Show ¶** icon in the **Paragraph Group** of the **Home Ribbon** to turn off the paragraph marks and all the dots between the words

Undoing unintended actions

If you do something you didn't intend, or if you make a mistake, you'll select *Undo* from the *Standard toolbar* which is located immediately below the *Menu Bar* (Fig. 1.7). This is a lifesaver that you will use often!

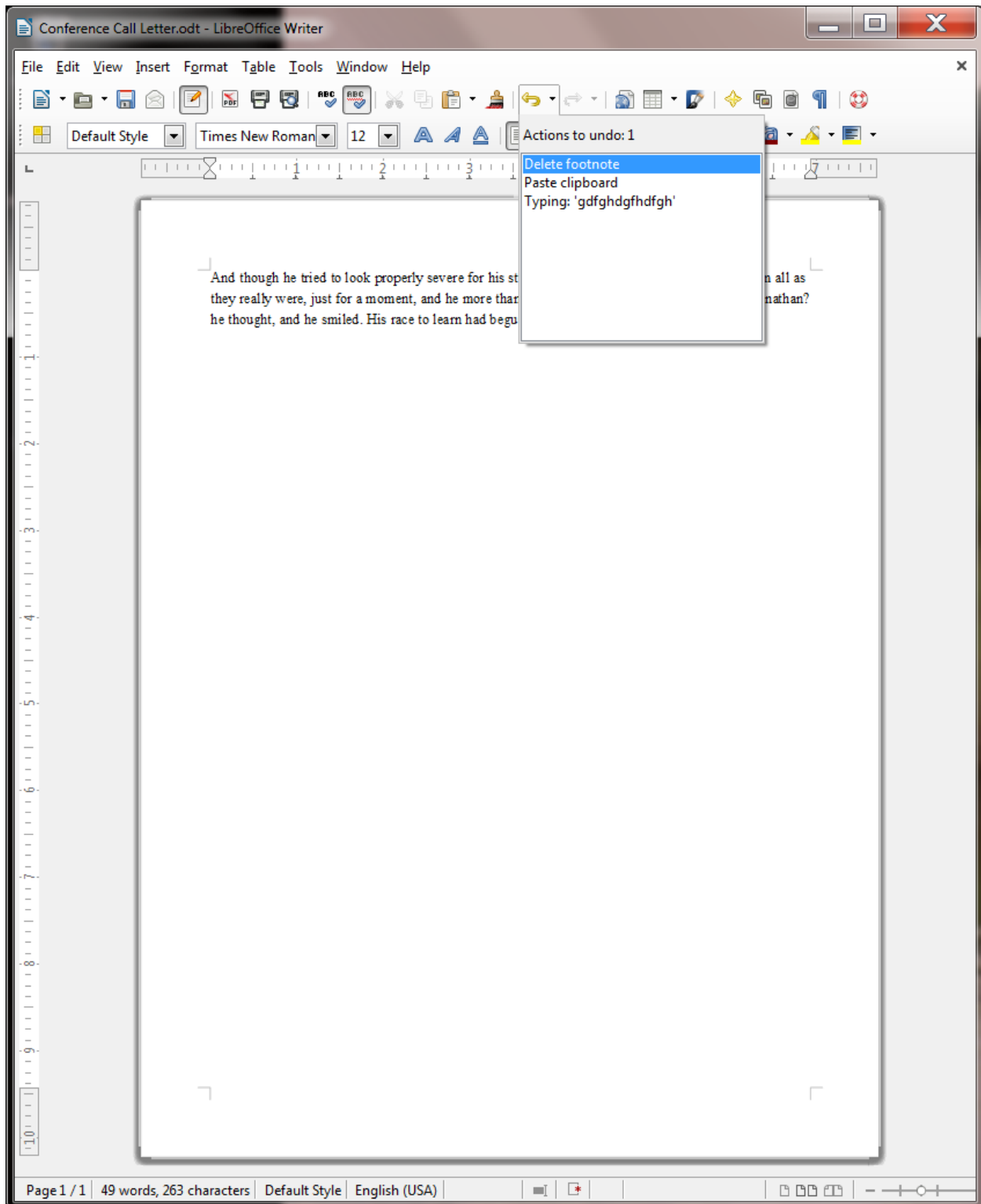


Fig. 1.7 Undo/Redo tools

Check out this **Undo** option in the **Standard toolbar** now so you can see where to find it

A quicker way to Undo is to use the shortcut **Ctrl-z** on your keyboard.

Scrolling through a document

We need to open a longer document so you can practice different ways of scrolling.

From the **File** menu select **Open**, navigate to **USB drive > Work Files for LibreOffice > Miscellaneous Files > Practice** folder, and **double click** to **open** the document called **Term Paper**

Now, with the Term Paper document open on the screen, take a look at the scroll bars (Fig. 1.8).

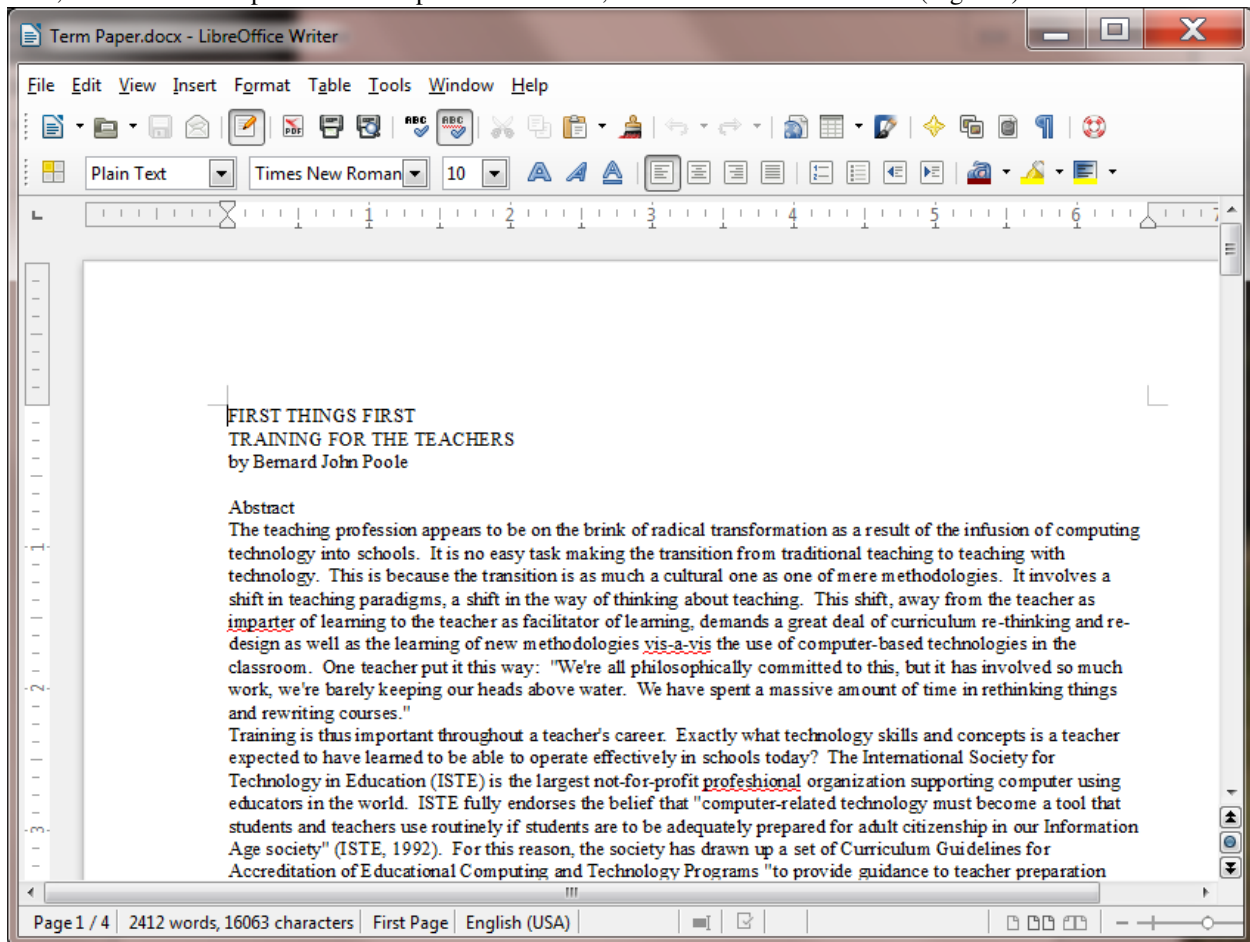


Fig. 1.8 The scroll boxes

On the right of the screen you have a *vertical* scroll bar and, inside it, the *vertical scroll box*. At the bottom of the screen you have a *horizontal* scroll bar and *horizontal scroll box*.

At either end of the scroll bars are arrows pointing in opposite directions (left and right, or up and down). Clicking on these arrows will scroll a document left or right or up and down. Scrolling from left to right or right to left is simpler than scrolling up or down, since you only have the width of the page to deal with. But the process is the same for scrolling up and down, too.

Try scrolling now from side to side—left to right and back again—by clicking on the **scroll arrows** to move the **scroll box** in the horizontal **scroll bar**

Try scrolling up and down by clicking on the **scroll arrows** to move the **scroll box** in the vertical **scroll bar**

You can scroll a lot faster by positioning the mouse arrow on the scroll box itself, holding down the left mouse button, and dragging the box left or right, up or down, in the scroll bars.

Try this, too

If you click either side of the scroll box *inside* the horizontal or vertical scroll bars, this causes the document to scroll in jumps from side to side or up and down.

Try this as well

You also can scroll and position the cursor very precisely across a line of text, character by character, or up and down from line to line, by using the arrow keys on the lower right of the keyboard.

Try this as well

Finally, yet another vertical scrolling option is available if you have a mouse with a rubberized wheel between the buttons, as illustrated in Fig. 1.9.



Fig. 1.9 The scrolling wheel on the mouse

Try this, too

When you have finished experimenting with the scroll bars, **close** (**File > Close**) the **Term Paper** document

Shortcuts or quick keyboard commands

The quickest way to save your work is to press **Ctrl-s** on the keyboard. The **Ctrl (Control)** key is in the lower left corner of the keyboard. Locate it now. You'll be using it a lot as you become more familiar with the *Office* programs. It is always used in combination with one or two other keys. **Ctrl-s**, for example, is executed by holding down the **Ctrl** key and, while holding the **Ctrl** key down, simultaneously quickly pressing on the "s" key.

Renaming a document

You will sometimes want to rename a document that you've already saved on your disk. One way you can do this from the desktop is by *right-clicking* on the icon for the document you want to rename. Then, from the *context menu* that pops up whenever you right-click on an object on the screen, select the option to *Rename...*, which highlights the document's name so that you can type a new name for it.

To rename a document which you already have open in *Writer*, or in any other *LibreOffice* application, you would choose *Save As* from the File menu. This will give you the opportunity to save the document with a new name of your choice. Bear in mind, though, that when you do this, the document with the original name will still be on your disk—a second copy, if you like. If you don't want to keep this copy, you should delete it right away so as to remove unwanted clutter from your disk drives.

1.3 CREATING AND Saving A document

Practice makes perfect

You still should have open the Conference Call Letter, with the Jonathan Livingstone Seagull quote. You need to clear the Seagull quote from the document, so here are the steps to remove it.

In the **Edit** menu choose **Select All** then press the **Backspace** key **once** to remove the highlighted text from the document

You can also *Select All* using the Quick Keyboard command **Ctrl-a**, or you can use the mouse (or your finger if you have a touch screen) to **drag to highlight** the whole paragraph, or you can **quadruple click** on the paragraph.

Notice that the Backspace key removes all highlighted text. The Del(ete) key, in this case, does the same.

Typing the Conference Call letter

You should now have a blank page with the cursor waiting in the top left corner, ready for you to type in the Conference Call Letter. Fig. 1.10 on the next page has the full text of the Conference Call letter. The Figure also shows where all the Paragraph marks (¶) are. This will help you remember to hit the *Enter* key only where necessary, *not* at the end of every line. There's no need to show Paragraph marks in your version of the document.

As you type, *Writer* will automatically warn you of any spelling or grammar errors it finds (by underlining them in red or blue on your screen). This will occur as you type the contents of Fig. 1.10.

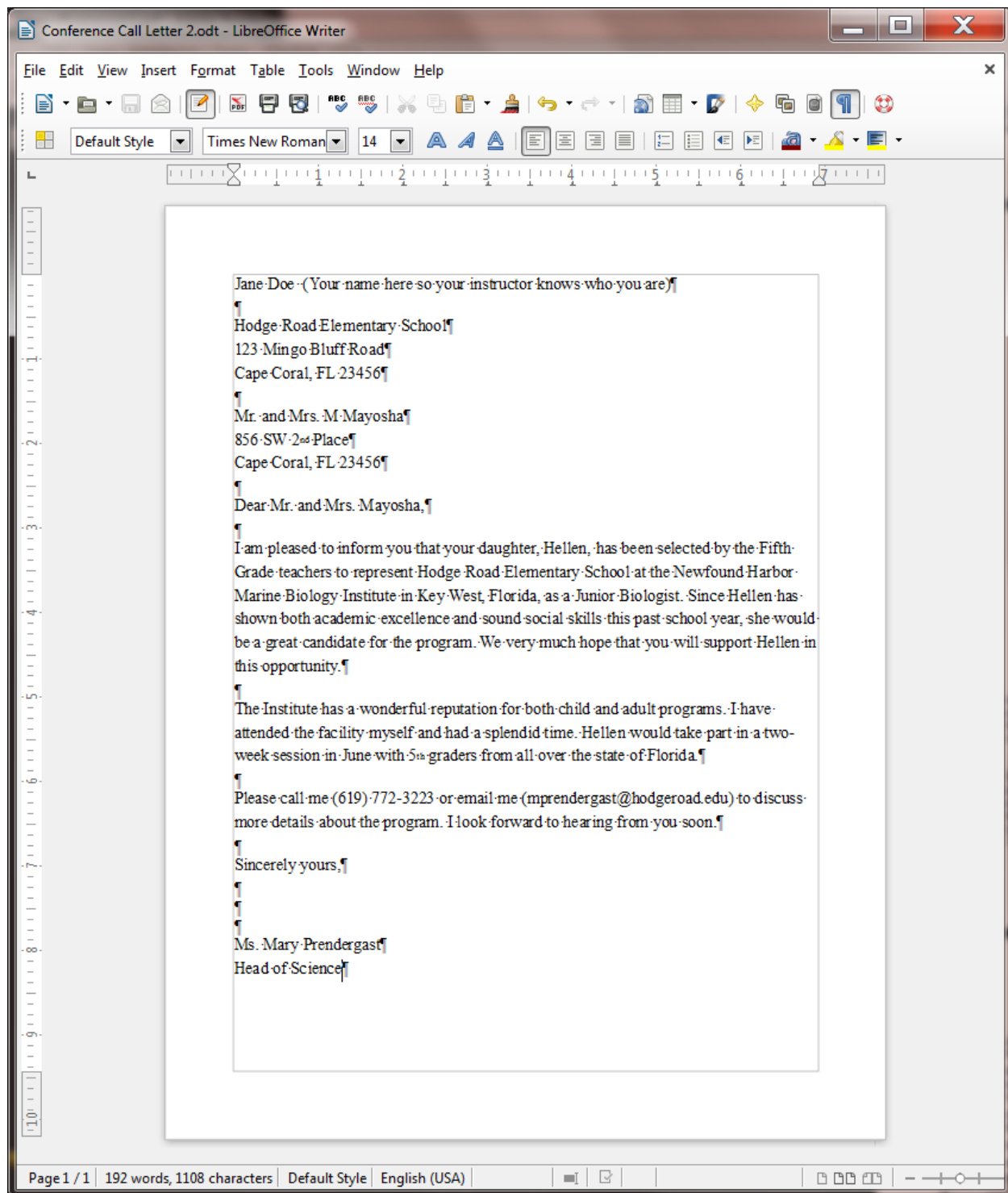


Fig. 1.10 First version of the Conference Call Letter

Once you have typed in the whole document and saved it, you should go back and correct any errors you may have made, and then save the document again. Remember: when you save a document with the same name as before, you are *replacing* the earlier version. You *won't* be creating a second copy.

1.4 UPDATING AND simple formatting of A document

Now that your letter is saved on disk, you can make any revisions you want. Refer back to Fig. 1.10 while you complete the next few sections of the tutorial.

Inserting the date

There is no date in the **Conference Call Letter** in Fig. 1.10. A letter is incomplete without a date, so here are the steps to have *Writer* put today's date in the letter.

Click to position the **insertion point** cursor right **after the zip code** in the *first* address at the top of the page, then press **Enter**

The cursor should now be waiting at the beginning of the next line.

In the **Insert Menu > Fields Menu** click on the **Date** tool (Fig. 1.11)

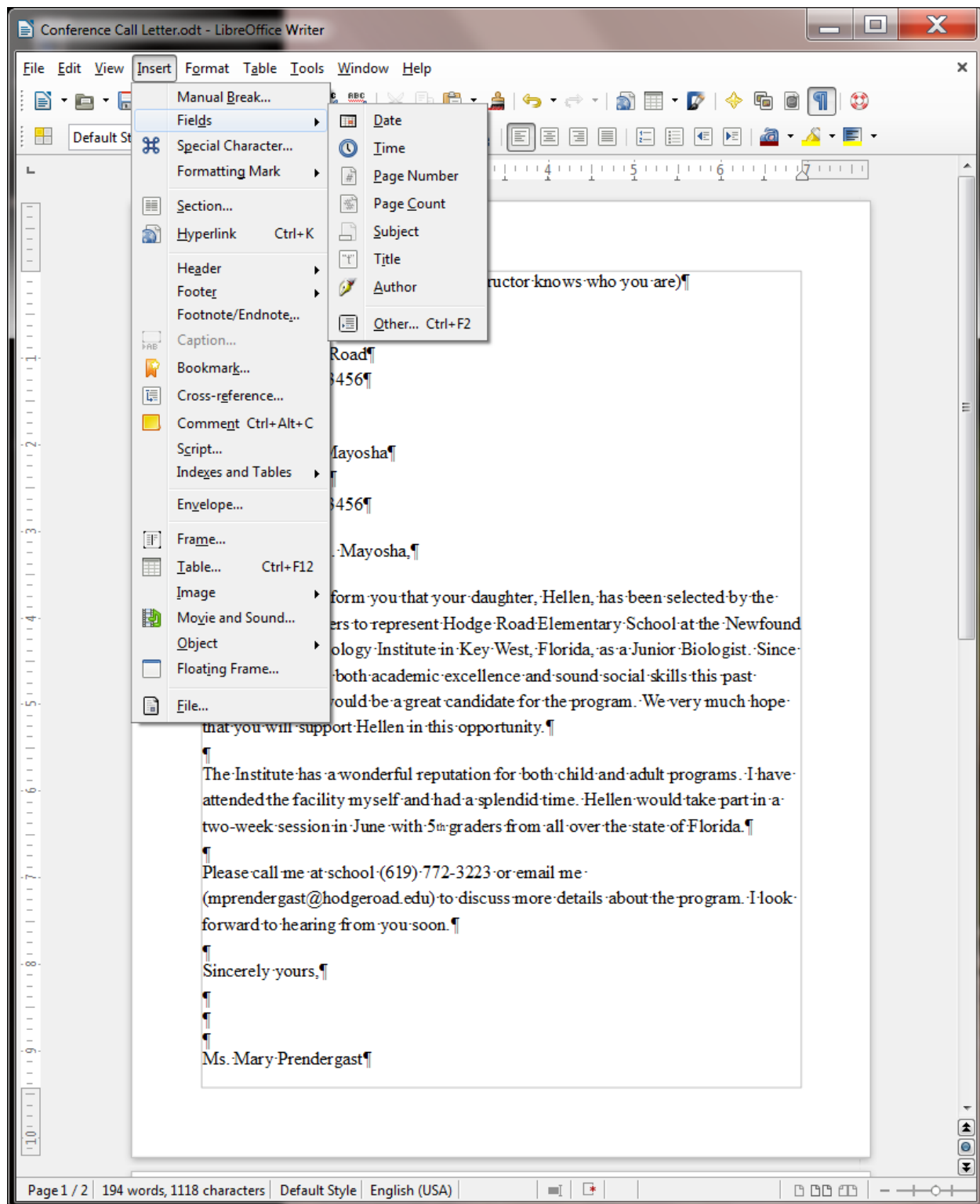


Fig. 1.11 Inserting the Date into a document

As soon as you click on the Date tool, *Writer* immediately inserts today's date at the cursor.

There is, however, one problem with the date's format (all numeric)—it uses the USA style, with the month first and the day second. Elsewhere in the world, the date is shown with the day first and the month second. So, where you

have 3/4/2014, is that March 4, 2014, or April 3, 2014. You really can't be sure.

Fortunately, *LibreOffice* has a quick way around that problem by allowing you to select another format for the date which can in no way be confused. Here's what you need to do.

Use the mouse to **right click** on the **date**, and in the **context menu** that pops up, select **Fields...**

The **Edit Fields** dialog box comes up, enabling you to select from a long list of possible date formats (Fig. 1.12)

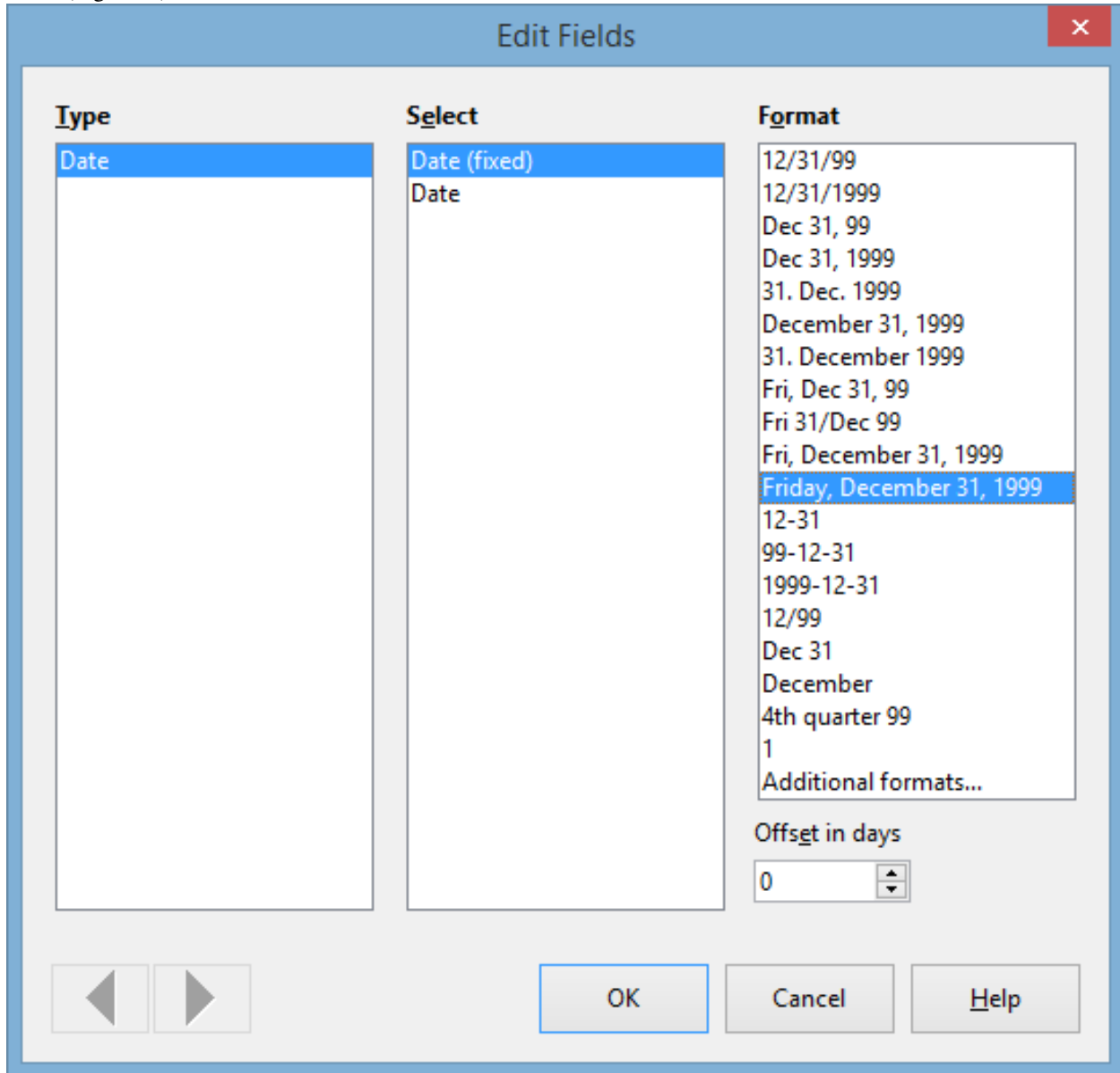


Fig. 1.12 Selecting a commonly-recognized date format

Noticed the two options in the Select column for the Date. You can either choose a Fixed Date, which is the default and inserts the current date as a fixed value which will not change over time. The second option is not fixed; Date (not fixed) inserts the date as a variable function; the date will change each time you open the document in which it is inserted.

The Conference Call Letter is a one-off letter, so the fixed Date option is what you want.

Make sure **Date (Fixed)** is highlighted, then click to select the date format **Friday, December 31, 1999**

and click on **OK**

Now check the new format for the date; it's clear what the date is now.

****Adding text to an existing document ****

You will most always want to add text to an existing document—make revisions and so forth; it is an activity which is fundamental to the whole process of writing. Let's practice now.

There is no limit to the extra details that could be added to the letter, but for the sake of this exercise you will add just one sentence to the next to last paragraph to help the parents appreciate what Hellen will get out of the experience at the Institute.

Position the **insertion point** cursor so it is at the **END** of the **paragraph** which begins "**The institute has a wonderful reputation...**"—so after the phrase "**... state of Florida.**", then press the **space bar** and type the sentence:

She would thus be able to meet and make friends with others of her own age and academic ability.

Read over the sentence you just typed to check for errors. Correct any you may have made. Before you go on to the next section you should save what you have done so far.

Press **Ctrl-s** to save the changes you have made to the letter

Removing text

There are several ways of removing text. In a moment you'll learn how to highlight a block of text in order to move or delete larger sections of text. But if all you want to do is remove a few words, or a short sentence, the quickest way is to use the Backspace key.

You are going to remove the second sentence of the second paragraph. This second sentence begins "I have attended the facility myself...".

Position the **insertion point** cursor at the beginning of the **third** sentence of the **second** paragraph—the sentence that begins "**Hellen would take part ...**"

Press the **Backspace** key as many times as is necessary until the second sentence of this paragraph is removed from the letter

You'll find the automatic repeat feature of the keyboard (activated by holding down a key such as the Backspace key) will come in handy for a delete operation like this.

Press **Ctrl-s** again to save the changes you just made

Changing text

It is often necessary to change a word or words here and there in a document. The Conference Call Letter overuses the word "program," for example. The word appears once in the first paragraph and then is used twice in the final paragraphs. To improve the letter it would be better to rewrite the first sentence of the second paragraph to read: "The Institute has a wonderful reputation for its offerings for both children and adults."

Place the cursor between the **period (full stop)** and the "**s**" at the end of the **first sentence** in the **second** paragraph (right at the end of the word "**programs**" but *before* the period (full stop))

Use the **Backspace** key to remove the text "**both children and adult programs**"

Make sure there is still a **space** after the word "**for**", then type the phrase "**its offerings for both children and adults.**"

Another change you need to make is to the telephone number in the first sentence of the last paragraph. A common error with numbers is called transposition, where one accidentally reverses the order of digits. The number is supposed to be 772–3232, not 3223.

Position the cursor just at the **end** of the **telephone number**, press the **Backspace** key **2** times, then type the digits "**32**", and press **Ctrl-s**

At this stage your Conference Call Letter should look much the same as Fig. 1.13.

```

^Jane\ Doe^
^Hodge\ Road\ Elementary\ School^
^123\ Mingo\ Bluff\ Road^
^Cape\ Coral,\ FL\ 23456^
^Thursday,\ June\ 5,\ 2014^
^Mr.\ and\ Mrs.\ M\ Mayosha^
^856\ SW\ 2nd\ Place^
^Cape\ Coral,\ FL\ 23456^
^Dear\ Mr.\ and\ Mrs.\ Mayosha,^
^I\ am\ pleased\ to\ inform\ you\ that\ your\ daughter,\ Hellen,\ has\ been\ selected\ by\ the\ Fifth\ Grade\ teachers\ to\
represent\ Hodge\ Road\ Elementary\ School\ at\ the\ Newfound\ Harbor\ Marine\ Biology\ Institute\ in\ Key\ West,\
Florida,\ as\ a\ Junior\ Biologist.\ Since\ Hellen\ has\ shown\ both\ academic\ excellence\ and\ sound\ social\ skills\
this\ past\ school\ year,\ she\ would\ be\ a\ great\ candidate\ for\ the\ program.\ We\ very\ much\ hope\ that\ you\ will\
support\ Hellen\ in\ this\ opportunity.^
^The\ Institute\ has\ a\ wonderful\ reputation\ for\ its\ offerings\ for\ both\ children\ and\ adults.\ Hellen\ would\ take\
part\ in\ a\ two-week\ session\ in\ June\ with\ 5th\ graders\ from\ all\ over\ the\ state\ of\ Florida.\ She\ would\ thus\ be\
able\ to\ meet\ and\ make\ friends\ with\ others\ of\ her\ own\ age\ and\ academic\ ability.\ ^
^Please\ call\ me\ (619)\ 772-3232\ or\ email\ me\ (mprendergast@hodgeroad.edu)\ to\ discuss\ more\ details\ about\
the\ program.\ I\ look\ forward\ to\ hearing\ from\ you\ soon.^
^Sincerely\ yours,^
^Ms.\ Mary\ Prendergast^
^Head\ of\ Science^

```

Fig. 1.13 Intermediate update to the Conference Call letter****

Selecting (highlighting) a block of text

Let's take a few minutes to learn about highlighting text in a *Writer* document. Highlighted text is text that stands out from the rest of the document because, in the case of *LibreOffice*, the background of the highlighted text becomes a block of light blue color (Fig. 1.14).

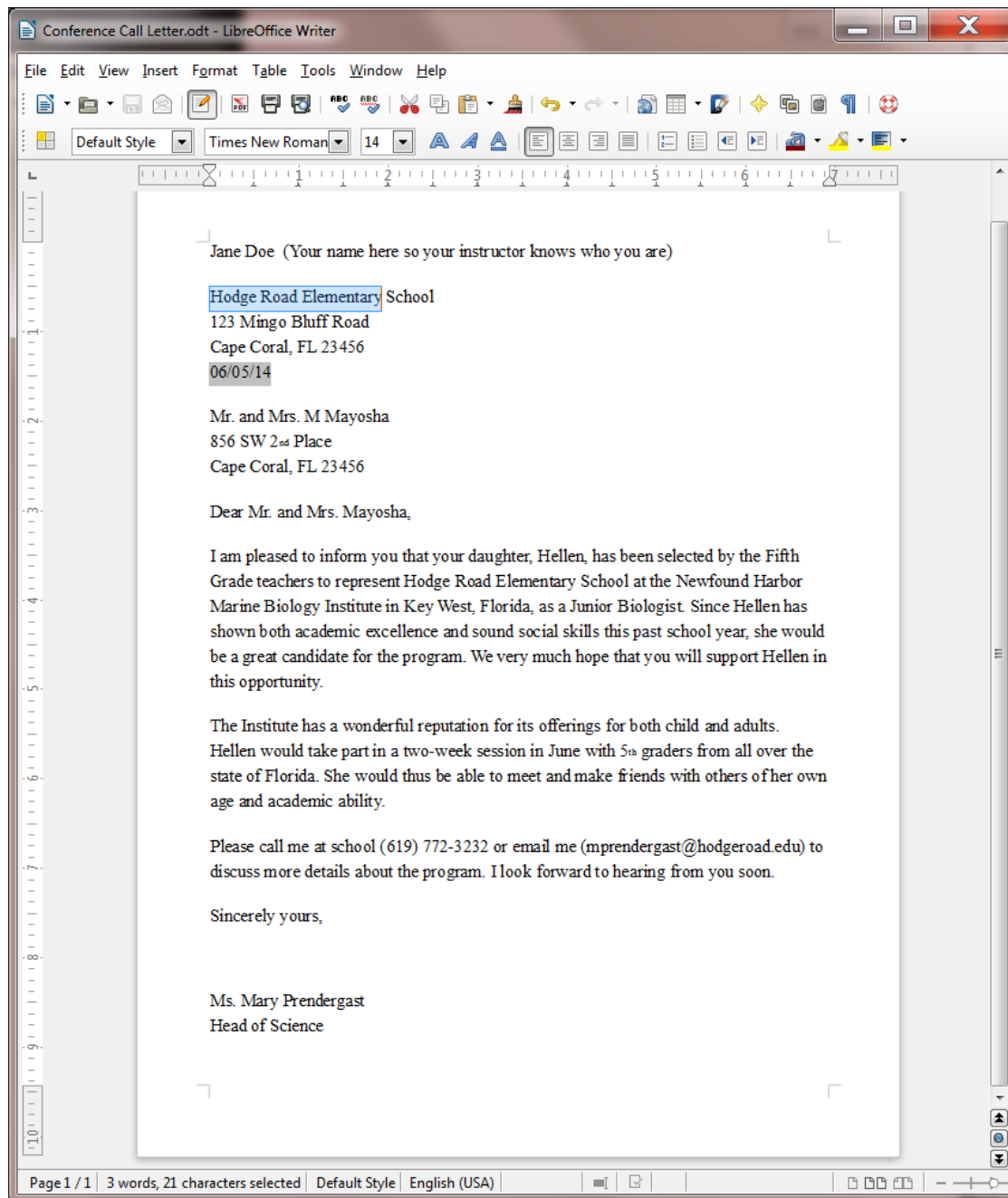


Fig. 1.14 Highlighted text

When you highlight text, you can do things to it (delete it, move it, copy it, change the margins set for it, change the font, the text style or color, and so on) without affecting the rest of your document.

You can highlight a single character...

Use the mouse to position the cursor so it is immediately before the “H” in “Hodge” in the address at the top of the letter

Hold down the left mouse button **and keep it down** as you carefully drag across just the “H” at the beginning of the word so that it becomes highlighted

This latter operation is tricky the first few times you try it. If you drag across more than just the “H”, keep your finger on the left mouse button and drag back until you have just what you want highlighted. You can select as much or as little of the text as you want. Remember, *you’re in control*.^[^3]

Let go of the left mouse button when just the “H” is highlighted

Now click anywhere in the text to remove the highlighting (i.e. to deselect the selected text)

Try this a few times on different letters anywhere in the document

Double clicking to highlight a single word...

Position the **I-beam cursor** anywhere over the word “**Elementary**” in the **first line of the address** at the **top of the letter** and **double click** the left mouse button

The single word “Elementary” should be highlighted on the screen.

Click anywhere in the text to remove the highlight

Try this on a few more words anywhere in the document till you’re comfortable with the action

Triple clicking to quickly highlight a sentence...

Position the **cursor** anywhere in the middle of a paragraph and **triple** click on the left mouse button

Click anywhere in the text to remove the highlight, then try this again on other sentences elsewhere in the document till you’re comfortable with the action

Quadruple clicking to quickly highlight an entire paragraph...

Position the **cursor** anywhere in the middle of a paragraph and **quadruple** click on the left mouse button

Click anywhere in the text to remove the highlight, then try this again on another paragraph elsewhere in the document till you’re comfortable with the action

You can highlight an extended area (or block) of text...

Place the **cursor** right at the **start** of the first paragraph of the letter (before the sentence that reads: **I am pleased to inform you...**)

Now, while you hold down the **Shift key**, click at the end of the last paragraph (after the sentence that reads: **I look forward to hearing from you soon.** and notice that the whole paragraph is highlighted

Click anywhere in the text to remove the highlighting

You can quickly highlight an entire document...

You should be getting the hang of this highlighting by now. You can drag the mouse to highlight several paragraphs or even an entire document of several pages. However, dragging through a 50 page document would quickly become tedious. So *Writer* provides a short cut to select an entire document—you may recall using this feature earlier in the tutorial.

Press **Ctrl-a** (or in the **Edit menu** choose **Select All**)

Simple; now click anywhere in the text to remove the highlighting

Using the *Writer* Indent Markers

The letter is nearly ready to be printed. There are just a couple more changes you need to make.

For example, one style for letter-writing is to indent the first line of every paragraph ½”. Another is to position the first address (the address of the sender) so it appears at the top *right* of the first page, instead of on the left. In this case, the closing signature could also be aligned on the right side of the page at the end of the letter.

Fig. 1.15 illustrates these final changes you are going to make to the Conference Call Letter.

^Jane\ Doe^
 ^Hodge\ Road\ Elementary\ School^
 ^123\ Mingo\ Bluff\ Road^
 ^Cape\ Coral,\ FL\ 23456^
 ^Thursday,\ June\ 5,\ 2014^
 ^Mr.\ and\ Mrs.\ M\ Mayosha^
 ^856\ SW\ 2nd\ Place^
 ^Cape\ Coral,\ FL\ 23456^
 ^Dear\ Mr.\ and\ Mrs.\ Mayosha,^
 ^I\ am\ pleased\ to\ inform\ you\ that\ your\ daughter,\ Hellen,\ has\ been\ selected\ by\ the\ Fifth\ Grade\ teachers\ to\ represent\ Hodge\ Road\ Elementary\ School\ at\ the\ Newfound\ Harbor\ Marine\ Biology\ Institute\ in\ Key\ West,\ Florida,\ as\ a\ Junior\ Biologist.\ Since\ Hellen\ has\ shown\ both\ academic\ excellence\ and\ sound\ social\ skills\ this\ past\ school\ year,\ she\ would\ be\ a\ great\ candidate\ for\ the\ program.\ We\ very\ much\ hope\ that\ you\ will\ support\ Hellen\ in\ this\ opportunity.^
 ^The\ Institute\ has\ a\ wonderful\ reputation\ for\ its\ offerings\ for\ both\ children\ and\ adults.\ Hellen\ would\ take\ part\ in\ a\ two-week\ session\ in\ June\ with\ 5th\ graders\ from\ all\ over\ the\ state\ of\ Florida.\ She\ would\ thus\ be\ able\ to\ meet\ and\ make\ friends\ with\ others\ of\ her\ own\ age\ and\ academic\ ability.^
 ^Please\ call\ me\ (619)\ 772-3232\ or\ email\ me\ (mprendergast@hodgeroad.edu)\ to\ discuss\ more\ details\ about\ the\ program.\ I\ look\ forward\ to\ hearing\ from\ you\ soon.^
 ^Sincerely\ yours,^
 ^Ms.\ Mary\ Prendergast^
 ^Head\ of\ Science^

Fig. 1.15 The final version of the Conference Call Letter

Using the Indent Markers

Indent Markers are used to adjust the first line, and the left and right margins, of paragraphs—not individual lines, unless a paragraph only has one line.

The *tip* of the mouse pointer is the *hot spot* (Fig. 1.16). Moving small indent markers is a delicate operation; be sure to position the *very tip* of the mouse pointer on an indent marker.

Fig. 1.16 The tip of the mouse pointer is the Hot Spot

On the left side of the ruler, at the 0” hash mark, you can see the two indent markers that are used to set the *First Line Indent* and the *Left Indent* for paragraphs. On the right side of the ruler you can see the *Right Indent* marker (Fig. 1.17).

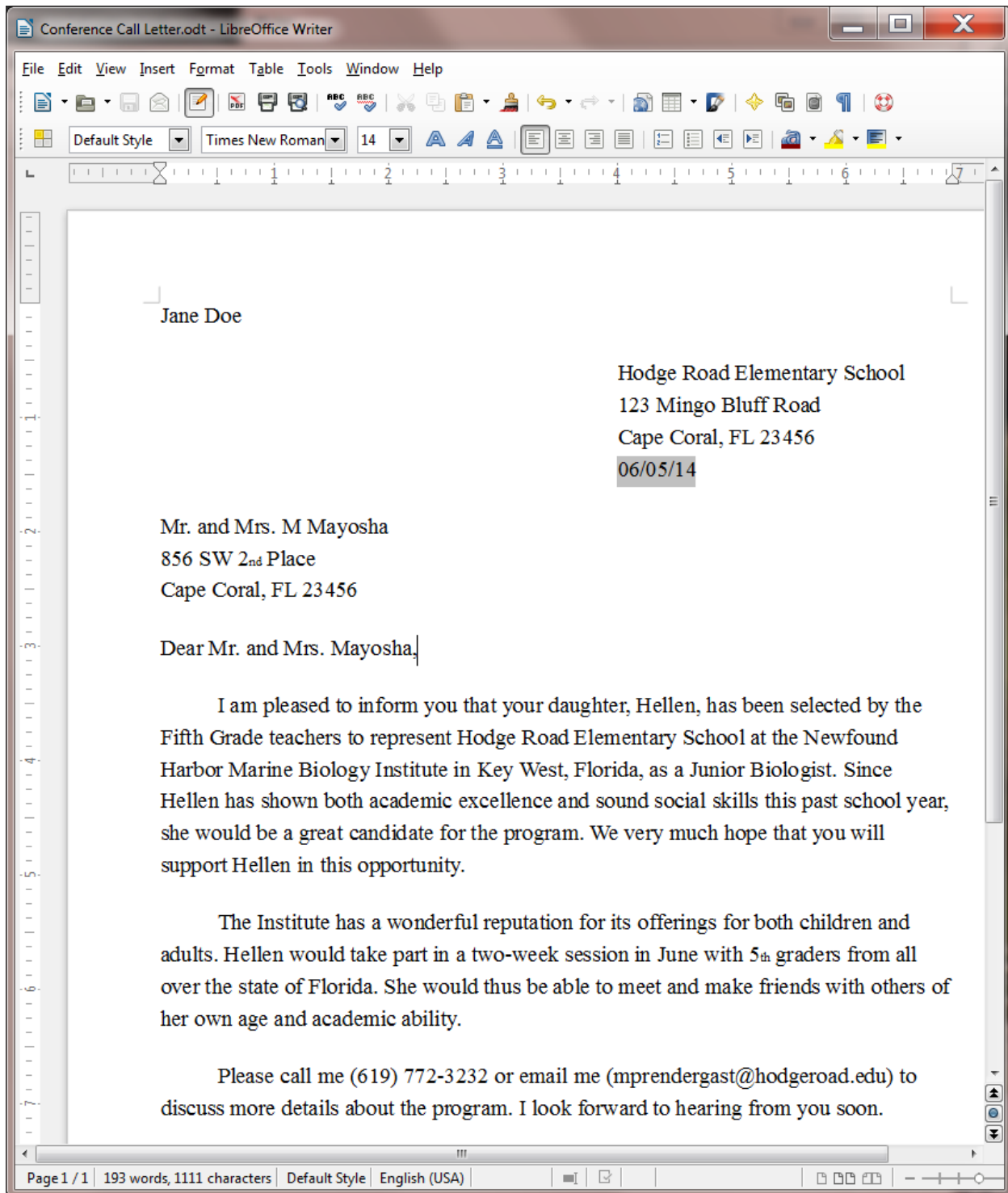


Fig. 1.17 The Indent Markers

In this exercise you will practice using just the First Line Indent marker and the Left Indent marker. In Lesson 2 you will have plenty of opportunity to learn about the Hanging Indent and the Right Indent markers.

Let's learn how to use the First Line Indent marker now.

Click to put the cursor anywhere within the **first paragraph** of the letter (this tells *Writer* which paragraph

of text to reformat)

In the Ruler bar, place the **tip** of the mouse pointer on the **First Line Indent marker** (see Fig. 1.17)

Now use the mouse to drag the **First Line Indent marker** across $\frac{1}{2}$ " to the **right** (to the $\frac{1}{2}$ " **hash mark** on the ruler)

Notice that the First Line Indent marker (the upper triangular marker) and the Left/Hanging Indent marker (the lower triangular marker) moved *independently* and that only the first line of the paragraph has moved to the right half an inch ($\frac{1}{2}$ ").

Next you are going to set the First Line Indent marker for the second and third paragraphs in the body of the letter.

First, make sure you can see the whole letter in the window (maximize the window if necessary), then click to position the cursor before the **first word of the second paragraph** (before "**The Institute...**")

Now, while holding down the **Shift** key, click at the end of the third (last) paragraph (after the words "... **from you soon.**")

Both the second and third paragraphs of the letter should be highlighted.

Now position the **tip** of the mouse arrow on the **First Line Indent marker** and slide it to the **right** to the $\frac{1}{2}$ " **hash mark** on the ruler

Notice that the first line margin of each paragraph is now set at $\frac{1}{2}$ " and the rest of each paragraph is set at 0".

Practice makes perfect

If this is the first time you've used these markers you may still feel uncomfortable working with them, if only because they're rather small and may be difficult for you to grab with the mouse pointer. More practice will cure that.

You are going to use the Left Indent marker to adjust the left margin for the First Address and the Date at the top of the letter, and then do the same to the left margin for the sign off at the end of the letter. Follow these steps carefully.

Drag to select (highlight) the **First Address** and **Date** lines at the top of the letter (the first four lines)

Point at the **Left Indent marker** (the small marker at the bottom of the indent markers on the left of the Ruler bar), hold down the **left** mouse button and **drag** both the indent markers together over to the **4"** hash mark on the ruler

Let go of the mouse button, then click anywhere in the text to de-select the highlighted text

The address and date should now be lined up on the new **4"** margin. If you weren't successful the first time, just go through the steps again until you get the hang of it.

Next scroll down to the **end of the letter** if it doesn't show on the screen

Select the lines that begin: "**Sincerely yours,**" and that conclude with "**Ms. Mary Prendergast**" and "**Head of Science**" (including all three of the blank lines in between)

With these lines highlighted, again point at the **Left Indent marker**, hold down the **left** mouse button and **drag** both the indent markers together over to the **4"** hash mark on the ruler

Press **Ctrl-s** to save this (almost final) version of the document

1.5 Checking the document for spelling errors

LibreOffice comes with a spelling checker. However, it *cannot* spell for you—yet! Nor can it correct errors such as the misuse of "to", "too", and "two"! A spelling checker is not an alternative to proofreading. You should always proofread your work on the printed page (in hard copy form) *after* you have run it through the spelling checker.

Accessing the spelling checker

In the **Standard Toolbar** click on the icon for **Spelling and Grammar** (Fig. 1.18)

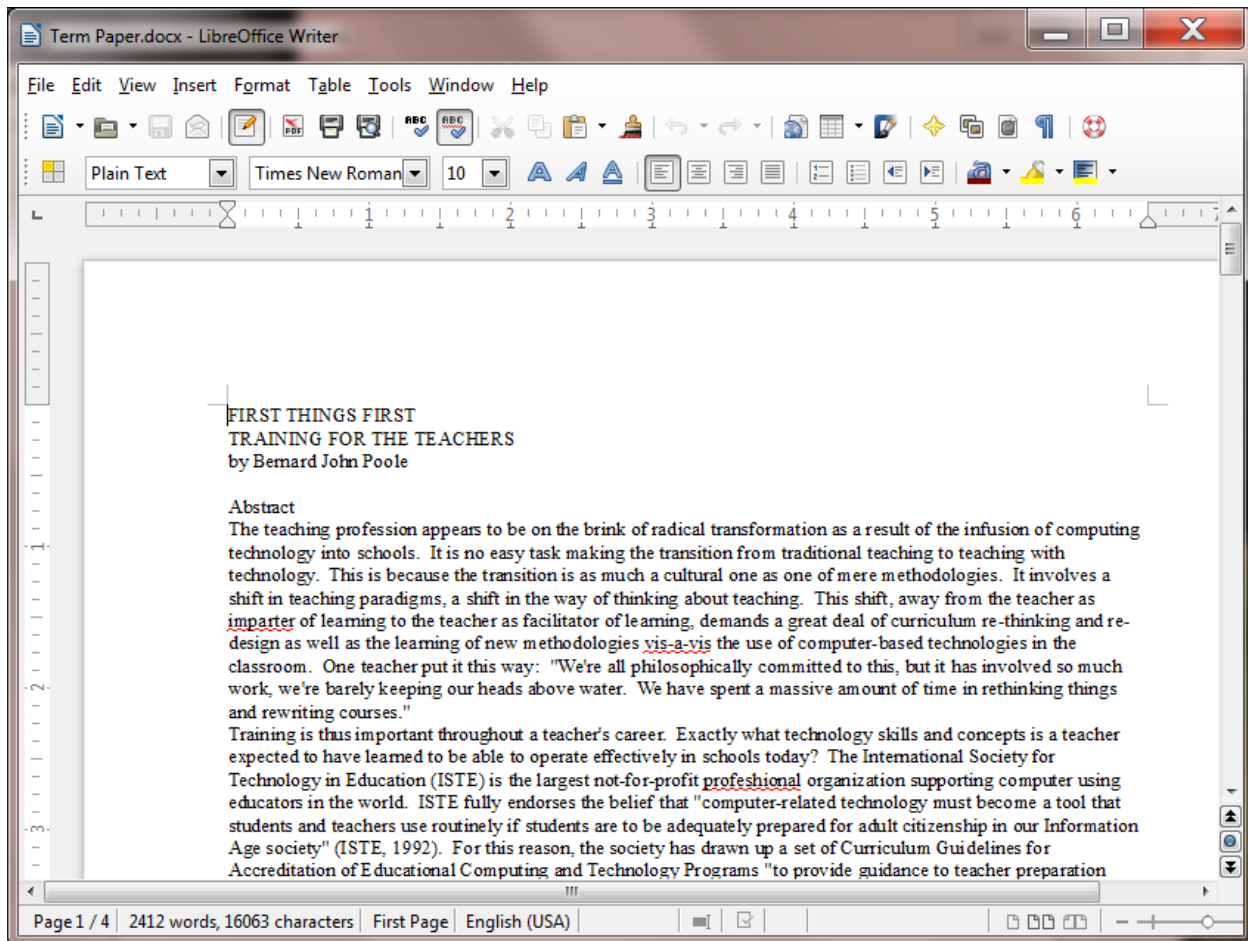


Fig. 1.18 The Spelling and Grammar tool in the Standard toolbar

This will bring up the dialog box shown in Fig. 1.19.

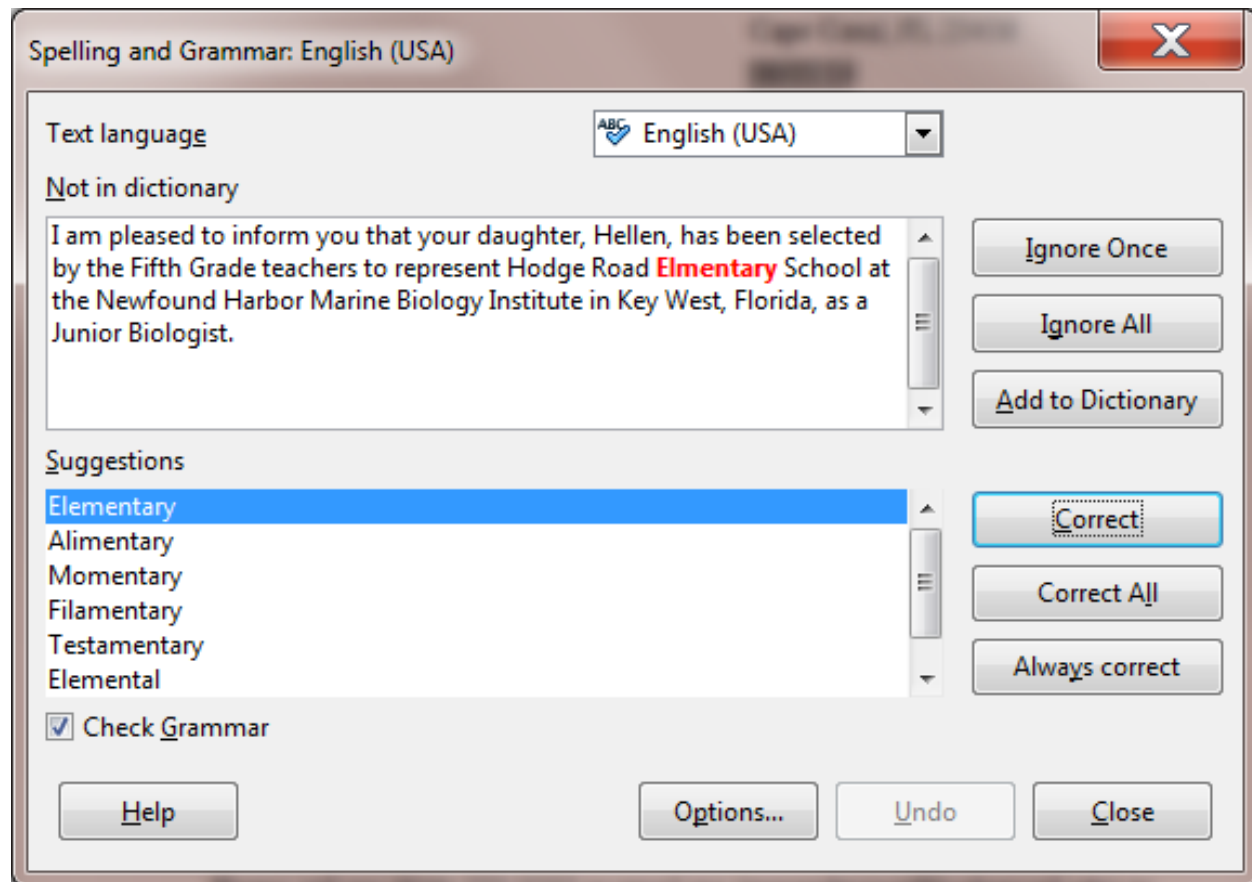


Fig. 1.19 Spelling and Grammar dialog box

The *Writer* spelling and grammar checker is probably already working for you if those functions are in automatic mode, if you see strange looking red or blue underlines under some of the words you typed.

If *Writer* highlights a word or phrase, this does not necessarily mean there is anything wrong with it. You still have to be able to tell if you have made an error and also know how to correct it.

If you tell the Spelling Checker to check your document, and it has “No suggestions” for a word highlighted, the dialog box gives you the option to have the Spelling Checker *Ignore* it (because the word is correct as is); or *Ignore All* occurrences of the same word in your document (because you don’t want the Checker to stop for them again); or *Add* the word *to* the custom dictionary (so it won’t be flagged in future documents you work on). This is generally useful for proper names.

In the example in Fig. 1.19 on the previous page, the word “Elementary” has been mistyped and, as you can see, the misspelling was picked up by the spelling checker and drawn to your attention. To fix the problem, you just click on the *Correct* button, and *Writer* will fix it on the spot.

Using the **Spelling and Grammar...** option in the **Standard Toolbar**, work your way through the Conference Call Letter

Correct any spelling or typing errors you may have made, then **Save** your work

In Lesson 2 you will make more extensive use of the *Writer* Spelling Checker.

1.6 Printing a first draft of the document

Print Preview—ing your work

It is always useful to preview your work on screen before sending it to the printer. In *LibreOffice*, you will be able to preview your work in the Print dialog box before you send it to the printer. Let’s see how this works.

From the **File** menu select **Print** (or press **Ctrl-p**)

Writer will present you with the Print dialog box which will be similar to that shown in Fig. 1.20 on the next page (though every computer has minor variations when it comes to printing).

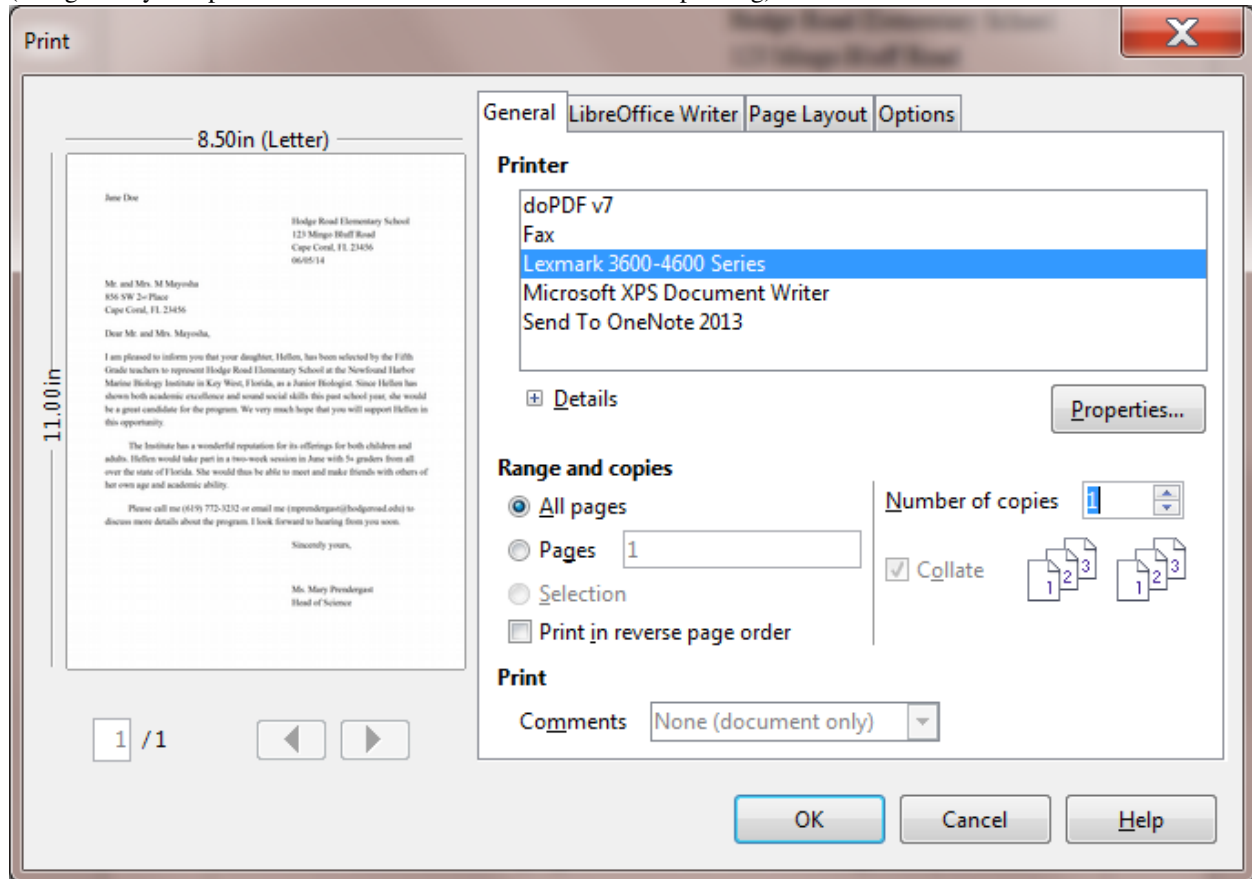


Fig. 1.20 Typical *Writer* Print dialog box

What kind of printer are you using?

If you have a laser printer, the quality is always “Best.” But if you have an inkjet printer, for example, you can choose the quality of output you require. You select the print quality by clicking on the Properties button in the Print dialog box (Fig. 1.20 above).

Printing a range of pages

With regard to Page Range, the *Print All Pages* option is selected by default. The Conference Call Letter is only one page long, so you will by default want to print the entire document. If you wanted to print a subset of the pages of a long document, say from page 3 to page 6, you would click the radio button next to *Pages* (see Fig. 1.20 above) and enter the numbers of the range of pages in the data entry box (ex. 1,3,5-12).

Setting the number of copies

Writer also asks you how many copies you want to print. As you can see (Fig. 1.20), the number 1 is already selected by default, and for a draft copy that is certainly as many as you would normally want.

You are now ready to print the document.

Click on **OK** in the **Print** dialog box

If all is well with your printer connections and so forth, your printer will now go ahead and produce a hard copy of your document. Now you should take the time once again to carefully read over what you have typed.

If all is well, you are ready to go ahead and print the final version.

SKILL CONSOLIDATION

Complete these exercises to reinforce what you have learned in Lesson 1. This will help you appreciate the usefulness of the word processor for all your writing tasks.

1. Use *Writer* to write a letter to someone in your family or to a friend using the same layout as the Conference Call letter. There must be at least four paragraphs in the body of the letter. Print out a draft copy of the story, proof read it, correct any errors, then print out a final copy of the story. Hand in both copies to your instructor.
2. Write a letter to a school district superintendent explaining the details of a field trip that you are planning for your class. Print out a draft copy of the story, proof read it, correct any errors, then print out a final copy of the story. Hand in both copies to your instructor.
3. Write a short story of at least four paragraphs using *Writer*. Set the right and left margins at 1.5 inches. Print out a draft copy of the story, proof read it, correct any errors, then print out a final copy of the story. Hand in both copies to your instructor.
4. Use *Writer* to type up a paper of your choice. Print out a draft copy of the paper, proof read it, correct any errors, and then print out a final copy of the paper. Hand in both copies to your instructor.
5. Using *Writer*, type a paper of at least four paragraphs explaining what you have learned so far in tutorial 1. Print out a draft copy of the paper, proof read it, correct any errors, and then print out a final copy of the paper. Hand in both copies to your instructor.
6. Open *Writer* to create a new document. Name the document “A Day at the Beach” and type at least four paragraphs on this topic. Practice adding and deleting words, phrases, and whole sentences. Print out a draft copy of the paper, proof read it, correct any errors, and then print out a final copy of the paper. Hand in both copies to your instructor.
7. Open the document “Conference Call Letter.” Change the date so that it is the current date, save the updated document. Remove all the first line indents from the paragraphs. Add a paragraph explaining that if Hellen cannot attend the Institute this year, the offer will be open again next year. Save the updated document. Print out a draft copy of the letter, proof read it, correct any errors, then print out a final copy of the letter. Hand in both copies to your instructor.

[^1]: The lines on your screen may be longer or shorter.

[^2]: From the book “Jonathan Livingston Seagull: a story” by Richard Bach. New York, NY: Avon, 1970. And yes, the grammar is correct, so don’t worry if it seems odd to you here and there!

[^3]: If you are new to word processing, the secret here is: *don’t panic!* No matter how much you might think to the contrary, when you’re working with computers you are in control—as long as you know what you’re doing. The computer is just a dumb machine designed to serve your information processing needs. These tutorials will help you make this dumb machine your friend.

3.2 Lesson 2 More on Word Processing

2 More on word processing

Working with larger documents

LEARNING OUTCOMES

In this tutorial you will review what you learned in Lesson 1. Then you will be introduced to functions of *Writer* that are especially valuable when working with longer documents. Amongst these are the following:

1. Inserting page numbers
2. tools for formatting text
3. bullets and numbered lists
4. more on indenting text
5. creating sections and columns of text
6. finding and replacing text
7. moving and copying text within a document
8. setting off a block of text with a border
9. adding graphics to a *Writer* document

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (*Continuing with the tutorial, on the next page*). If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 2.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

If you do not have these four folders and files ready, prepare them now before proceeding with this tutorial. Here are the steps to take:

First, **Unzip** the set of **Work Files for LibreOffice** by double clicking on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 2.1).

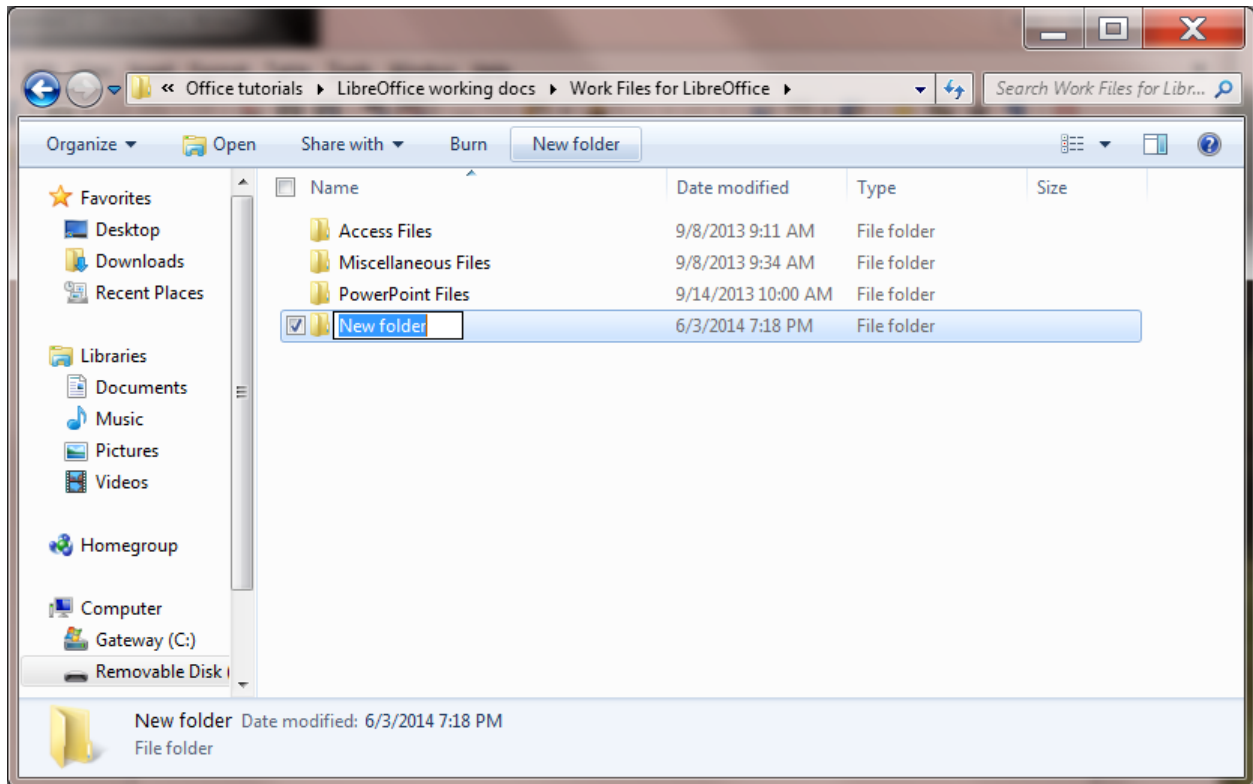


Fig. 2.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 2.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

Continuing with the tutorial

This tutorial is designed to give you practice working with a longer document since this presents challenges that do not arise when dealing with documents that are no more than a page or two in length. Rather than have you type in a long paper of your own, the *Work Files for LibreOffice* come with a document prepared for the exercises in this tutorial.

Make sure you have the disk drive (your flash drive) containing your **Work Files for LibreOffice** in the computer, and **Open** the **LibreOffice** program

The name of the document you will be working with is *Term Paper*. You will find this document in the Practice folder which is inside the Miscellaneous Files folder of the *Work Files for LibreOffice*. Here are the steps to open it.

From the **File** menu select **Open...**, then, in the **Open dialog box** that pops up, scroll if necessary in the **left hand frame** of the dialog box in order to locate the **Removable Disk icon**—which is your **flash drive**—then **click once** on the icon in order to open it

Now, on your flash drive navigate to, and **double click** to open the **Work Files for LibreOffice** folder, then **double click** again to open the **Miscellaneous Files** folder

There are five folders in the Miscellaneous Files folder: *Alphabet*, *Merge Documents*, *Other Documents*, *Practice*, and *Templates*. The document you are going to use for this set of exercises is in the *Practice* folder.

Double click on the **Practice** folder to open it, then **double click** on the document **Term Paper** and wait while *Writer* opens it

You are going to make lots of changes to this Term Paper document, including fixing grammar and spelling errors that have been purposefully introduced. But you do not want to lose this original version of the Term Paper, so you need

to save it somewhere else on your flash drive. The ideal place will be in your Data Files folder amongst your *Writer* Documents, as you did for Lesson 1.

In the **File menu** select **Save As**, then, in the **Save As** dialog box, scroll if necessary in the **left hand frame** to locate the **Removable Disk icon**—which is your **flash drive**—then **click once** on the icon to open it

Now navigate to, and **double click** to open the **Work Files for LibreOffice** folder, then **double click** again to open the **Data Files** folder

Finally, **double click** to open the **Writer Documents** folder and click on **Save**

As you are working your way through this tutorial, you can now safely hit **Ctrl-s** to save your work as you go along. Every time you save the Term Paper document, you will be replacing and updating the version that is in your Data Files folder. The original document, which is in your Miscellaneous Files folder, will remain untouched.

You are ready to begin work.

2.1 INSERTING PAGE NUMBERS

It would be useful to insert page numbers in the Term Paper for easier reference as you work your way through the remainder of this tutorial. You should insert page numbers in either the header or the footer of your document. *Writer* takes care of keeping the numbers sequenced as your page numbering changes.

First, click in the **header section** of the first page of the Term Paper document, **above** the first line (**First Things First**), to open the **Header**, then click on the **light blue Header box that pops up on the page** (Fig. 2.1)

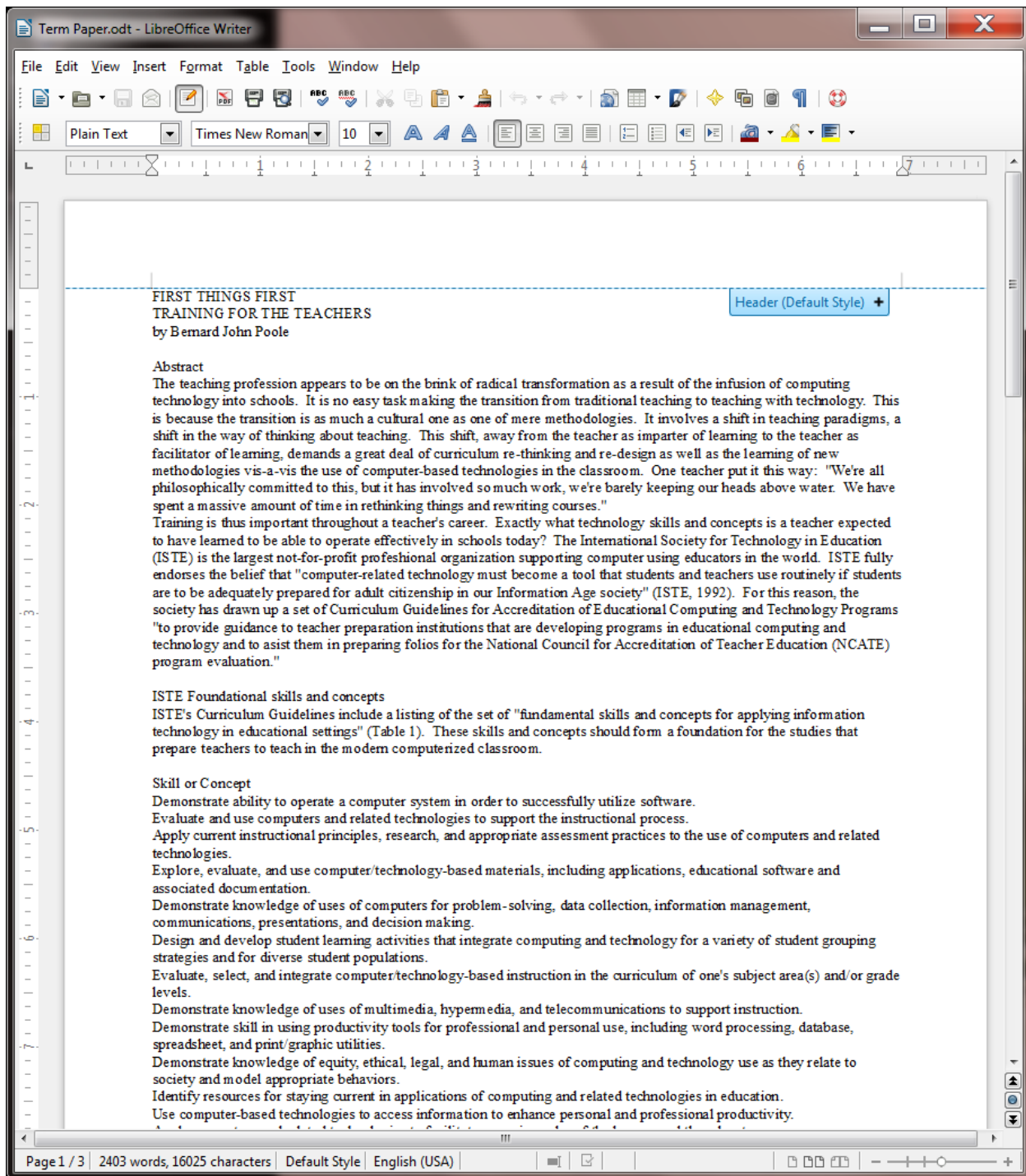


Fig. 2.2 The Header section on Page 1 of the Term Paper document

This will open a header on every page of the document, which will allow you to put a page number up there. Notice that the cursor is waiting at the left hand edge of the header section.

Next, type the word **Page** followed by a **space**, then in the **Insert** menu select **Fields > Page Number** (Fig. 2.3)

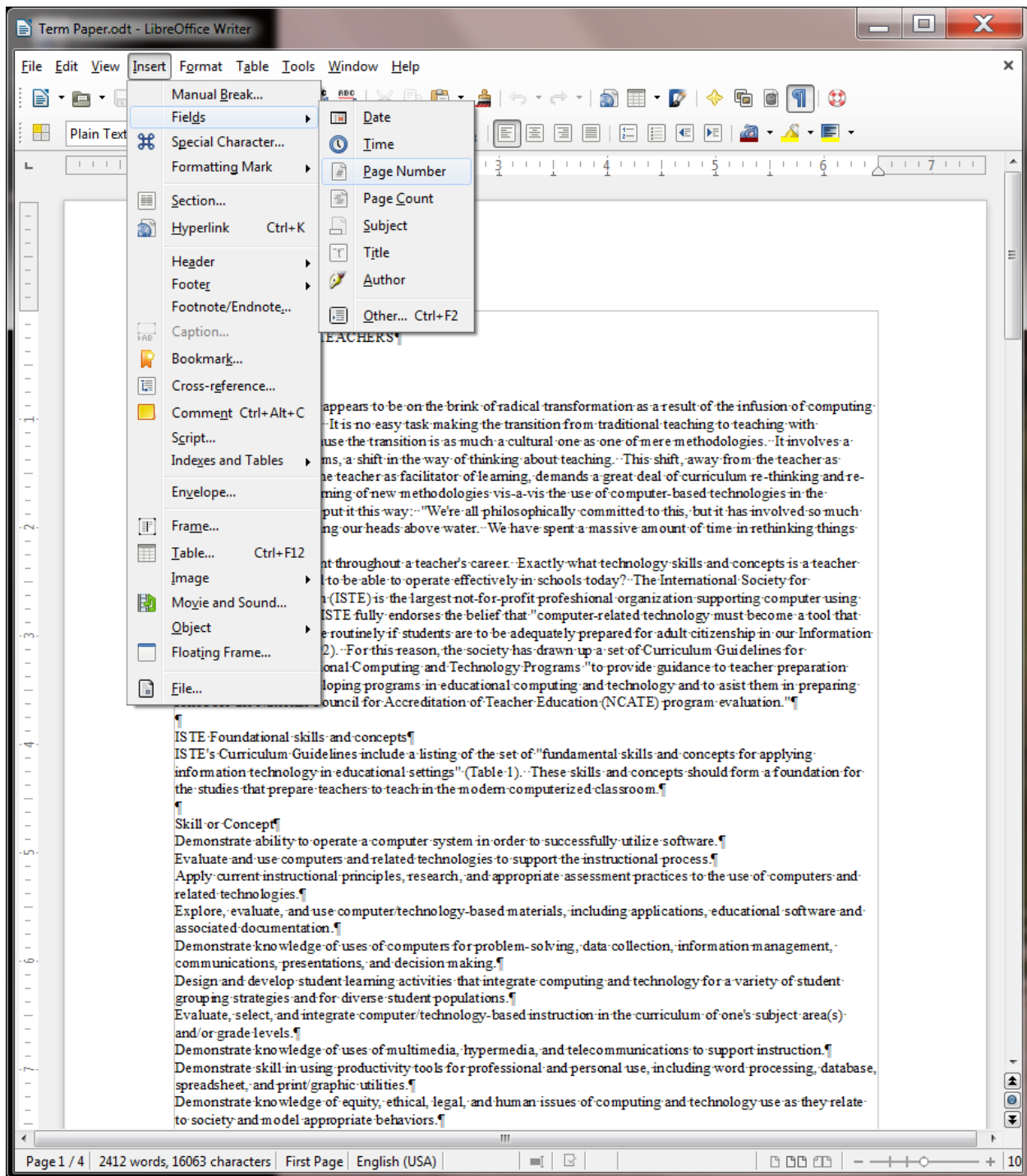


Fig. 2.3 Inserting page numbers into the header of a document

You now have a page number (Page 1) in the header at the top left of the page (Fig. 2.4).

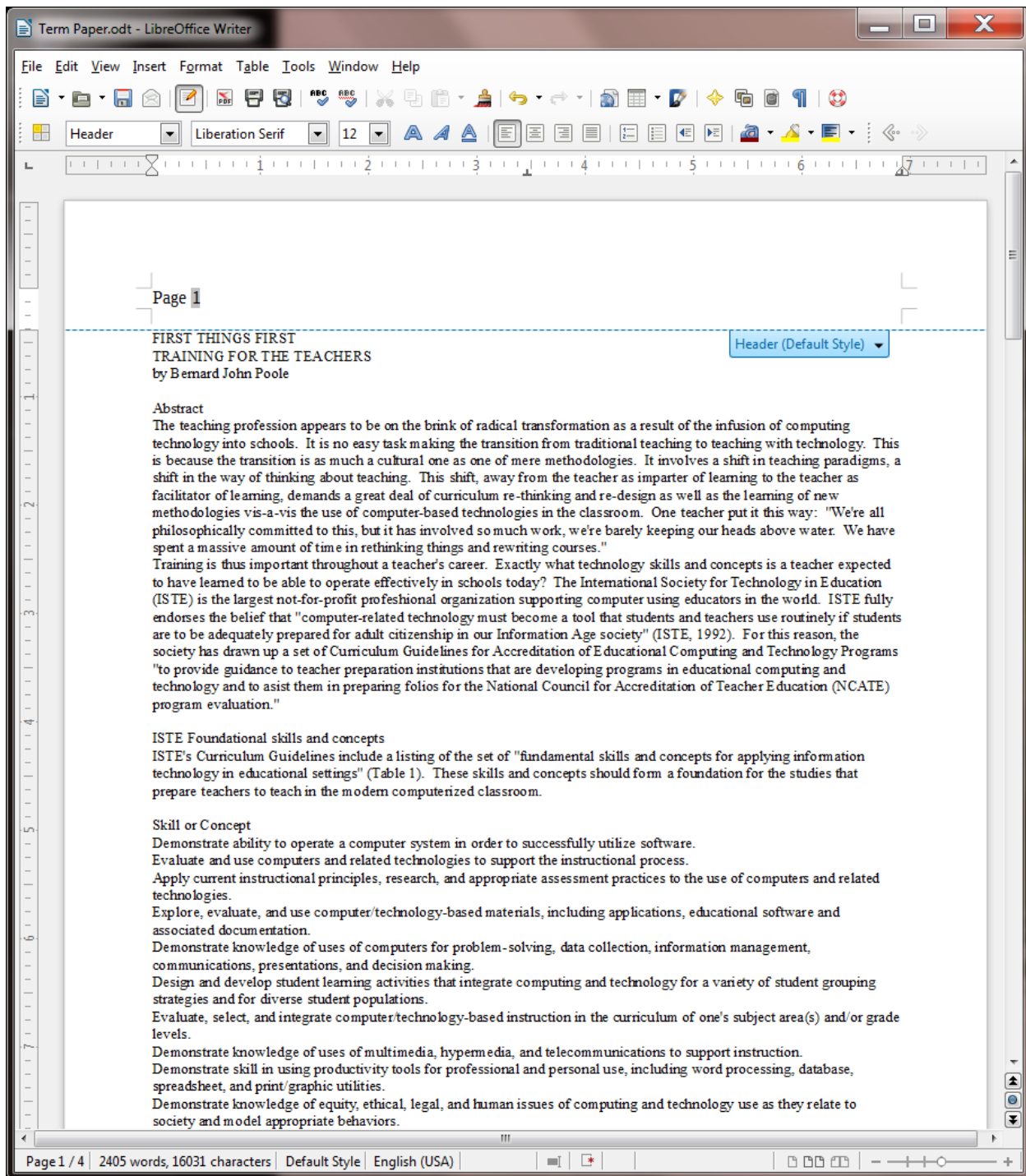


Fig. 2.4 Inserting a page number into the header of a document

Scroll down to pages two, three and four and notice that there is a page number there, too, with the same format. If there were 200 pages in the document, every page would now have an appropriate page number in the same format.

The only other change you're going to make is to move the page number over to the *right hand side* of the header. This is simple enough to do because you only have to do it to the page number on any *one* of the pages for the change to occur throughout the document.

First, make sure the cursor is still in the **header** at the top of one of the pages

In the *Formatting toolbar* there are four text alignment tools—one for *left* alignment, another for *center* alignment, another for *right* alignment, and a fourth for *justified* alignment (where the text is aligned with the margins on both side of the page) (Fig. 2.5).

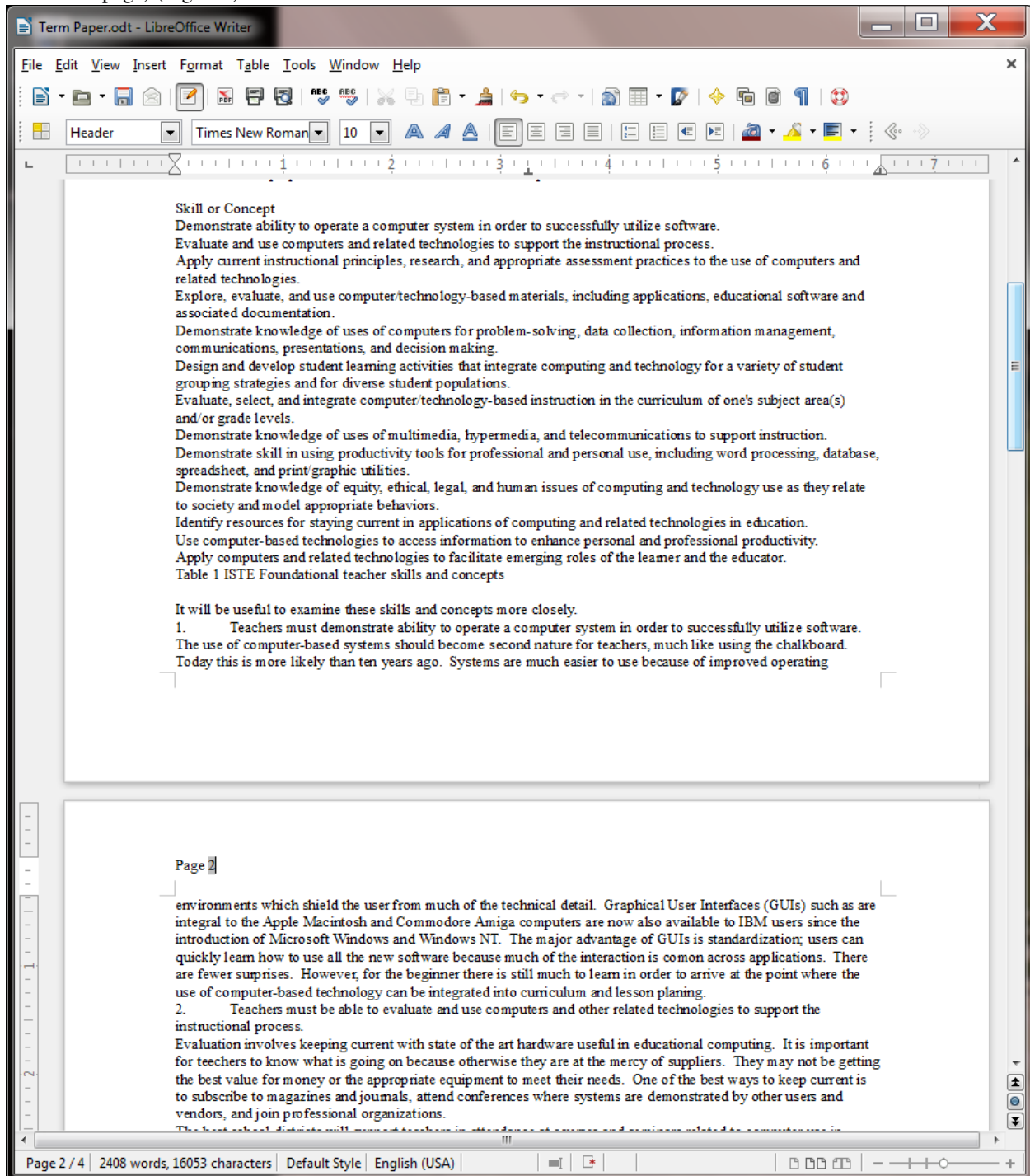


Fig. 2.5 The Text Alignment tools in the Formatting toolbar

In the **Formatting toolbar** click on the **Right** alignment icon, then save your work (**Ctrl-s**)

That's all there is to it. Now check every page again and make sure the page numbers there are aligned on the right as well.

If you wanted to start a document at some page number other than 1 you would click anywhere in the first paragraph of the document, then in the *Format menu* select *Paragraph...* to bring up the Paragraph dialog box (Fig. 2.6).

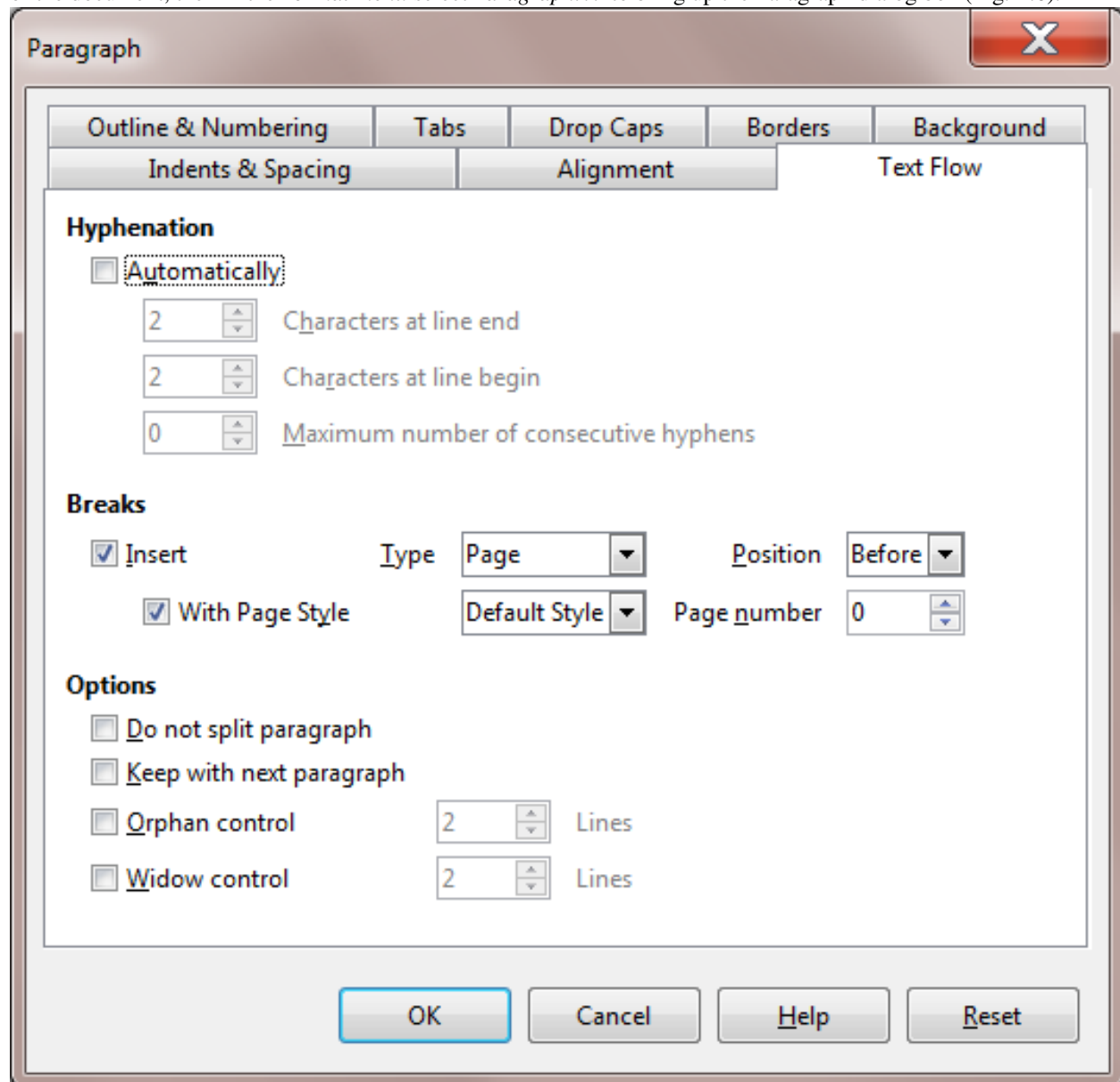


Fig. 2.6 The Paragraph dialog box showing the Text Flow settings

Say you wanted to start the page numbers at page 12 (because your document is in two parts, for example, the first part being 11 pages long). In the *Paragraph dialog box* > *Text Flow* > *Breaks options* (check Fig. 2.6 above) you would click in the boxes next to *Insert* and *With Page Style* and then in the *Page Number* entry box you'd type the number 12, and click on *OK*. Simple as that!

Another page numbering option, which you will apply to your Term Paper document here, is to NOT have a page number on the first page of the document. This is a common practice, especially in longer documents. Let's do this now.

Start by clicking anywhere in **page 1**, then click, in the **Formatting** toolbar, on the **Styles and Formatting** icon (Fig. 2.7)

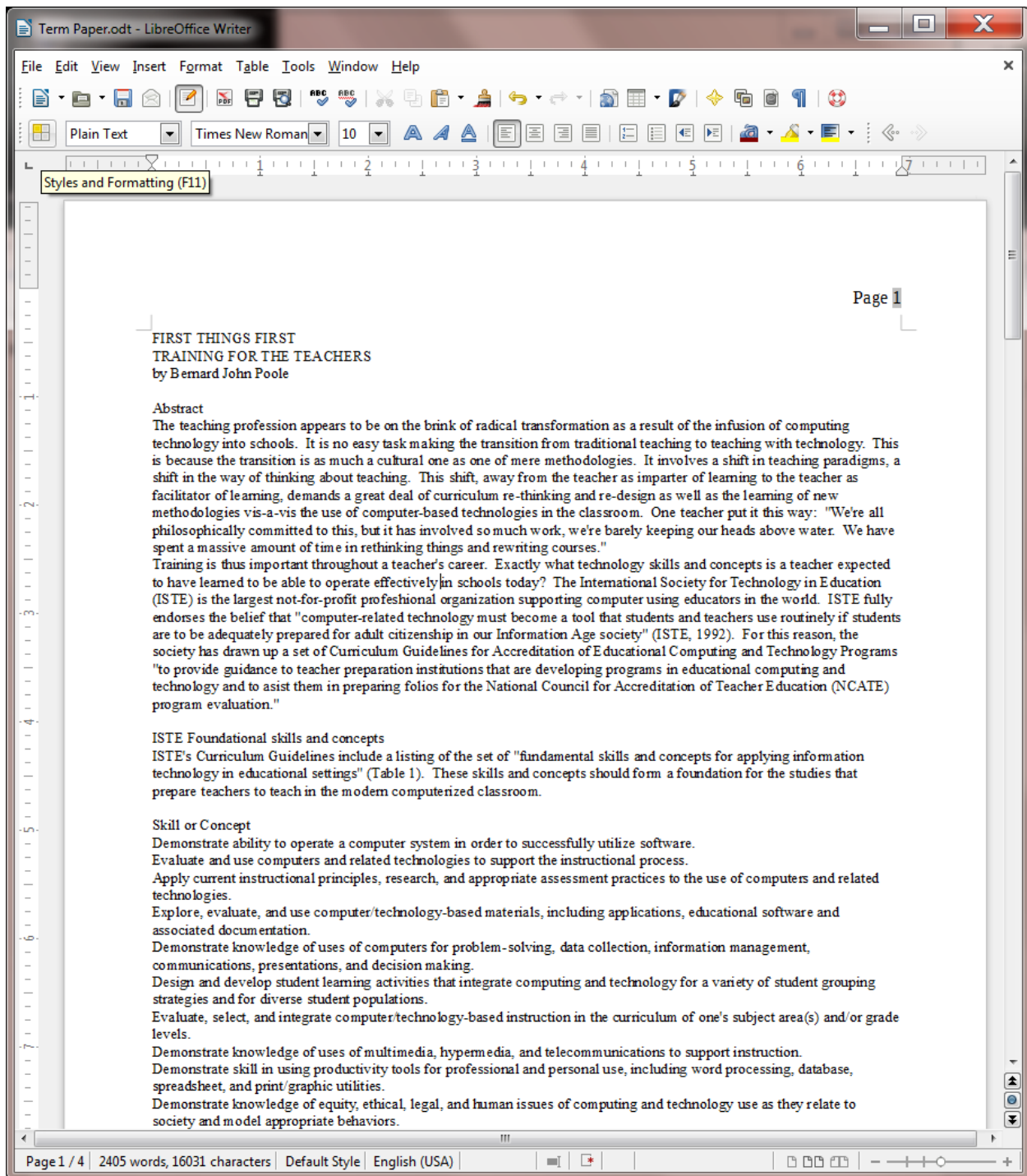


Fig. 2.7 The Styles and Formatting icon in the Formatting toolbar

This brings up the Styles and Formatting dialog box (Fig. 2.8).

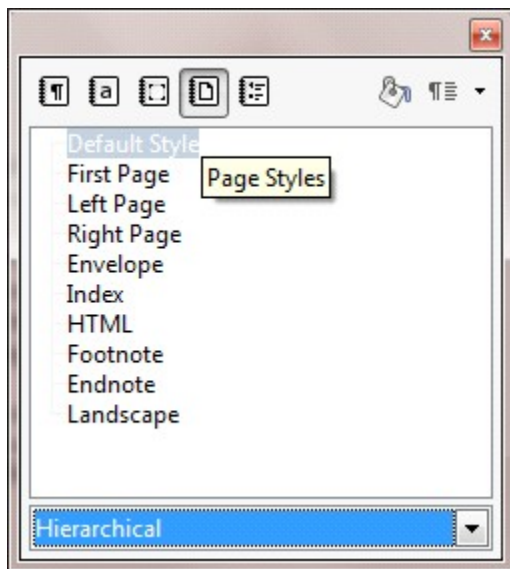


Fig. 2.8 The Styles and Formatting dialog box

In the **Styles and Formatting** dialog box, click on the **Page Styles** icon (Fig. 2.8), then, in the list of Page Styles, **double click** on **First Page**

Close the **Styles and Formatting** dialog box, and scroll through the document to check that the page number now appears only on the second and subsequent pages—there should be no page number on page 1

Now you're ready to learn about more tools for formatting text.

2.2 MORE TOOLS FOR formatting text

A word about default settings

Your installation of *Writer* has default settings for the typical printed page. The *normal margins* are set at 0.79", top and bottom, left and right. The *normal spacing* between lines is single spaced. The *default alignment* is left (the text is aligned to the left margin). The *default* number of columns on the page is 1, and the *default color* of the text is black on a white background. The font selected for the Term Paper document is Times New Roman and the size of the characters throughout is 10 point (because that is how it was saved in the Practice Files folder)*. *

In general, there is no point changing these settings unless they are unsatisfactory. But you can reset any of the format options to meet your needs. The exercises that follow will give you the opportunity to practice doing this as you reformat the Term Paper document.

A word about WYSIWYG

WYSIWYG (computerese, pronounced "wizzywig") is an acronym for "**What You See Is What You Get.**" It is used to describe computer systems such as the one you are using, where the appearance of a document on the screen is what you will get on paper when you print it out. As you make formatting changes to your document, they will show on the screen so that you can visually check the effect of the changes before printing.

Setting the margins

First, you need to reset the margins to 1" all round. The easiest way to change any of the four margins on a page is in the *Page Style* dialog box.

In the **Format menu** select **Page...** to bring up the **Page Style** dialog box, then click on the **Page tab** (Fig. 2.9)

Notice that the Page Style dialog will allow you to make various changes to the page style, including the Paper format (the paper size and orientation and so forth). All you need to change is the margins.

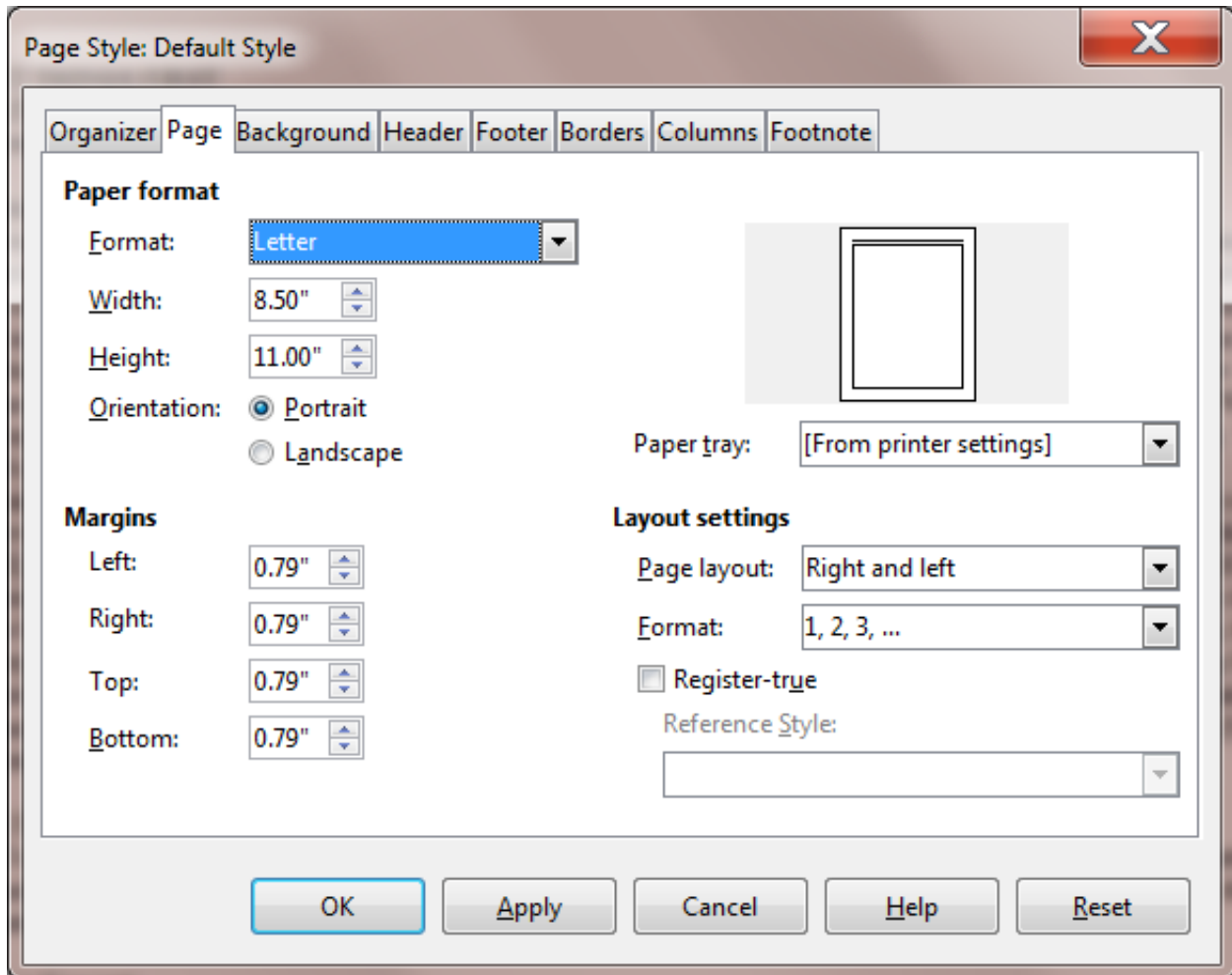


Fig. 2.9 The Page tab in the Page Style dialog box

Change each of the four **Margins** settings to **1.0"** then click on **Apply** and click on **OK**

Remember that you can use the *Page Style dialog box* to change the margins on your printed page.

Aligning text

Justified text

When you align text on both margins, called *justified text*, both sides of your text run flush with the right and left margins. Seeing is believing, so carry out the steps that follow to see the effect of this option. First you need to select the entire document so that you can set justified alignment from page one to the last page of the document. This takes a second.

In the **Edit** menu choose **Select All** (or simply press **Ctrl-a**) to highlight the entire **Term Paper** document

Remember, if you make a mistake, it's not a problem! You can *undo* whatever you did by selecting **Undo** from the **Edit** menu or just hit **Ctrl-z**). And you can do this multiple times to step back to a point where you want to resume your work.

Now, with the entire document highlighted, click on *each Text Alignment tool* in turn and **scroll up and down** in the document so you can see how your text looks each time you change the alignment

You want the final version of the document to be **justified**, so finish this exercise by clicking on the icon for **Justified** text (aligned on **both margins**—the last of the four alignment icons highlighted in the **Formatting toolbar**)

Now click anywhere on the Term Paper document to **deselect** the highlighted text, then **Save** this updated version of the **Term Paper** in your **LibreOffice Work Files > Data Files > Writer Documents** folder (or simply hit **Ctrl-s**)

Notice that the margins on both sides of the screen are now aligned to be flush with the left and right margins except lines that do not reach all the way across the page (such as the title lines and some of the lines at the end of paragraphs).

Centered text

Centered text stands out on a page and is often used for titles. The following exercise steps you through the process of centering the titles on the first page of the Term Paper document.

First, if necessary, scroll all the way back to the beginning of the Term Paper document

Now, highlight **all 3 Title lines** at the top of the first page (down to and **including** the author's name)

In the **Formatting toolbar** click on the **Centered** alignment icon

After you have **centered** the title lines, click anywhere in the text of the document, then once again **save** your work in progress (**Ctrl-s**)

Choosing font faces

Font faces come in all shapes and sizes, and you probably have several dozen available to you on your computer. *Times New Roman* font comes standard with all computers, so the text displayed on your screen is almost certainly in this font since the Term Paper document was saved with this font.

Times New Roman is a *serif* font, which means it has *serifs*.^[1] Serifs are the small marks (flourishes) used to complete a letter (Fig. 2.10).

Fig. 2.10 Serif (Times) and sans serif (Arial) font faces

A *sans serif* font doesn't have these flourishes, as you can see if you look closely at a font such as Arial (Fig. 2.10 above).

In general, *serifs* improve readability by increasing the definition of letters. However, the clean lines of *sans serif* fonts can prove easier to read in some contexts, especially, for example, with larger font sizes. Sometimes you may need to set off one font against another (as in these tutorials) so *sans serif* fonts such as Ariel and Comic Sans MS will often come in handy.

It will be useful for you to practice changing fonts. This will also give you the opportunity to discover the wide variety of fonts you can use.

From the **Edit menu** choose **Select All** (or **Ctrl-a**) to highlight the entire **Term Paper** document

In the **Formatting toolbar**, click on the **down arrow** next to the Font Name tool (Fig. 2.11 next page) to drop down the list of available fonts on your computer

Click on any of the fonts in the **Font** menu and you will be able to see how the font will look if you were to select it for the Term Paper

Do this again for several different fonts. Each time, check the letters carefully to see what type of font you have chosen. Is the font you chose *serif* or *sans serifs*? Do you like any particular fonts? Which is your favorite font?

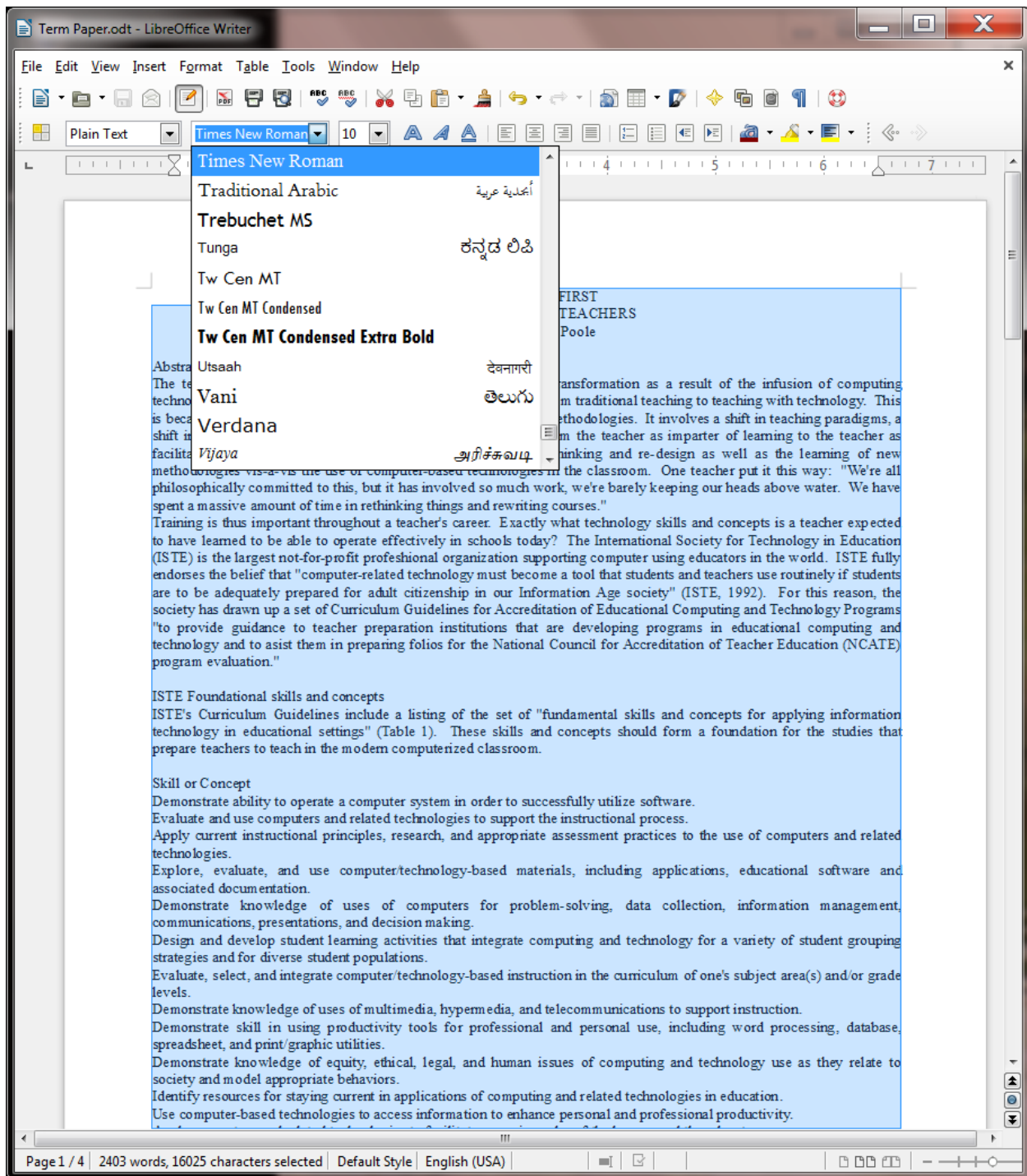


Fig. 2.11 The menu of available fonts

Very important: For the sake of this tutorial you need to set the entire Term Paper document to *Times New Roman* font after you have finished checking out some of the many fonts available with *Writer*. This is because the relative sizes of fonts may create variations in the page numbers of the Term Paper document we're working with, and this may affect the directions for the rest of the tutorial.

Select **All (Ctrl-a)** and choose the **Times New Roman** font) to return the document to **Times New Roman** font, then **Save (Ctrl-s)** the document again

Now you are going to choose a different font just for the table on page 1 of the Term Paper document. The Table begins about half way down the page with the header: *Skill or Concept* and ends with the caption: *Table 1 ISTE Foundational teacher skills and concepts*.

First, click anywhere in the Term Paper document to **deselect** any **highlighted text** and scroll, if necessary, to page 1

Use the **mouse** and drag to select all the items in the table on page 1—from the Title: **Skill or Concept** down to the end of the caption: **Table 1 ISTE Foundational teacher skills and concepts**

Now select **Arial** as the font for the text in the table, click anywhere to **deselect** the table text and **Save** your work (**Ctrl-s**) before you move on

Changing the point size of text

The size of fonts is measured in points.

9 point is quite small;

12 point is standard;

36 point is quite large.

The smallest font size is 4 point (tiny); the largest possible font size is 255 point (huge!). The font size for the body of the Term Paper document can be left at 10 pt. But it would be interesting to use a larger font size for the Title lines and we will also need to reduce the font size for the text in the Table which will end up on Page 2 after we're done with the following exercises. Let's start with the Title lines.

Go to the beginning of the **Term Paper** document and highlight the **first Title line** on the first page: **FIRST THINGS FIRST**, then In the **Formatting toolbar** use the **Font Size** tool to select **36 pt** (Fig. 2.12)

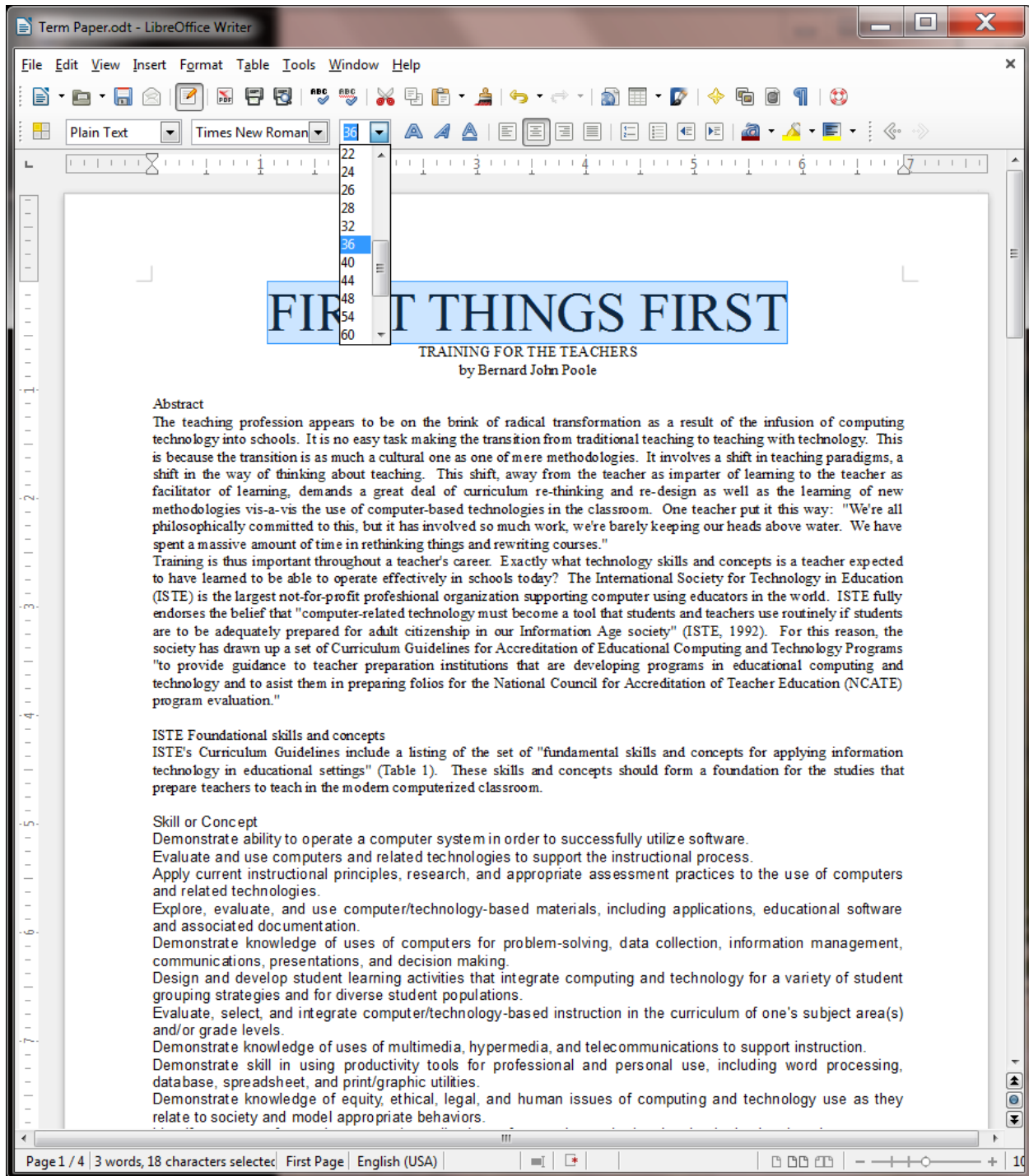


Fig. 2.12 Changing the size of fonts

Now there's a headline for you! Complete this exercise by changing the size of the remaining Title lines as follows:

Make the second line of the title (the sub-title) **24 pt** and make the author's name **18 pt** and **Save** your work (**Ctrl-s**)

Inserting Page Breaks

It is often the practice to keep an Abstract on a page by itself, ahead of the main body of a paper. So, for this exercise

you are going to set a page break after the Abstract.

Still on page 1 of the Term Paper, click to position the cursor at the beginning of the line: “**ISTE Foundational skills and concepts**” (about half way down page 1)

Now, in the **Insert** menu select **Manual Break...**

This will bring up the *Insert Break* dialog box (Fig. 2.13).

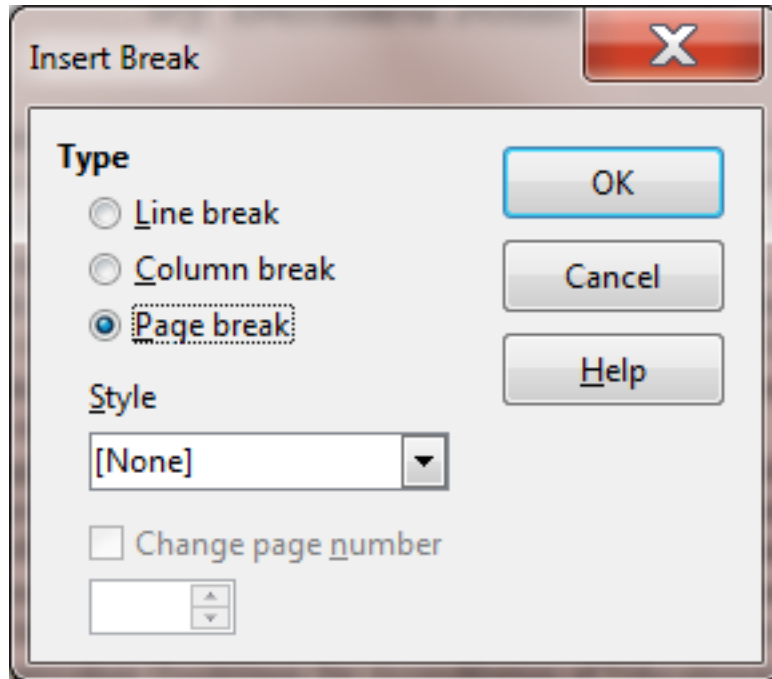


Fig. 2.13 The Insert Break dialog box

Notice that the **Page Break** option is selected by **default**, so click on **OK**

Scroll up and down **between pages 1 and 2** so that you can see how the Page Break worked

Notice that *Writer* moves the “ISTE Foundational skills and concepts” section to a new page following the Abstract. Thus the Abstract will now print on page 1 by itself, following the title lines.

Practice makes perfect

Let’s try this again by inserting a Page Break immediately before the text which follows the Table of ISTE Foundational teacher skills and concepts. Here again are the steps to do this:

Position the cursor just about **half way down page 2** of the document, at the beginning of the line that reads “**It will be useful to examine...**” (that’s the line that follows the table caption: “**Table 1 ISTE Foundational teacher skills and concepts**”)

Insert a **Page Break** here, too (**Insert menu > Manual Break...** and click on **OK** to accept **Page Break**)

One last task before you move on. You are going to increase the font size of all the text that is now on pages 3 thru 5 of the Term Paper document.

Position the cursor at the **top of page 3** (immediately before “**It will be useful...**”, then scroll to the last page of the document (**page 5**), and hold down the **Shift** key while you click at the **end of the Bibliography section**—the end of the Term Paper document

Now with the contents of **pages 3-5 highlighted**, change the **font size** of the text from 10 to **12**

Save your work (**Ctrl-s**)

Changing the layout of the Skill or Concept table

There are some formatting changes you need to make to the Skill or Concept table which is now on Page 2. When you are done, it will have a similar layout to Fig. 2.14.

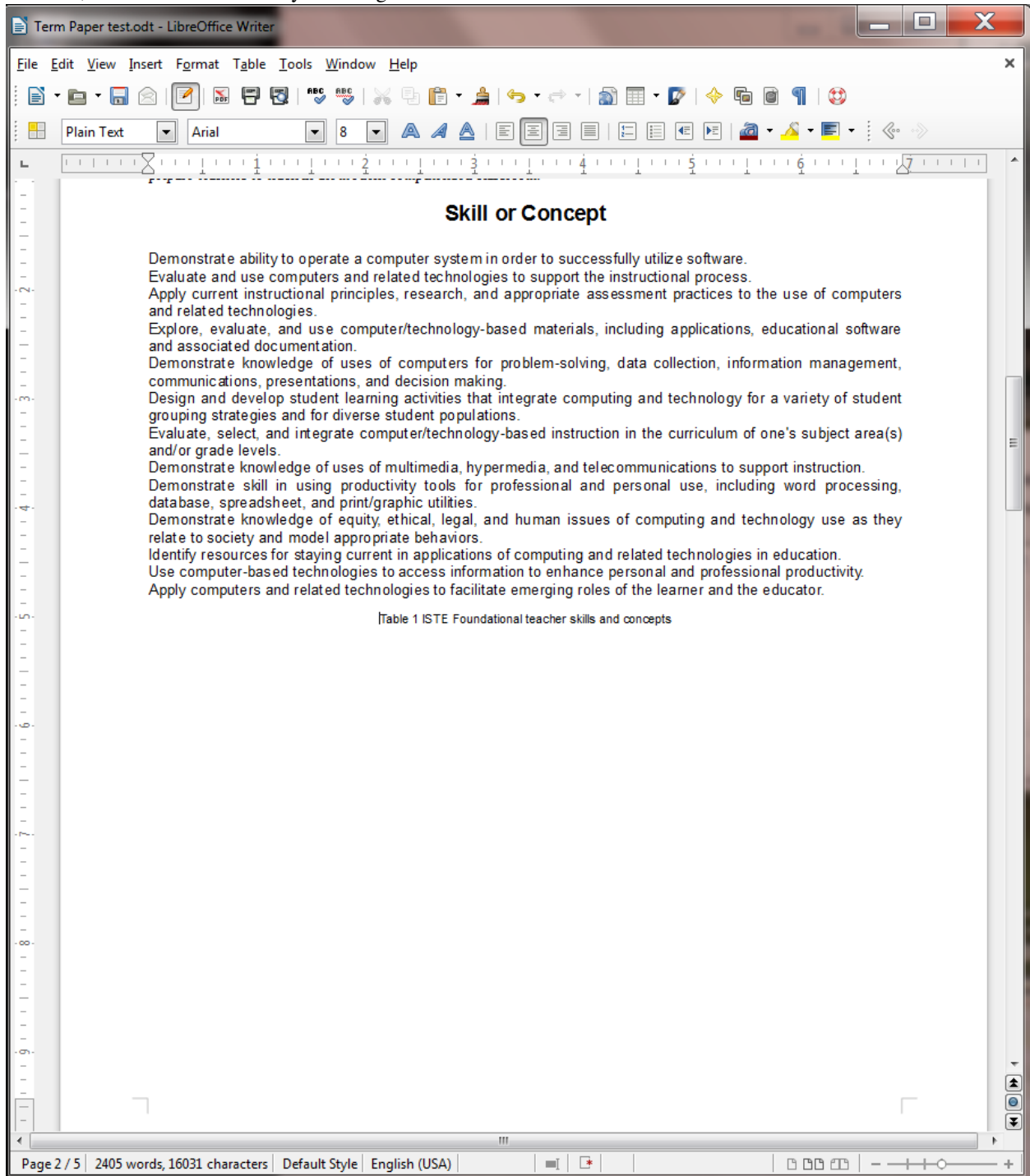


Fig. 2.14 ISTE table after the first set of updates

Scroll back to **page 2**, if necessary, and highlight the **title** of the table (**Skill or Concept**) by **dragging** across it (or **triple click** on it)

In the **Formatting** toolbar, click on the **center alignment** icon

With the title of the Table still highlighted, use the **Font Size** tool to make **14 pt** the font size of the table **Title**, and, still in the **Formatting toolbar**, click on the **Bold** icon (Fig. 2.15), then click at the end of the title to put the cursor there and hit the **Return/Enter** key **once** to space the table's contents down from the Title line

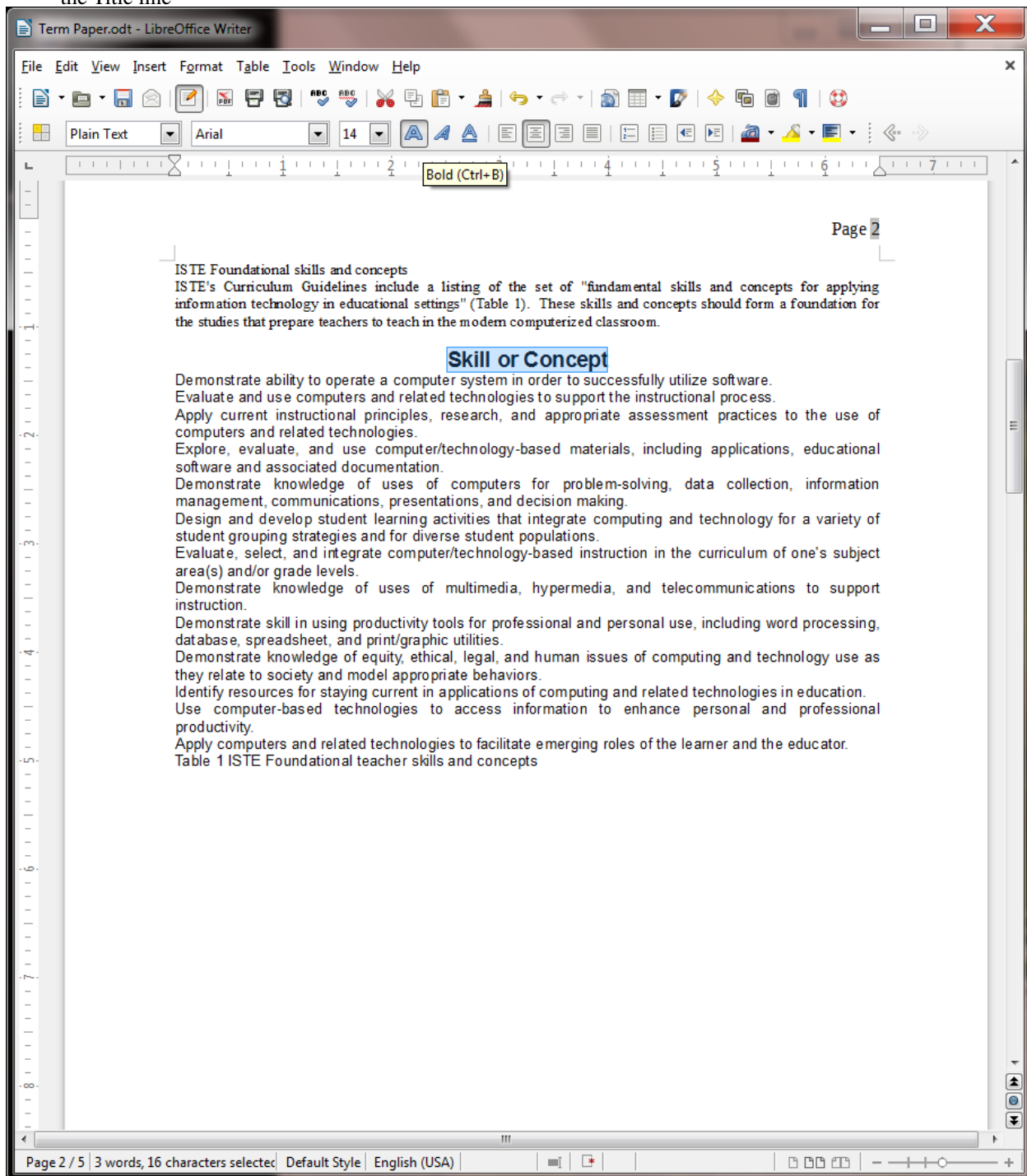


Fig. 2.15 The Bold icon in the Formatting toolbar

Now highlight the caption at the end of the table (**Table 1 ISTE Foundational teacher skills and concepts**), **center** it and change its **font size** to **8 pt**

Finally, click to position the cursor at the beginning of the caption, right before **Table 1 ISTE...** and hit the **Return/Enter** key **once** to space the caption down from the table

At this point the Skill or Concept table on Page 2 of the Term Paper document should look like Fig. 2.14 on the previous page.

Save your work (**Ctrl-s**) before you move on

Spacing before and after paragraphs

Make sure that you can still see all of the **Table of ISTE Foundational skills and concepts** on **page 2** of the document

Sometimes it is easier to read a list of items if they are slightly separated one from the other by what is called white space (the parts of a page where there is no text). Let's do this next.

Drag with the mouse to select (highlight) all the items in the **BODY** of the table (from **Demonstrate ability...** at the beginning of the table to **...roles of the learner and the educator** at the end of the table—**NOT** including the caption)

Now, in the **Format** menu select **Paragraph...**, to bring up the **Paragraph dialog box** and click on the **Indents & Spacing** tab (Fig. 2.16)

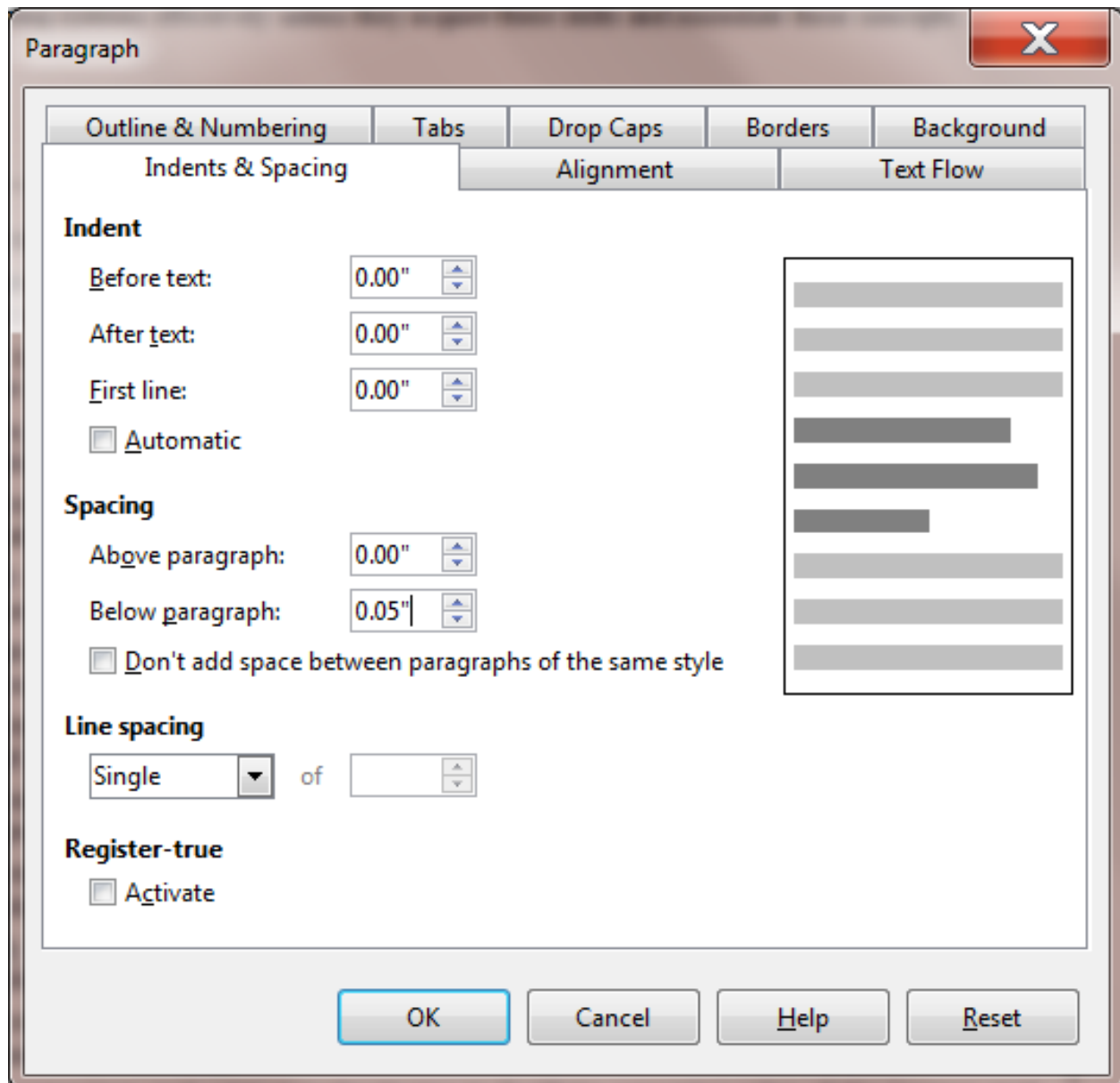


Fig. 2.16 Paragraph dialog box

Change the **Spacing > Below Paragraph**: setting to **0.05"**, click on **OK**, then click **anywhere in the text** to remove the highlighting (to deselect it) and save your work up to this point (**Ctrl-s**)

Notice how much easier it is now to pick out each of the items in the Skill or Concept table.

2.3 BULLETS AND NUMBERED LISTS

Numbered lists

For the next exercise you are going to use the Bullets and Numbering Styles in *Writer* to number each of the items in the Table of ISTE Foundational Teacher Skills and Concepts on page 2 of the Term Paper document.

You can use any of several numbering and bullet styles. But let's keep it simple for now.

Once again, **highlight** all the items in the **body** of the table (from **Demonstrate ability...** to **...roles of the learner and the educator**)

In the **Formatting toolbar**, click on the **Numbering On/Off** tool to quickly number each of the items in the Table (Fig. 2.17)

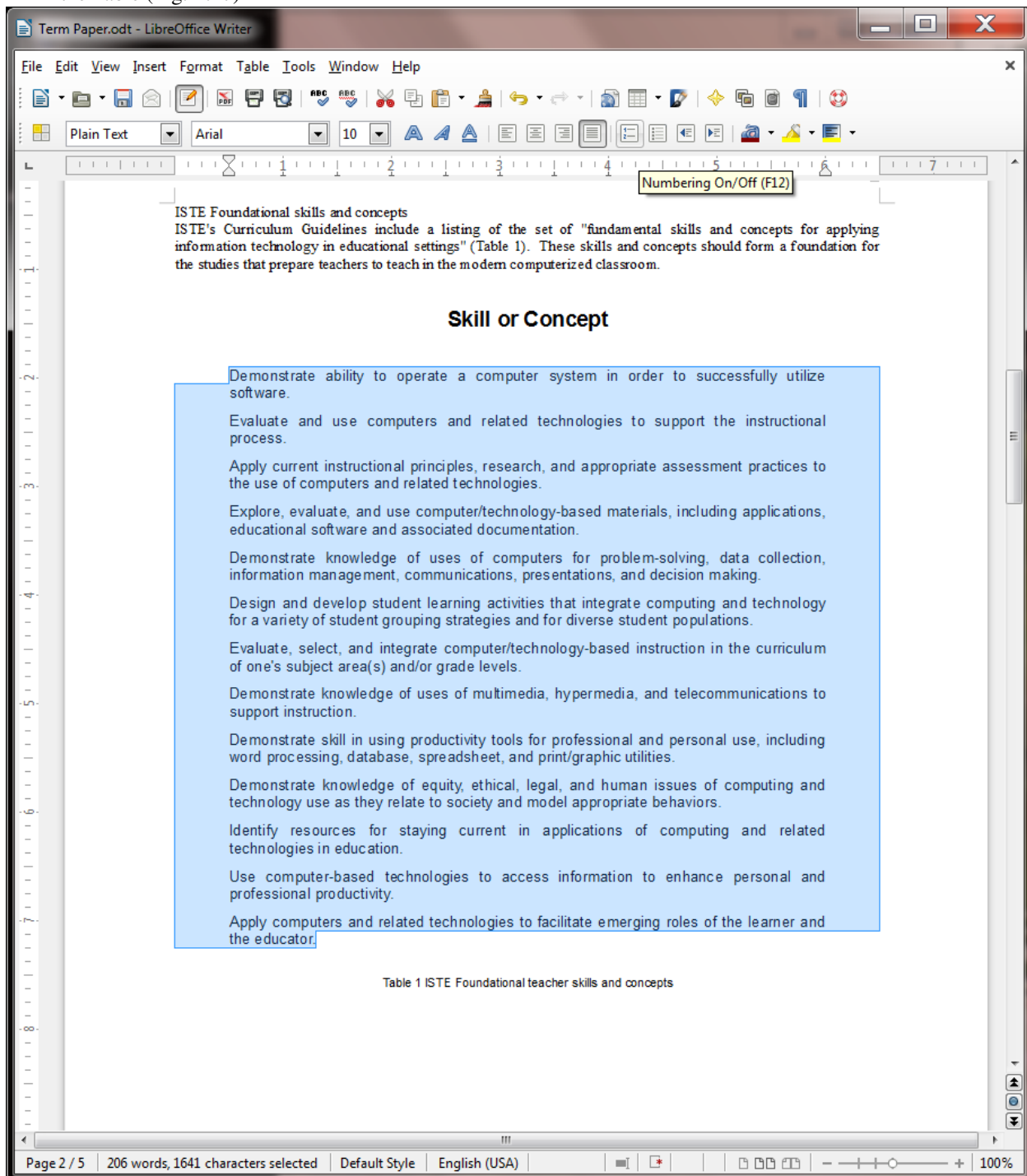


Fig. 2.17 The Numbering On/Off icon in the Formatting toolbar

Click anywhere to deselect the highlighted Table, then **Save** your work again (**Ctrl-s**)

At this stage, the Table should look much like the illustration in Fig. 2.18.

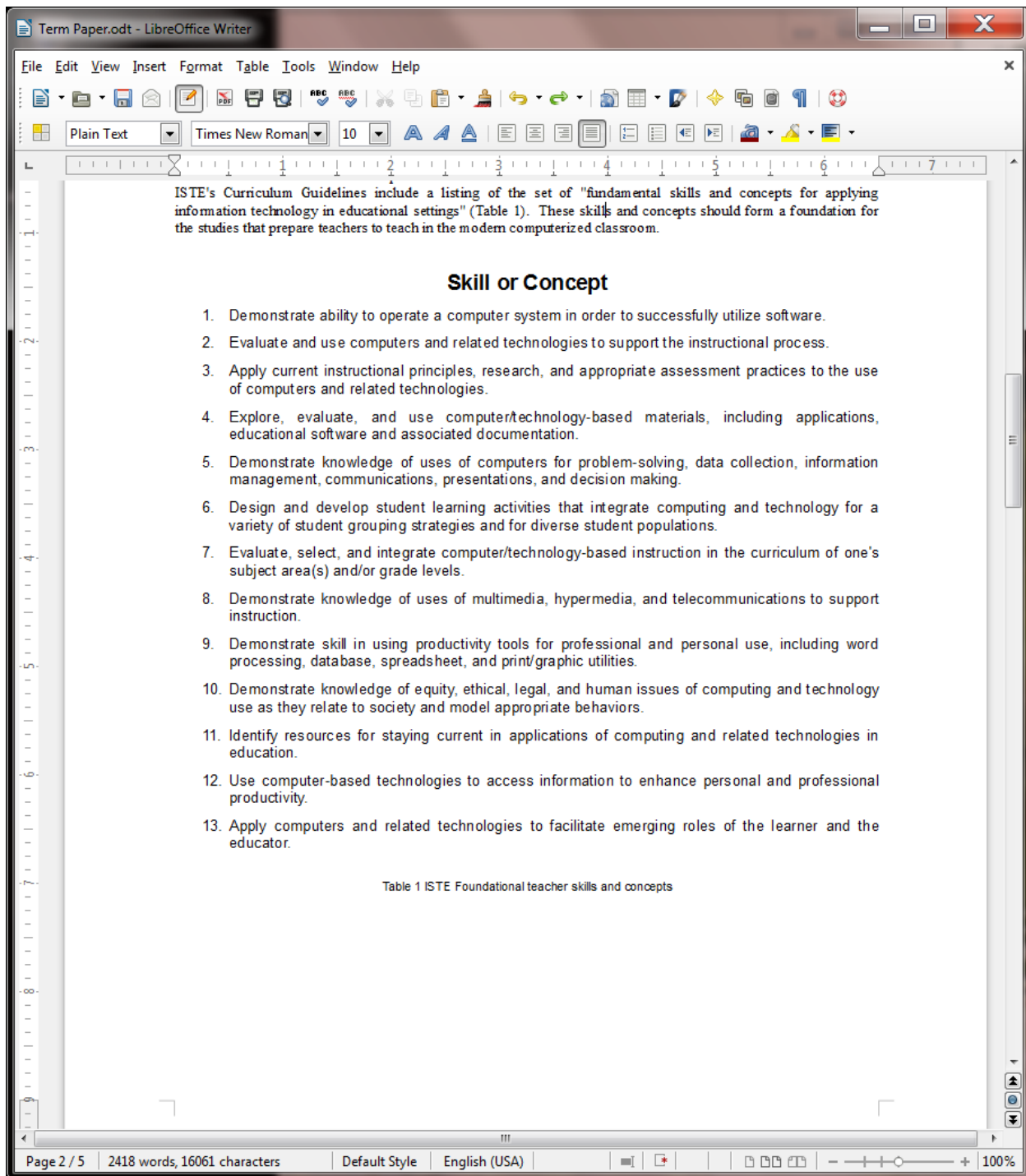


Fig. 2.18 The numbered list of Skills and Concepts

Notice the hanging indents for each item in the table. *Writer* uses a hanging indent so that the numbers stand out. We'll return to the subject of hanging indents later in the lesson, where you will practice creating them yourself.

You can also start numbering from a number other than 1. You would need to know how to do this, for example, if you broke up a numbered list into two sections with text in between that is not numbered. If you wanted to start numbering from a number other than 1, you would do this by selecting the *Format menu > Bullets and Numbering...* and, in the dialog box that pops up (Fig. 2.19), you would click on the *Options tab* and, in the *Start at: box* type the starting

number you want for the list of items you are working with.

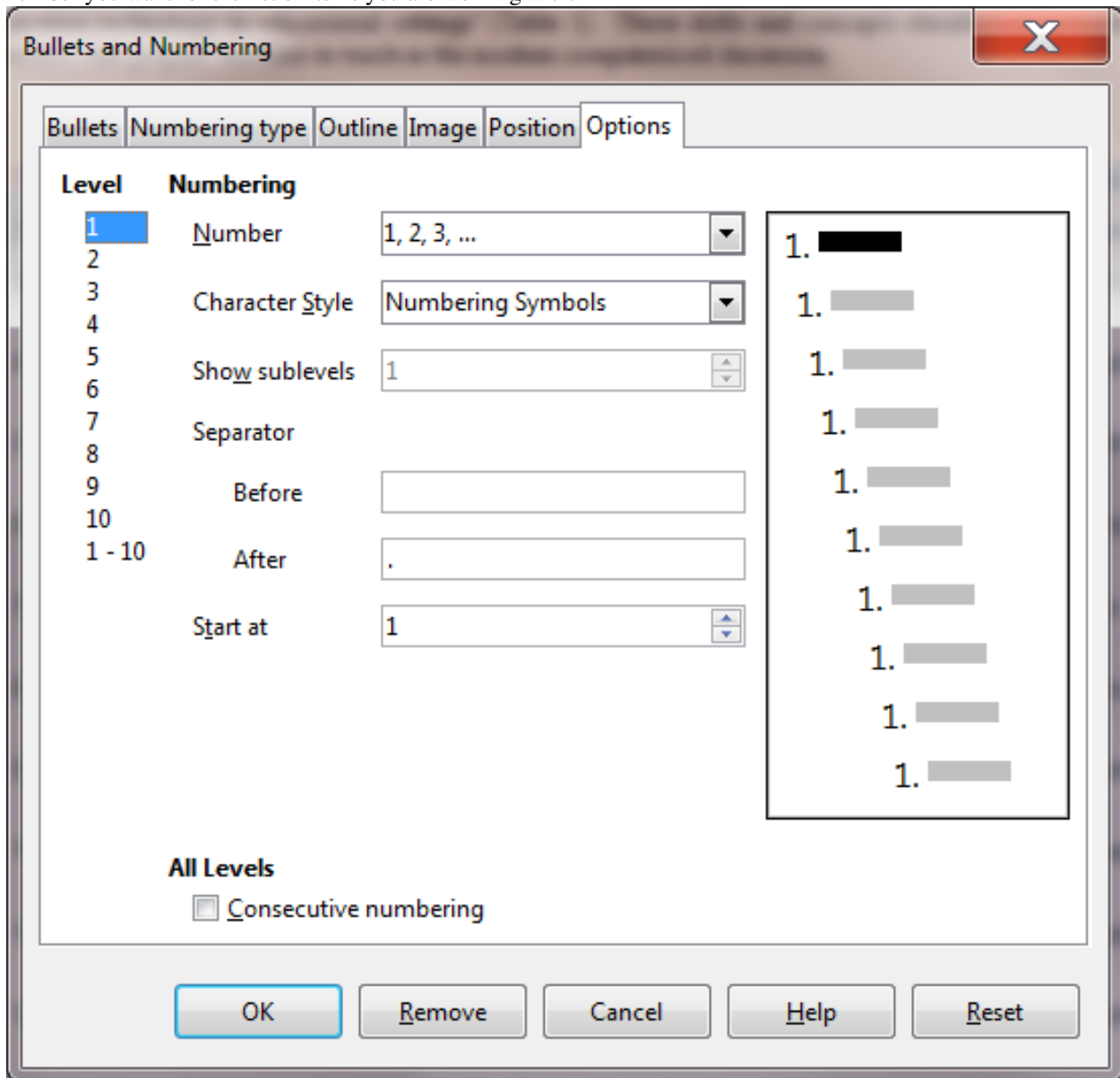


Fig. 2.19 Settings for Customizing a Numbered List

For our purposes, however, we want to start at **1**, so make sure the **Start at:** value is **1** (don't change a thing) and click on **OK**

Bulleted lists

If you wanted bullets instead of numbers, you would select the *Bullets On/Off* tool, which is right next to the *Numbering* tool in the Formatting toolbar (Fig. 2.20).

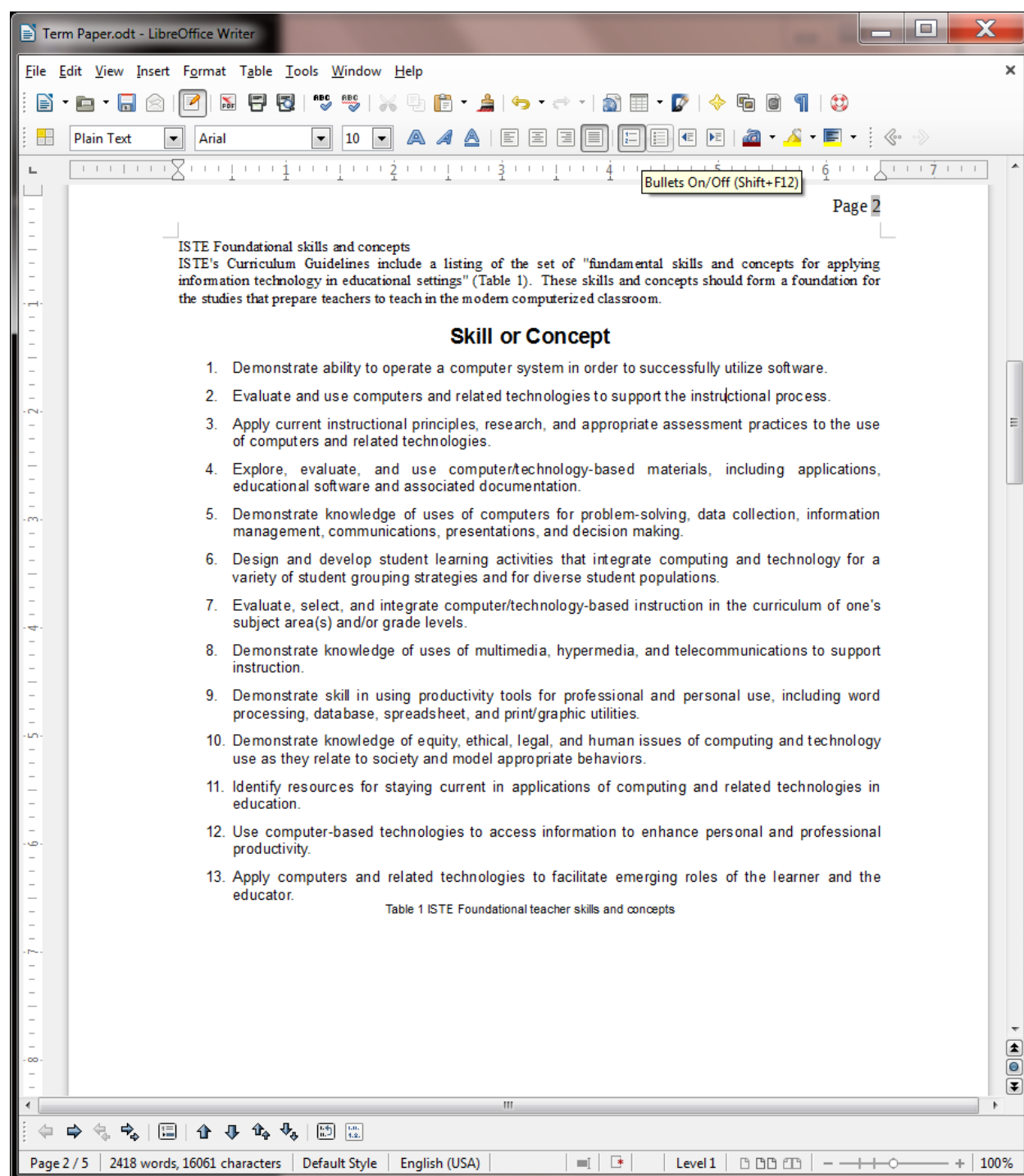


Fig. 2.20 The Bullets On/Off tool in the Formatting toolbar

There are several styles of Bullets that you can choose in *LibreOffice*, and you can check them out by selecting *Format menu*

Bullets and Numbering... and, in the Bullets and Numbering dialog box that comes up, you would select one or other of the bullets styles that show in the Bullets tab (Fig. 2.21).

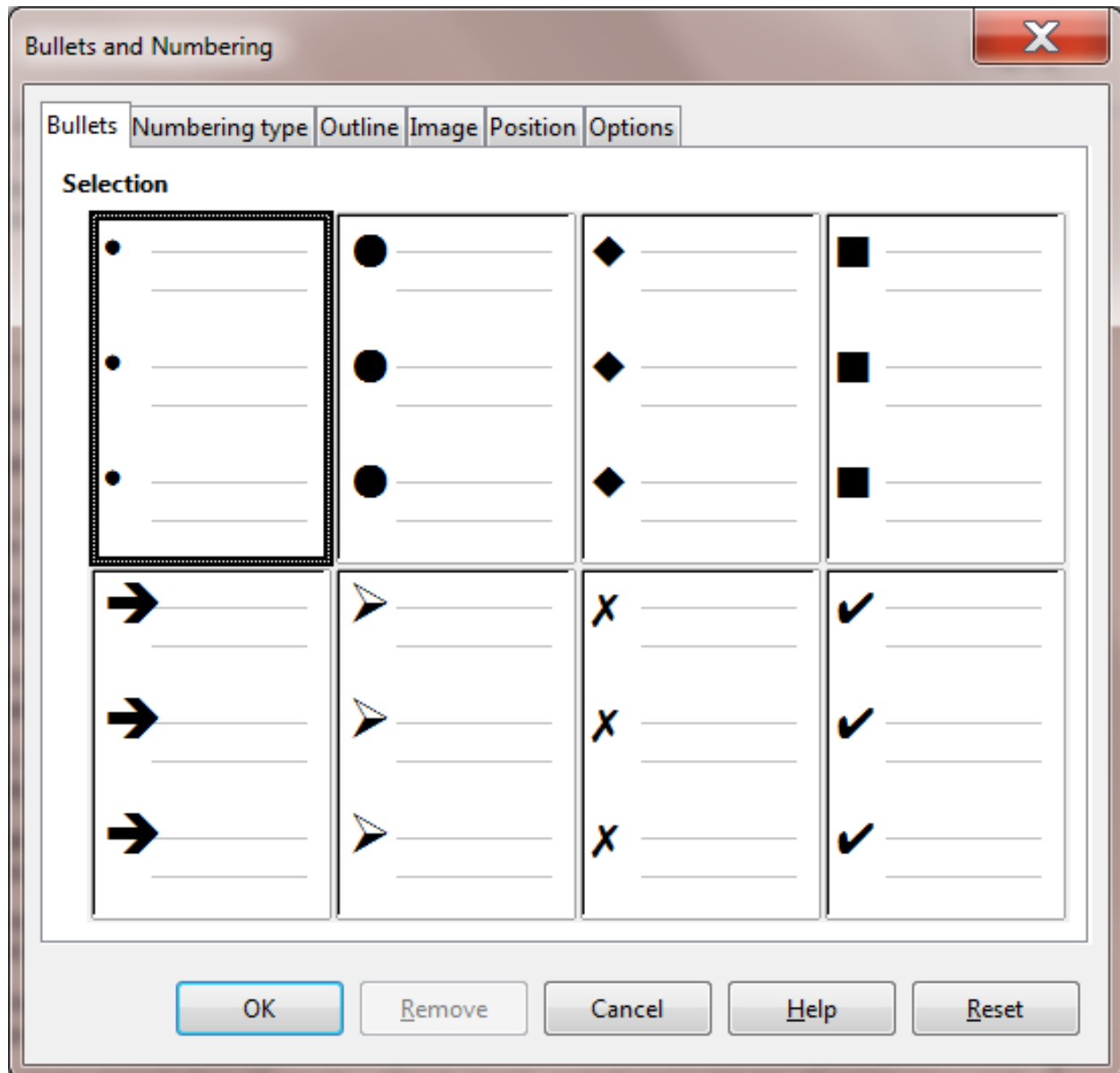


Fig. 2.21 Bullet styles dialog box

Did you save your work? Hit **Ctrl-s** before you forget...

2.4 SETTING OFF A BLOCK OF TEXT WITH A BORDER

The ISTE Table should now be starting to look more like a table! Let's make one more update to set off the table as a separate item from the running text of the Term Paper.

Sometimes, for emphasis or effect, it looks professional to set off a section of a document with a border or frame.

You are going to do this to the Table of ISTE Foundational Teacher Skills or Concepts on page 2. It will end up looking something like Fig. 2.22.

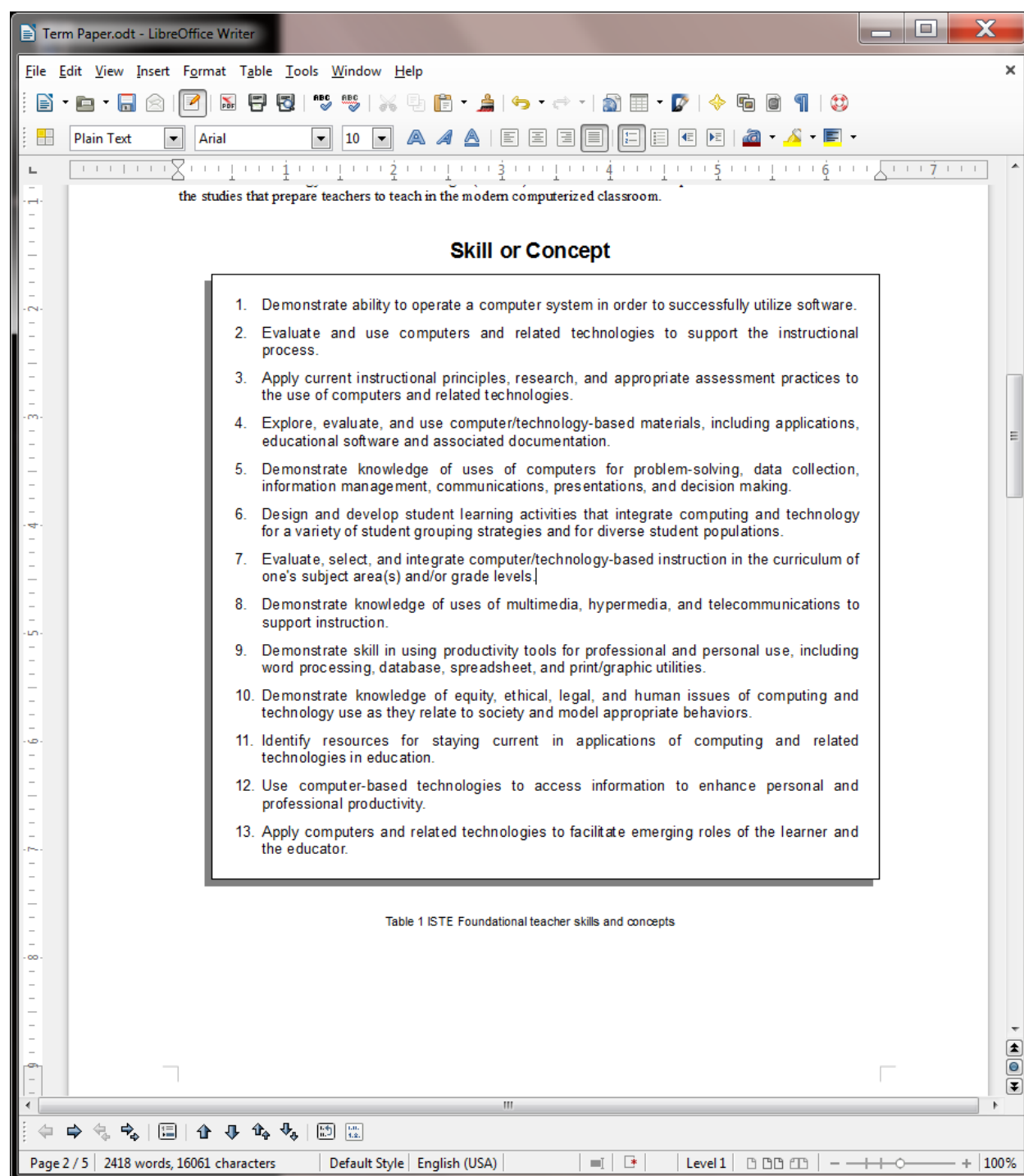


Fig. 2.22 ISTE Table with a border

Once again highlight the contents of the **body of the Table** (the 13 numbered Skills and Concepts, *NOT* including the centered **Table Title** (Skill or Concept) at the top, or the centered **caption** (Table 1 ISTE, etc.) at the bottom

Now, in the **Format** menu, select **Paragraph...** to bring up the **Paragraph dialog box** and click on the **Borders** tab (Fig. 2.23)

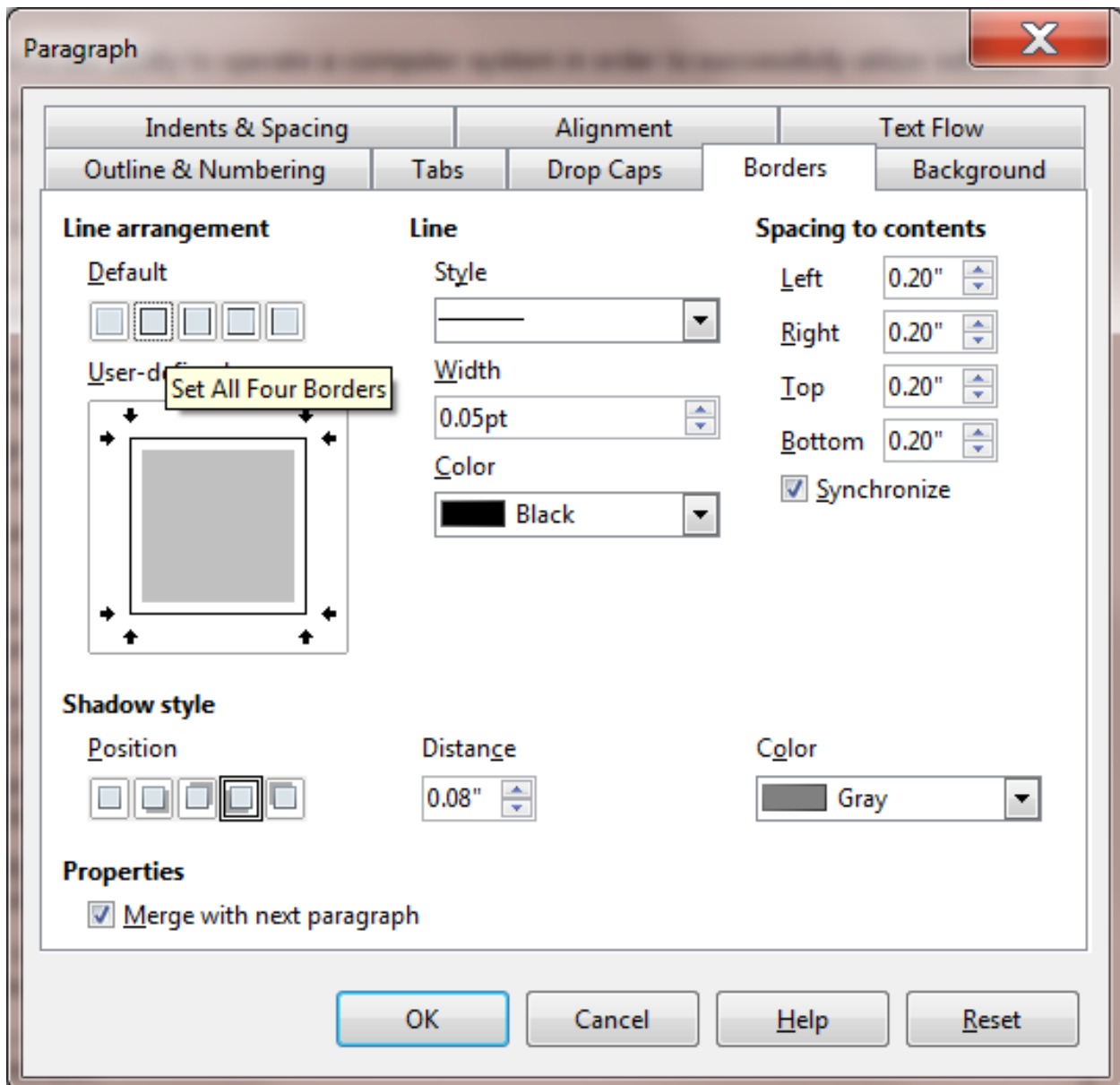


Fig. 2.23 The Borders tab in the Paragraph dialog box

Use Fig. 2.23 above carefully to make sure you select the correct settings for the table Border:

Click on the 2nd **Line arrangement** button to **Set All Four Borders**

In the **Spacing to contents** section, make sure each of the values is **0.20"**

In the **Shadow style** section select the 4th **option** to put the shadow at **lower left** of the table

Now click on **OK**, then click **anywhere in the document** to remove the highlighting so you can see the effect of the changes you have made to the ISTE Table on Page 2 of the Term Paper document—it should look much the same as Fig. 2.22 on the previous page

Save your work again (**Ctrl-s**) and take a break!

2.5 USING TAB STOPS

Inserting Tab Stops

Let's take a short break from the Term Paper exercise and learn about Tab Stops in general. No need to close the Term Paper document, though, because you still have plenty of work to do with it, including setting some tab stops here and there. To practice using tab stops, you'll be using a new blank document.

From the **File** menu select **New > Text Document**, and wait while a **Blank Writer Text Document** opens

Tabs are very useful for lining up text in columns, as illustrated in Fig. 2.24.

Andrew Freshman	186	90.35
Mary Senior	95	85.50
Teresa Sophomore	87	87.90
Bernard Senior	210	100.00
Josephine Junior	123	78.25

Fig. 2.24 Typical columnar organization of data

In the table in Fig. 2.24 the first column has a list of names aligned *left*. The second column has a list of academic year designations which are *centered* on the column. The third column has whole numbers which are usually aligned *right*. Finally there is a column of decimal numbers which are aligned *around the decimal point*.

If you have never used Tab Stops before, you may find them confusing. The exercise that follows will help you understand what Tab Stops are all about and how they work.

The purpose of Tab Stops is to help you align data, often in *columns*, like in the table above. One thing you should *never* do in a word processor is try to line data up using the *space bar*; this is a surefire recipe for getting things out of line because of the way modern word processors use *relative spacing* for the characters in a line or on a page*. *

Notice the Tab selector icon at the left edge of the Ruler bar—top left corner of the *Writer* window. It looks like the capital letter **L** (Fig. 2.25) because the default tab selector icon is for *left alignment*.

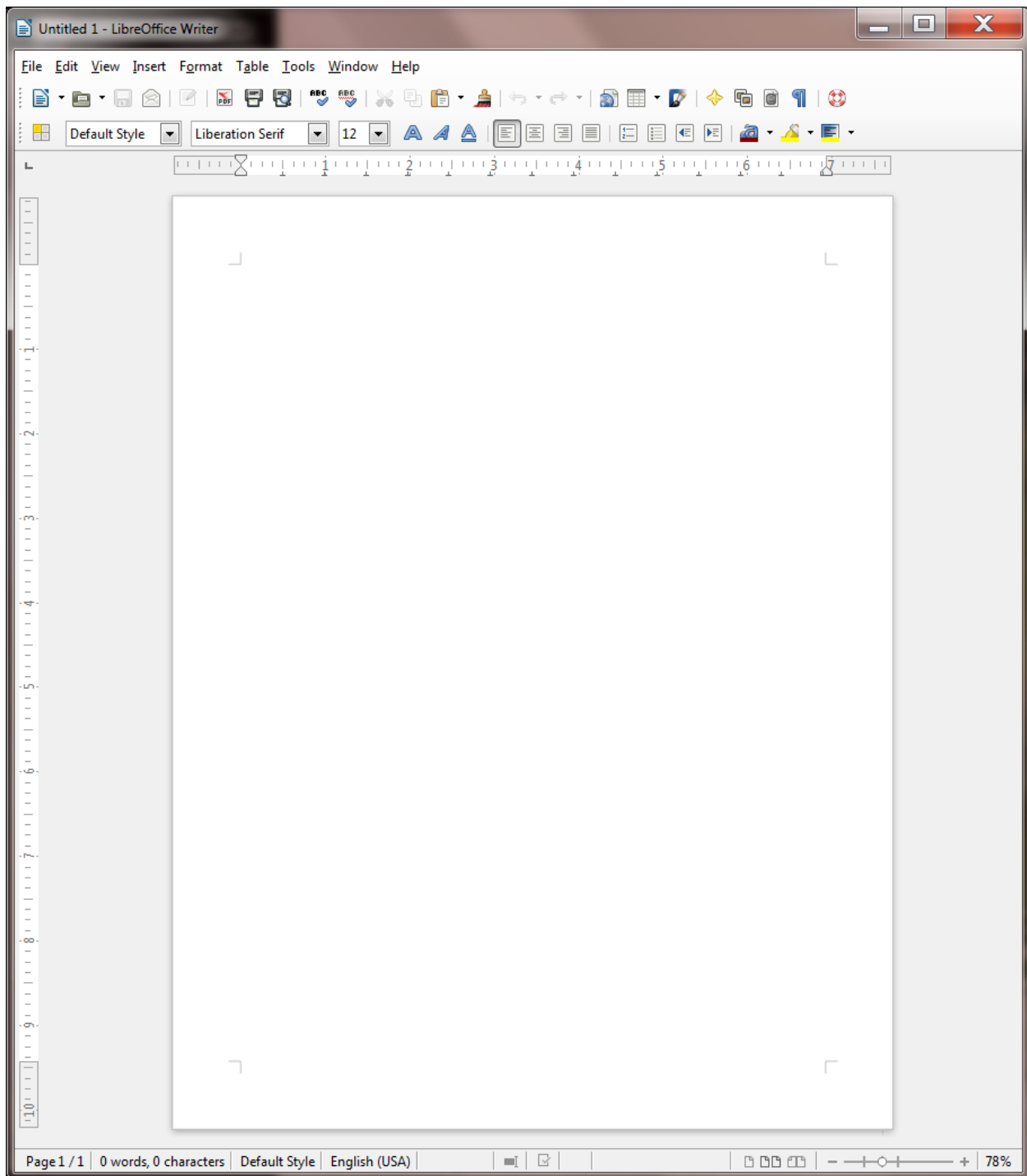


Fig. 2.25 The Tab selector icon to the left of the Ruler bar

This means that, if you click anywhere along the Ruler bar to set a Tab Stop while this tab icon is selected, a *left Tab Stop* will be set at that place in the ruler. If you use the Tab key on the keyboard to tab across to that Tab Stop, you will be *left aligned* on it, and any text you type will proceed from the left of the Tab Stop to the right.

The best way to understand this is, of course, to do it, so here goes. Put your thinking cap on, OK? First thing you need to do is remove/clear any existing tab stops that may already be inserted along the Ruler bar of your blank document. Here's how you do this.

In the **Format** menu select **Paragraph...**, then in the **Paragraph dialog box** that pops up, click on the **Tabs** tab (Fig. 2.26), and click on **Delete all**

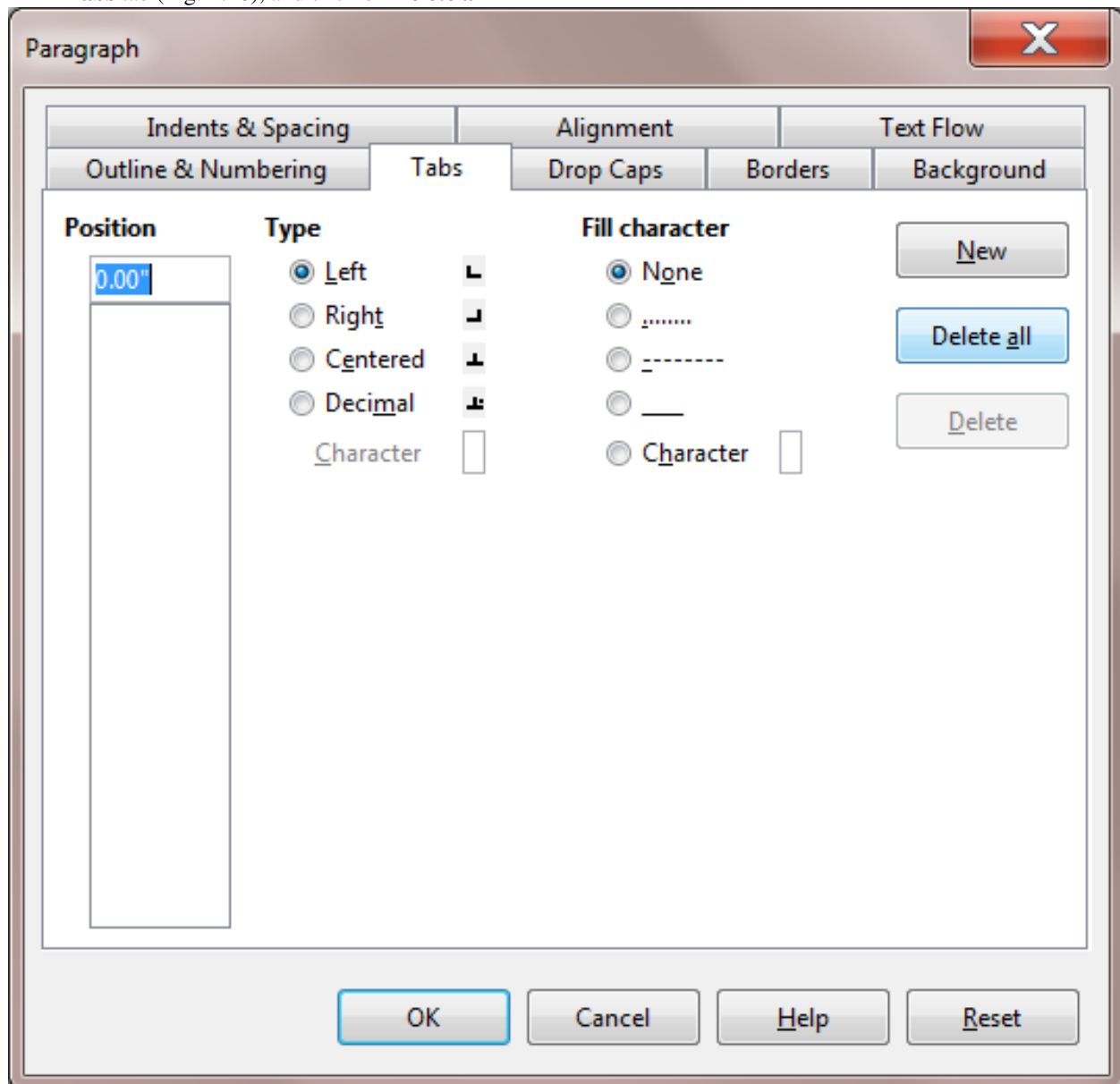


Fig. 2.26 The Tabs/Delete all option in the Paragraph dialog box

You are going to put four different Tab Stops along the Ruler bar. Fig. 2.27 shows the Tab Stops you should end up with for the correct alignment of the data in the table illustrated in Fig. 2.24 on page 48 above.

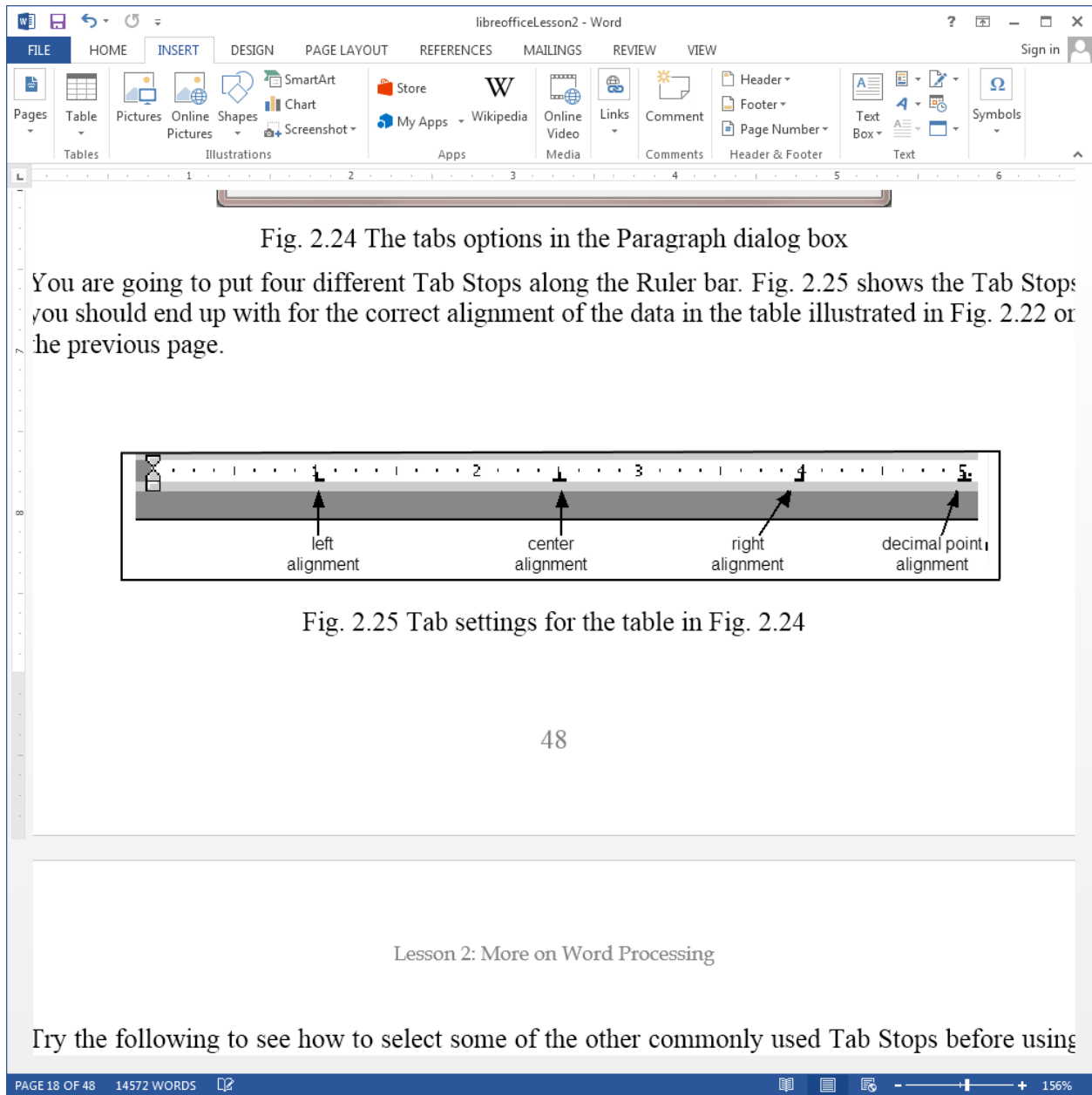


Fig. 2.27 Tab settings for the table in Fig. 2.24 (page 48 above)

Try the following to see how to select some of the commonly used Tab Stops before using them to align data on a page of text.

Click **once** on the **Tab icon button** in the top left corner of the screen, and you'll see the icon change to the icon for **centering** text on the Tab Stop (it looks like an upside down 'T' and indicates that text aligned on it will be centered on it and move to either side of the Tab Stop, left and right, as you type)—it's the second Tab Stop in Fig. 2.27

Click again (a second time) on the **Tab icon button** and you'll see the icon for **right alignment** (this Tab Stop looks like a backwards 'L', indicating that text aligned on it will go to the **left** of the tab stop because it's aligned from the right—if you've never used Tab Stops before, that must sound confusing, but you'll see how it works in a minute when you complete the exercises that follow)—the right alignment Tab Stop is the third one along the ruler in Fig. 2.27

Finally, click again (a third time) on the **Tab icon button** and you'll see the icon for **decimal alignment** (this Tab Stop looks like an upside down 'T' with a dot to denote the decimal point—this is for decimal numbers, like dollars and cents, for example, and makes sure everything is lined up on the decimal point)—check the decimal alignment Tab Stop on the right hand side of Fig.2.27

If you continue clicking on the tab icon button, you'll see other Tab Stops and indent markers. You won't need these for this exercise.

Your task is to reproduce the table illustrated in Fig. 2.24 on page 48 above. You'll need to begin by setting the four Tab Stops as they are illustrated in Fig. 2.26 above.

Click on the **Tab icon** until you see that the **left** Tab Stop is selected, then click once at the **1" hash mark** on the ruler

Click again on the **Tab icon** until you select the **center** Tab Stop and click once at the **2 ½" hash mark** on the ruler

Click again on the **Tab icon** until you select the **right** Tab Stop and click once at the **4" hash mark** on the ruler

Finally, click on the **Tab icon** until you select the **decimal alignment** Tab Stop and click once at the **5" hash mark** on the ruler

Now, with the Tab Stops in place, you can start to enter the data from the table in Fig. 2.24 on page 48 above.

First, make sure the cursor is still waiting at the **left edge** at the **top** of the blank page

Hit the **Tab key** to move the cursor across to the first tab, and enter the first **name** in the table (**Andrew**—which will be **left aligned** on the tab stop)

Hit the **Tab key** again, and enter the **class** that goes with the first name (**Freshman**—notice how it is **centered** on the Tab Stop as you type it)

Hit the **Tab key** again, and enter the **rating value** that goes with the first name (**186**—again notice how it is **right aligned** on the Tab Stop)

Hit the **Tab key** again, and enter the **test score** that goes with the first name (**90.35**—and notice how the value is **aligned on the decimal point**)

Continue in this way until you have entered **all five (5) lines of data** in the table

Removing Tab Stops

To remove a Tab Stop, you need to position the **tip** of the mouse pointer on the Tab Stop marker and drag the Tab Stop down off the ruler. When you release the mouse button the Tab Stop will be gone. This is tricky to do if you're not used to it because the Tab Stop is small and you have to be very careful to use just the **tip** of the mouse pointer. Try this for yourself.

Position the cursor anywhere on the **first line** of the student records, then position **the tip of the mouse pointer** on each of the **Tab Stops** one by one and drag the stop down below the ruler, then **release the mouse button** to throw it away

This will mess up the layout of the data in that first line, but that's OK for now since you're just practicing.

Now undo what you just did by pressing **Ctrl-z four times**

You can also remove all the Tab Stops at one time. You already did this at the beginning of this exercise (see Fig. 2.25 on page 49 above), but here's a reminder of how you do this.

Click anywhere on the **first student record** and then **double click** on any **one** of the **Tab Stops**

This brings up the Paragraph dialog box.

Now, in the **Paragraph** dialog box, click on the **Tabs** tab, then click on the **Delete All** button

There! All the Tab Stops are gone for that particular student record. To clear the Tab Stops for ALL the student records in one go, simply highlight all the records (*Ctrl-a*), double click on one of the Tab Stops in the ruler, and in the Paragraph > Tabs dialog box click on Delete All.

Now **Close** the **Untitled** document and **don't Save** it; this was just an opportunity for you to practice how to use **Tab Stops**

****2.6 STYLE OF TEXT AND LINE SPACING ****

Text Styles

When writing, it is often important to draw attention to certain words or phrases by adding emphasis to them. This can be accomplished by **boldfacing**, *italicizing*, or *underlining* the text.

These options are available from the appropriate icons in the Formatting toolbar (Fig. 2.28).

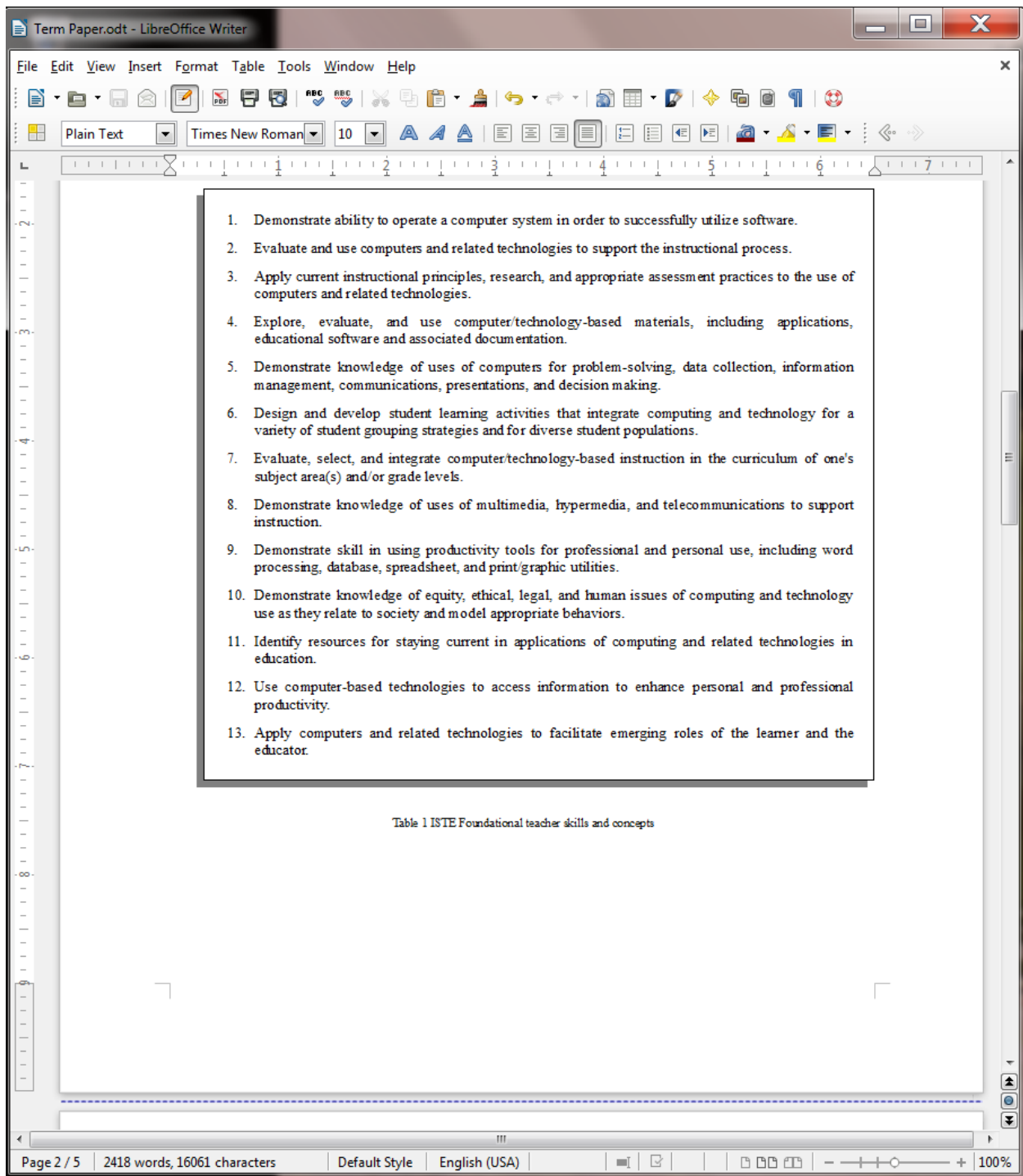


Fig. 2.28 Text style icons in the Formatting toolbar

Alternatively, you can apply the styles using Quick Keyboard cCommands: *Ctrl-b* for **Boldface**, *Ctrl-I* for *Italics*, and *Ctrl-u* for Underline.

Boldface

Titles and sub-titles should stand out on a page. Increasing the size certainly helps. Using all capital (uppercase) letters can also add emphasis and draw the eye of the reader. You have seen both of these techniques applied to the Titles at the top of the first page of the Term Paper document.

Boldface also will improve the appearance of the three section headers (**Abstract**, **ISTE Foundational skills and concepts**, and **References**) and make them stand out on the page. While you're at it, you might as well increase the font size, too.

Scroll to **Page 1**, highlight the **Abstract** header and make it **boldface (Ctrl-b)** and increase the **font size to 14 pt**

Now apply **boldface** and **14 pt font size** to the two other section headers (**ISTE Foundational Skills & Concepts** at the top of Page 2 and **Bibliography** on page 6)

Save your work (**Ctrl-s**)

Underline

On page 2 of the Term Paper document (the page after the Abstract) we have the table of the 13 ISTE Foundational teacher skills and concepts. Following this table, on pages 3 through 6, each skill or concept is taken one by one for further explanation.

Your task is to *underline* the *skill or concept at the beginning of each of the 13 sections* on pages 3 through 6. When you do this, you will underline just the words that describe the skill or concept; do not include the *number* of the concept—so you'll underline just the line or two of words immediately *after* the number that states the skill or concept.

Fig. 2.29 illustrates what you need to do.

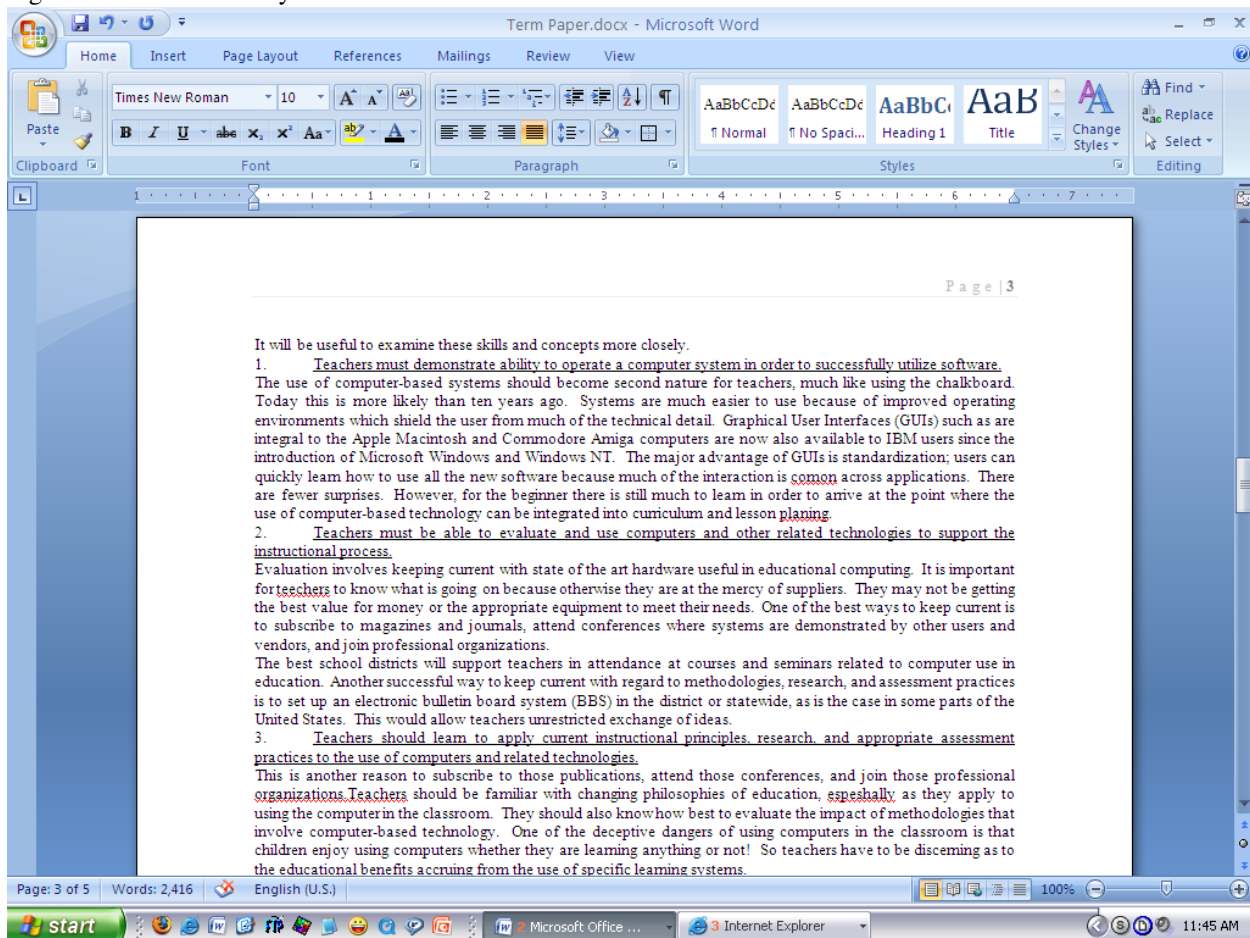


Fig. 2.29 Underline only each of the Skills or Concepts from the Table on page 2

Here is a step-by-step explanation of how to do the first one.

Scroll to the beginning of **page 3** and, in the **first** skill or concept, click to put the cursor immediately before the **T** of “**Teachers...**”

Now hold down the **Shift** key and at the same time click at the end of the skill or concept (i.e. **after** the period at the end of the word “**...software.**”) to highlight the text of the skill or concept, and press **Ctrl-u** to underline the skill or concept

That’s all there is to it. Go ahead now and underline the remaining 12 skill or concept section titles. When you have finished this exercise, the underlined section titles will look as illustrated in Fig. 2.29 above.

Don’t forget to **save your work** when you’ve finished underlining

Italics

Your next task is to *italicize* the author’s name on the first page. You can probably figure this out for yourself, but just in case you need help, here are the steps.

Select the **author’s name** under the title on the first page of the Term Paper and press **Ctrl-I**, then **save** your work again

Line spacing

Papers may be printed with variable spacing between lines. The following steps show you how to do this in *Writer*.

Select the entire paper by pressing **Ctrl-a (Select All)**

Now from the **Format** menu select **Paragraph...**, then, in the **Paragraph** dialog box click on the **Indents and Spacing** tab

Click on the **arrow** at the end of the **line spacing** box (Fig. 2.30) and select **Double** for the spacing option, then click on **OK**

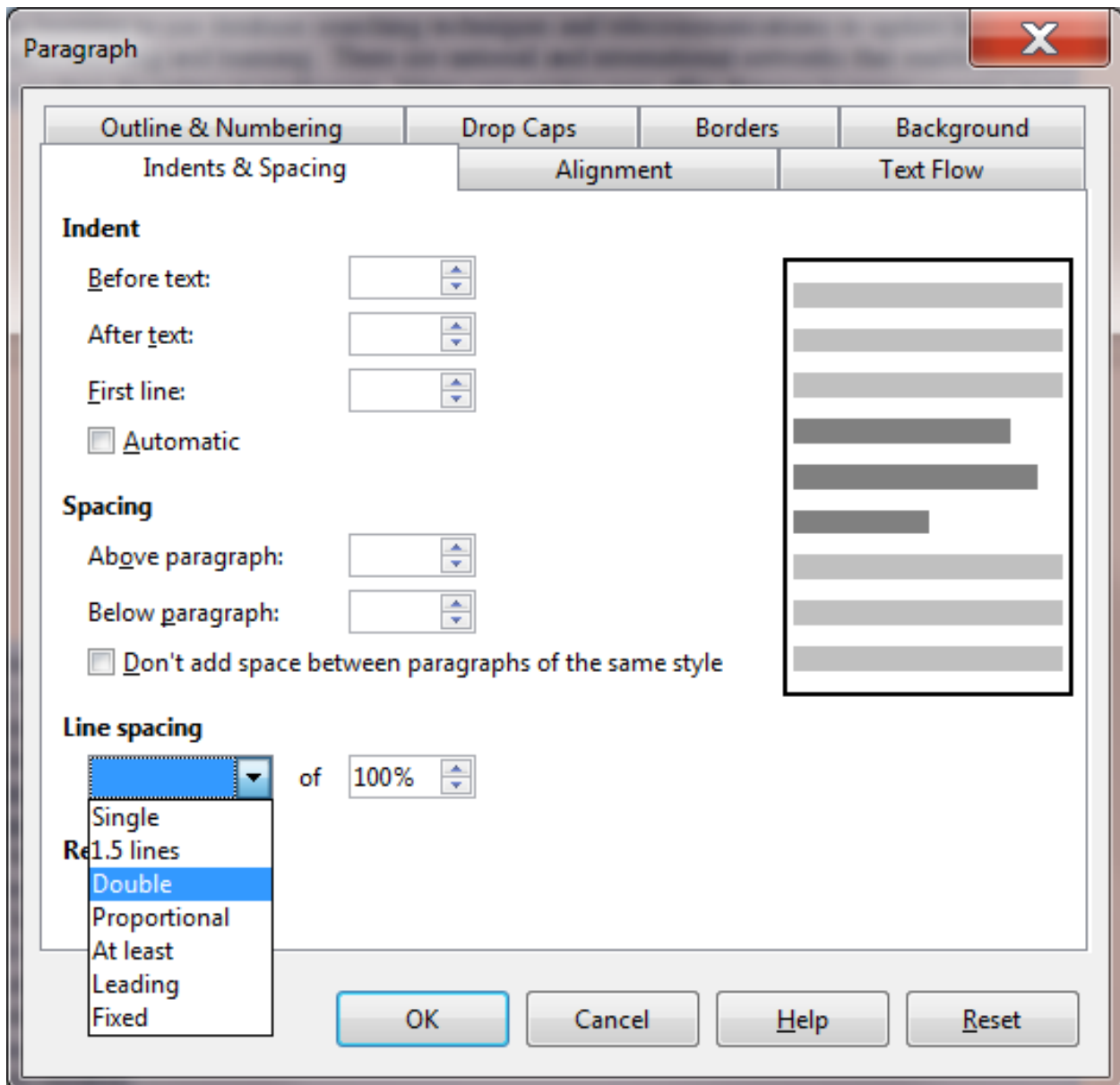


Fig. 2.30 Line Spacing in the Paragraph dialog box

Your document was set in single spacing when you loaded it from the *Work Files for LibreOffice*. Double spacing is required for many written documents and now you know how to do this using *Writer*.

For the sake of this exercise, however, be sure to return the document to **single spacing** (**Ctrl-a > Format menu > Paragraph... > Indents and Spacing tab > Line spacing**

Single > OK)

Now press **Ctrl-s** to save your work to date

2.7 INDENTING TEXT

Adjusting (moving) the Indent Markers

You practiced doing this in Lesson 1, but maybe you need more practice since these indent markers can be tricky to apply.

There are two indent markers on the left side of the Ruler bar, one above the other, as illustrated in Fig. 2.31. The *First Line Indent* marker is on top, the *Left/Hanging Indent* marker is on the bottom.

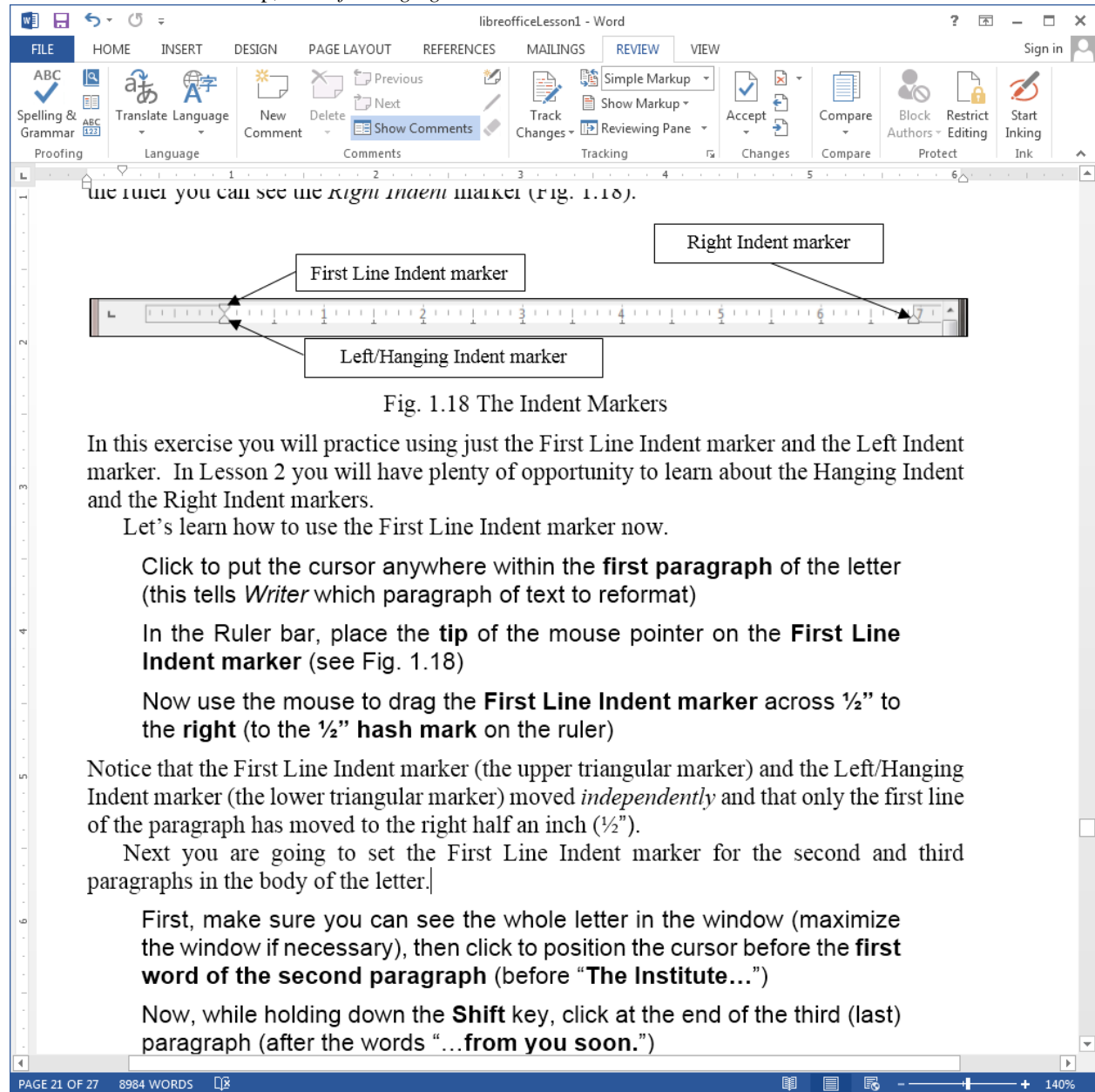


Fig. 1.18 The Indent Markers

In this exercise you will practice using just the First Line Indent marker and the Left Indent marker. In Lesson 2 you will have plenty of opportunity to learn about the Hanging Indent and the Right Indent markers.

Let's learn how to use the First Line Indent marker now.

Click to put the cursor anywhere within the **first paragraph** of the letter (this tells *Writer* which paragraph of text to reformat)

In the Ruler bar, place the **tip** of the mouse pointer on the **First Line Indent marker** (see Fig. 1.18)

Now use the mouse to drag the **First Line Indent marker** across $\frac{1}{2}$ " to the **right** (to the $\frac{1}{2}$ " hash mark on the ruler)

Notice that the First Line Indent marker (the upper triangular marker) and the Left/Hanging Indent marker (the lower triangular marker) moved *independently* and that only the first line of the paragraph has moved to the right half an inch ($\frac{1}{2}$ ").

Next you are going to set the First Line Indent marker for the second and third paragraphs in the body of the letter.

First, make sure you can see the whole letter in the window (maximize the window if necessary), then click to position the cursor before the **first word of the second paragraph** (before "**The Institute...**")

Now, while holding down the **Shift** key, click at the end of the third (last) paragraph (after the words "**...from you soon.**")

Fig. 2.31 The indent markers in the Ruler bar

The indent markers establish where text is aligned in relation to a paragraph as a whole. The *First line Indent* marker (it looks like an upside down triangle) is applied only to the first line of a paragraph. The *Left Indent/Hanging Indent* marker control the margin for all the lines *after* the first line in a paragraph.

Carefully examine **Fig. 2.31** to clearly **identify each indent marker** before proceeding with the tutorial

Tip #1: Remember that the *tip* of the mouse arrow is the *hot spot*. Moving the small indent markers is a precise task, so be sure to position the *tip* of the mouse arrow on the indent marker that you want to move.

Tip #2: When you drag on the *Left/Hanging Indent* marker (Fig. 2.29 above) **both of the markers move together**. When you drag on the **first line indent marker**, which is above them, it moves on its own, leaving the First Line/Hanging Indent marker in place.

Traditionally, an indent is commonly used for the first line of paragraphs—where the margin is set *in* a few spaces from the rest of the paragraph (Fig. 2.32A).

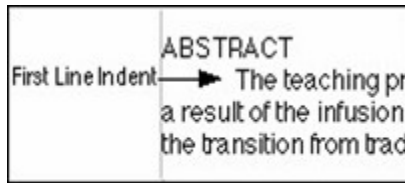


Fig. 2.19A: First line indent

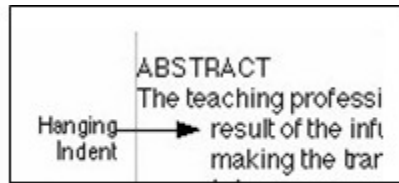


Fig. 2.19B: Hanging indent

Fig. 2.32A Fig. 2.32B

Then there is the indent for a list such as a bibliography—where you set the margin for the first line *back* a few spaces from the rest of the paragraph. *Writer* refers to this latter indent as a “hanging indent” because the lines that follow look as if they are hanging off the first line (Fig. 2.32B).

The Term Paper document that you have open on the screen would benefit from the use of both types of indent markers.

Indenting the first line of paragraphs

Right now in the Term Paper document it is difficult to tell where one paragraph ends and another begins. Let’s indent the first line of the paragraphs in the Abstract so you can see what a difference this simple change makes.

Click at the **beginning** of the **first line** of the **first paragraph** of the **Abstract** on **page 1** (immediately ahead of the words “**The teaching profession...**” at the beginning of the next line after the Abstract header)

Hold down the **Shift key** and click again **at the end** of the Abstract, to highlight all the Abstract text

Now, on the **left side** of the Ruler bar at the top of the document, position the **tip** of the mouse arrow on the **First Line Indent marker** (the upper marker) (see Fig. 2.31 on the previous page), and drag this **First Line Indent marker** to the **right** a **½ inch** (to the ½” hash mark), then click anywhere to remove the highlighting

Notice how *Writer* indents only the first line of each of the two paragraphs in the Abstract. This makes it easier to tell where one paragraph begins and another ends.

Pages 3 through 6 of the Term Paper document have 13 numbered sections which discuss each of the skills or concepts in the Table on page 2. In the next exercise, you are going to indent the first line of all the paragraphs on pages 3 through 6. Fig. 2.33 illustrates what you need to do.

Now, in the **Ruler bar**, drag the **First Line Indent marker** over to the **right** (to the $\frac{1}{2}$ " hash mark), just as you just did for the previous section

Continue in the same way and change the **First Line Indent** for the remaining paragraphs in **sections 3 through 13** on **pages 3 through 6** of the **Term Paper** document (but **do not indent** the numbered lines that begin each section and **don't do anything** with the **Bibliography** section just yet)

This task won't take you long. You might be thinking to yourself: "Why the heck is the lesson making me do this over and over again?" Well, as anyone knows, practice makes perfect, and by the time you're finished with this tutorial, you'll feel pretty pleased with what you've learned, so stay with it, OK?

When you are done with this exercise, hit **Ctrl-s** to save the work completed to this point

Hanging indents

There are many occasions when it is useful to indent parts of your text using hanging indents. A hanging indent is where the second and subsequent lines of a paragraph of text are indented to the *right* of the first line. For example, you may want to make a list of points with a "bullet" at the beginning of each point, like this:

1. Don't settle down at the computer until you have carefully planned what you want to do. If you plan ahead you will be sure to do a better job and save yourself a whole bunch of time!

or like this:

1. Don't forget to clean your teeth and make your bed after you've had your breakfast every morning!

This is easy to do with the bulleting and numbering tools built into the word processing software. But it is also important to know how to use the *indent markers* to create hanging indents that do not involve the use of bullets. For example, hanging indents are used when you write a paper that includes a list of sources cited, as illustrated in Fig. 2.34.

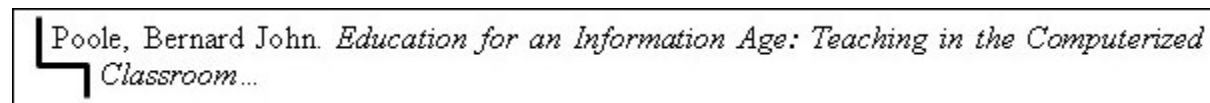


Fig. 2.34 An example of a hanging indent

Scroll down to the end of the **Term Paper** document

Notice that indentation has not yet been used for the Bibliography section, but it should be because it is standard practice. Without hanging indents as illustrated in Fig. 2.34 above, it would be difficult to determine where one Bibliography entry ends and another begins, especially in a long list of references. So your next task is to tell *Writer* to use hanging indents for this last section of the paper.

Highlight all the references by clicking at the beginning of the **first reference** (**not** the References header), then hold down the **Shift** key and click again after the **last reference**

Position the *tip* of the mouse arrow on the **Left Margin/Hanging Indent marker** (the lower of the two triangular-shaped markers), and drag this **Left Margin/Hanging Indent marker** across $\frac{1}{2}$ " (**4 hash marks**) to the **right**, then let go of the mouse button

When you let go of the mouse button, the entire References section will be adjusted $\frac{1}{2}$ " to the right.

Now you need to slide the **First line indent marker** back $\frac{1}{2}$ " to the **0" hash mark** on the Ruler

When you're done, your Bibliography section should look like Fig. 2.32B a couple of pages back (on page 55). Notice how the references are nicely indented after the first line. That's just the way it should be. To reinforce this skill, you are now going to work your way once again through pages 3 through 6, creating a hanging indent for each of the thirteen numbered and underlined skills and concepts. You are going to apply a hanging indent of just $\frac{1}{4}$ ". Let's do the first one together so you can see what is required.

Fig. 2.35 on the next page illustrates how each numbered skill or concept should look when you're done.

Use the tip of the mouse pointer to **drag the Left Margin/Hanging Indent marker** over to the **right** just **2 hash marks (1/4")** and then grab the **First Line Indent** marker and drag it back to the **0" hash mark** on the Ruler bar

Do this again for **section number “2.”**

That’s all there is to it. Notice how the hanging indent improves the appearance of those numbered underlined skills and concepts.

Complete the same task for the **remaining 12 numbered items on pages 3 through 6** so they end up looking like those illustrated in Fig. 2.35 on the next page, then **Save** your work when you are done

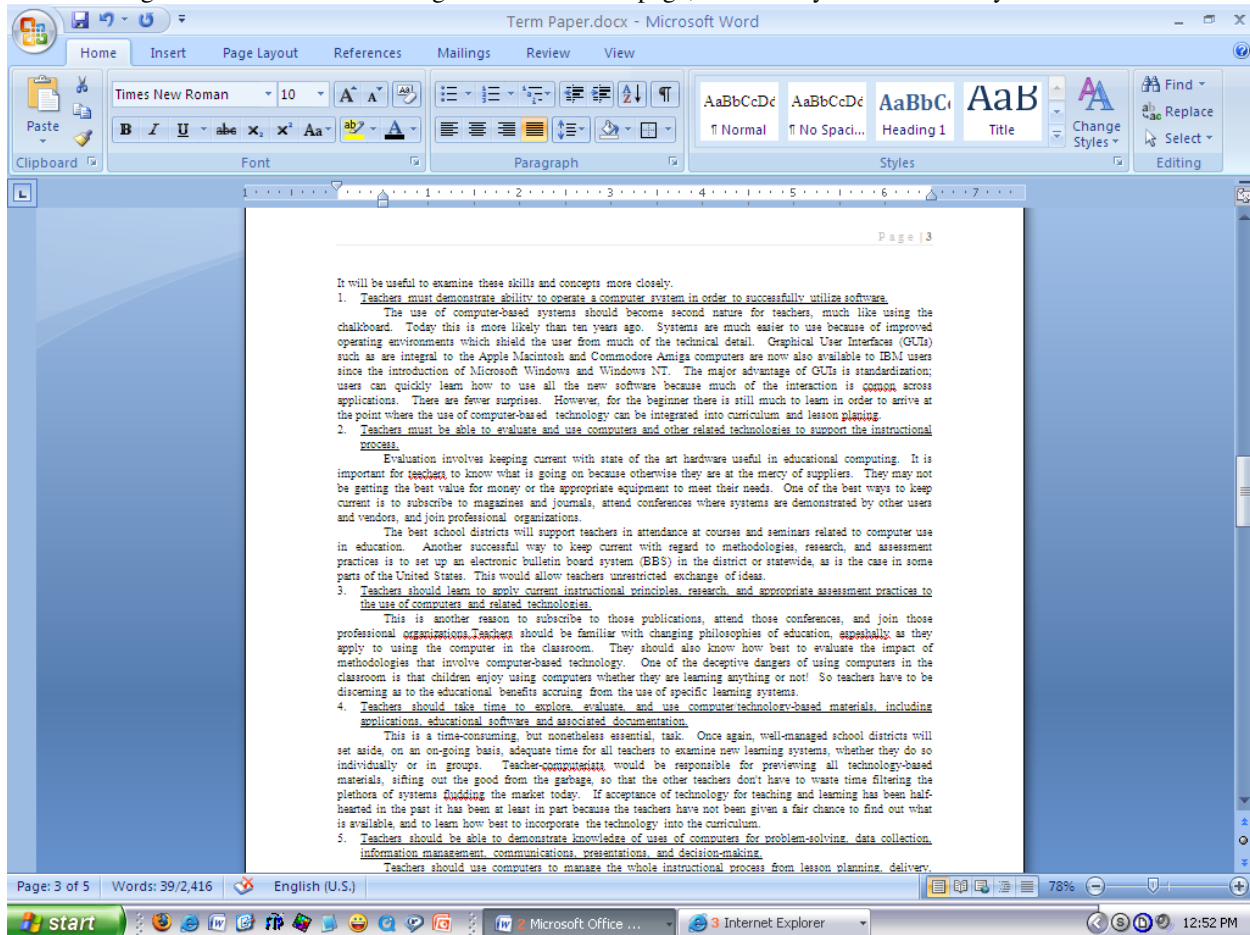


Fig. 2.35 Hanging indents for the numbered items in the Term Paper

Position the cursor **anywhere** in the section number **“1.”** at the **top of page 3**

2.8 CREATING SECTIONS AND COLUMNS OF TEXT

Columns are often useful for documents such as class newsletters. Reducing the width of lines of text can make for easier reading. In the exercise that follows, you will create a two-column section within the Term Paper document. The rest of the paper before and after the two-column section will remain single column. Here are the steps to do this.

Scroll to the top of page 3 and position the **insertion point cursor** immediately before the text: **“It will be useful to examine...”**, then, in the **Insert** menu, click on **Section...** to bring up the **Insert Section** dialog box (Fig. 2.36)

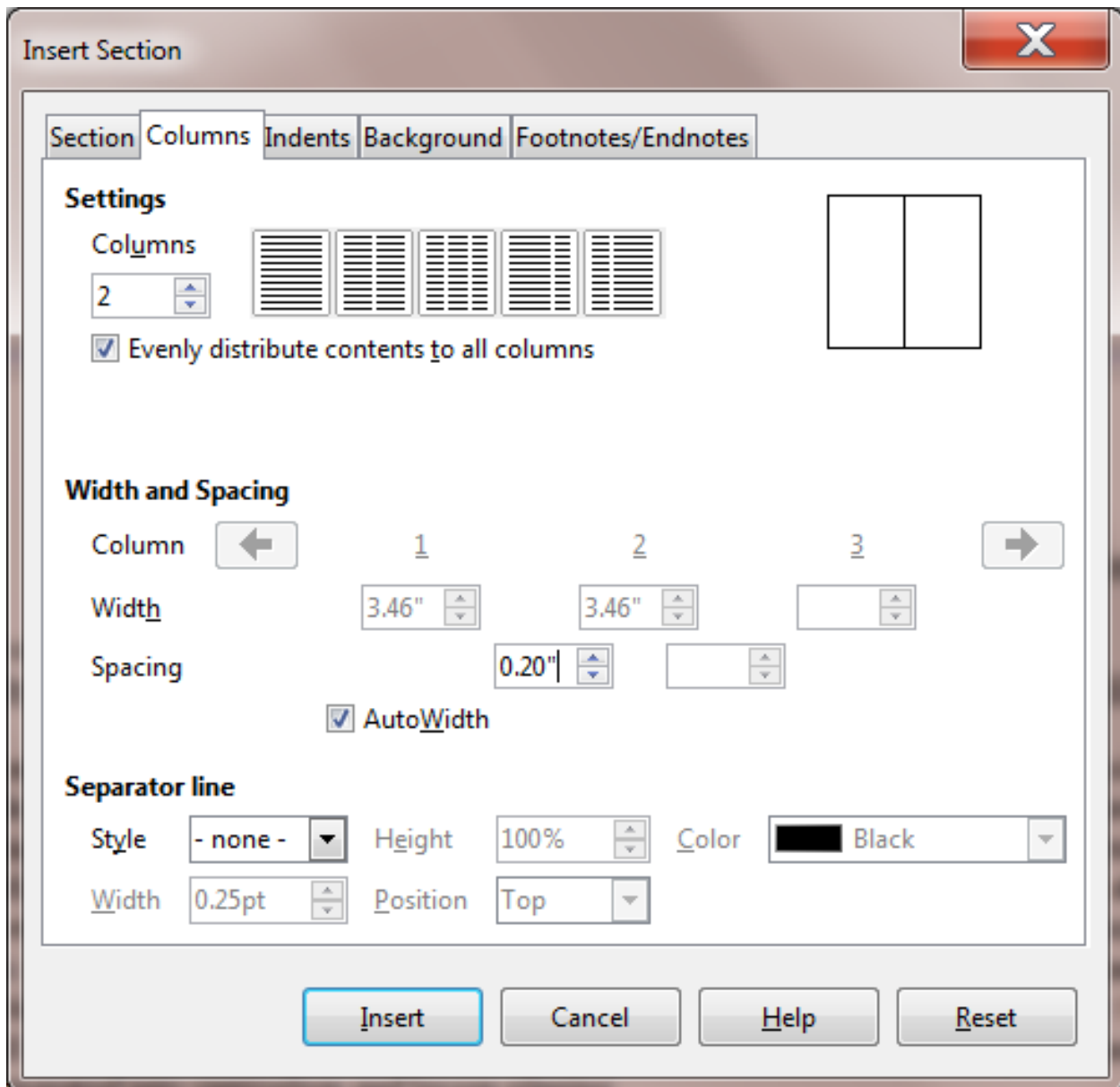


Fig. 2.36 Inserting a Continuous section break

Click on the **Columns** tab, set the **number of columns** to **2**, and increase the **spacing between columns** to **0.20"**, then click on the **Insert** button

The next step is tricky, so follow the directions carefully.

The cursor is still waiting at the **top of Page 3**, before the first line which reads: **"It will be useful..."**; make sure it is still there

Now, use the **scroll bar** on the **right** of the window, or use the **roller** on the **mouse**, to **scroll down** all the way to the **end of the last of the teacher skills and concepts on Page 6**, hold down the **Shift key**, and click immediately after the phrase **"professional work with children."**

The whole section that discusses the 13 Teacher Skills and Concepts should now be highlighted.

Careful now; hit **Ctrl-x**—this will **cut** everything that's **highlighted** from the document and save it on the **clipboard**

Page 3 should now look like Fig. 2.37. Notice the two new faint *bracketed* areas on your screen.

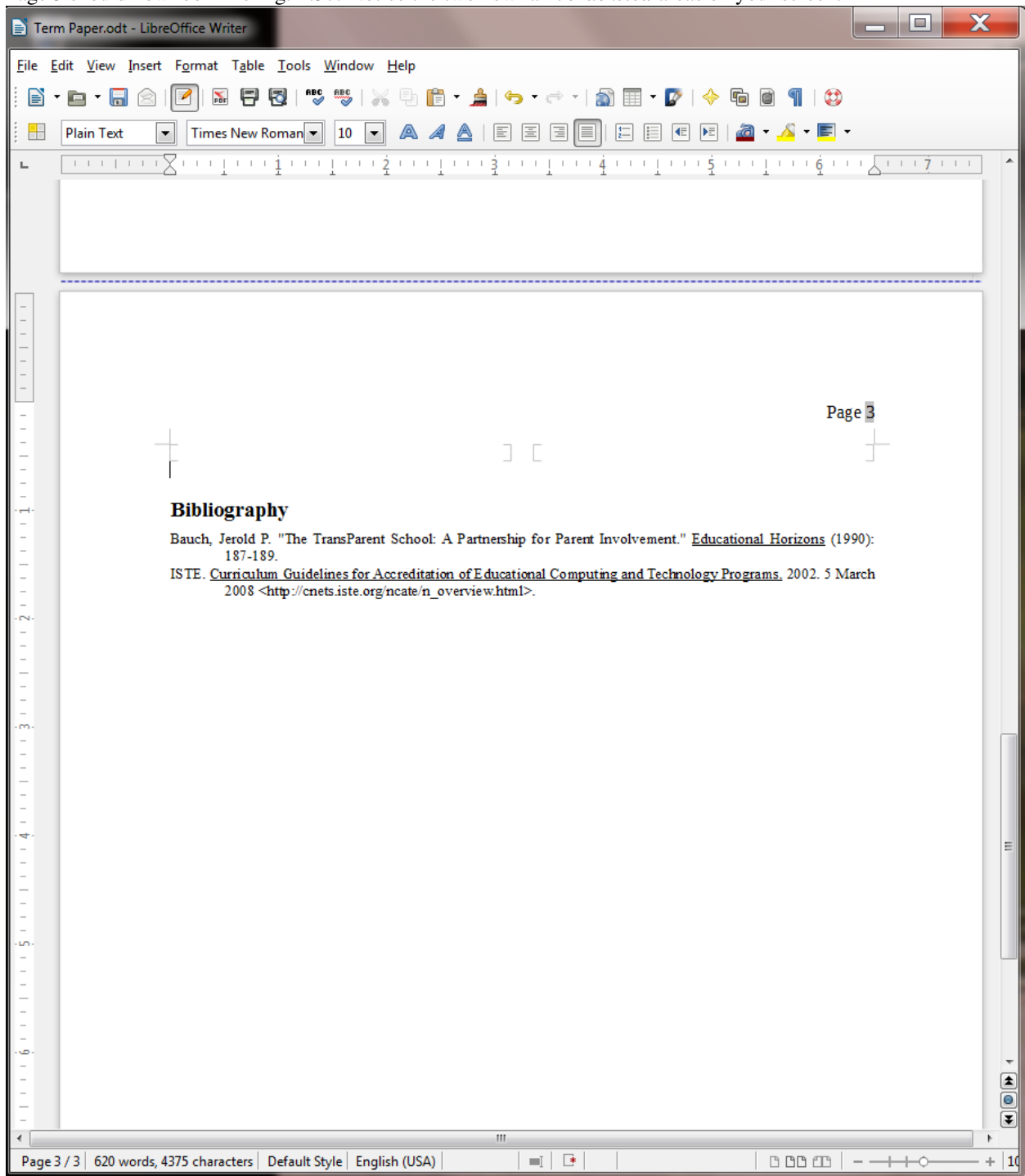


Fig. 2.37 Page 3 after cutting all the Teacher Skills and Concepts information

You are now going to *Paste* everything from the clipboard into this new *two-column* section of the Term Paper document.

First, click to position the cursor **one line up, inside the left bracketed area**, and **Paste (Ctrl-v)** the data from the clipboard back into the Term Paper Document

If you followed the directions correctly, Page 3 of your document should now look something like Fig. 2.38.

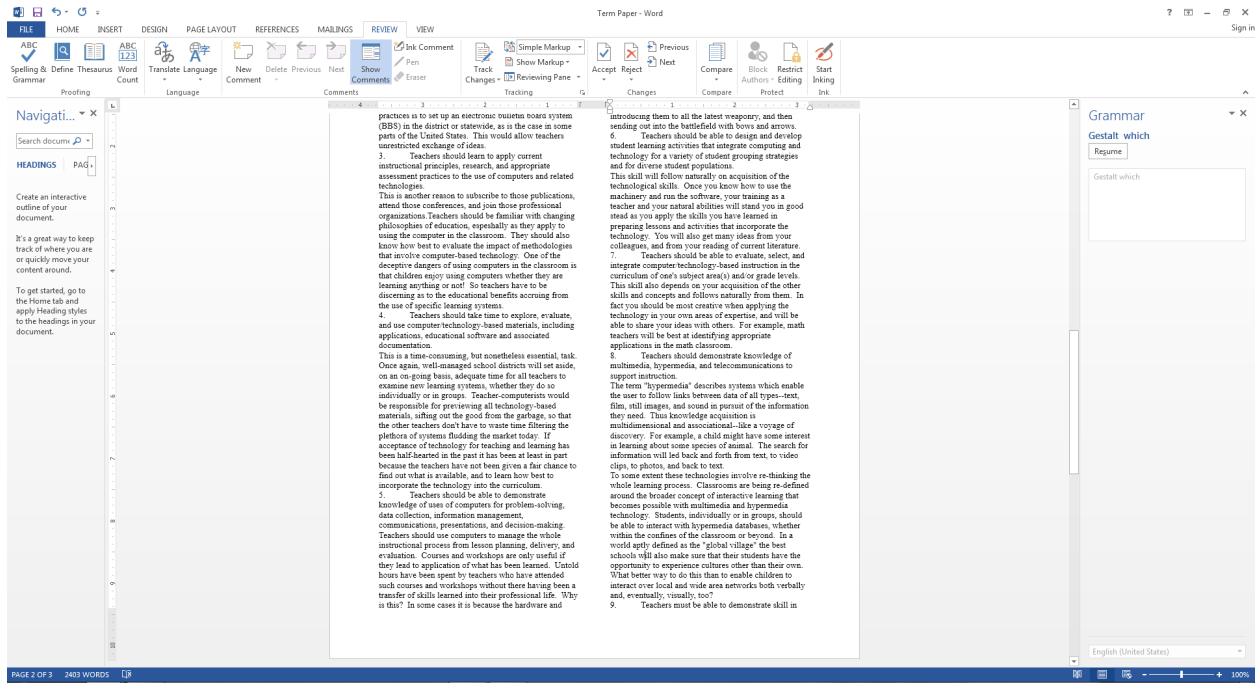


Fig. 2.38 Two-column text

If it does, that's AWESOME! If it doesn't, just hit Ctrl-z repeatedly till you get back to a point where you see where you were at at the beginning of this section of the tutorial, then try it again. But hopefully you're in good shape and we can proceed.

Save your work before going on, then scroll to the **top of Page 1** of the Term Paper document, and notice that **Pages 1 and 2** are still **single column** text, then scroll down through the document **to the end** to take a look at the difference the Columns tool makes, and notice also that the **Bibliography** is still **single column** as well

So, you have now divided the paper into three sections: Pages 1 and 2 are the first section; Pages 3-6, not including the Bibliography, are the second section; and the Bibliography is the third section. If you had not inserted the new section at the top of page 3, your *whole* document (including the Title lines, the Abstract, the ISTE Table, and the Bibliography section) would be in two column format. The section allows you to control exactly which pieces of a document you want adjusted in certain ways.

Scroll down to the **end** of the Term Paper, if you aren't already there

In summary, if you need different formatting for different parts of a document, you would do so by inserting sections wherever necessary. *LibreOffice* makes this very easy indeed

The Skill Consolidation exercises at the end of this lesson will provide you with an opportunity to practice this and other more advanced word processing features.

2.9 finding and replacing TEXT

It is surprising how often the *Writer* Find (Ctrl-f) and Find and Replace (Ctrl-h) functions come in handy when you are working with larger documents. You may want to find each place in a document where a certain word or phrase is used and either delete it, or change it, or correct a misspelling. Or you may want to jump quickly to a certain page because you have to rewrite something or insert a sentence. You could scroll through the document looking for what you want, and you might even eventually find it! But don't count on it. In any case, this takes time and there is always the possibility that you might miss the text in question on a first or second pass.

The *Writer* Find function will swiftly and unerringly locate any specific text you are looking for.

Finding a text string

A point to ponder before you proceed

When you are using computers, a **character** is anything that you type at the keyboard (including numbers, spaces, and punctuation marks). A **sequence of characters** is often referred to as a “**string**” in computerese. In this sense a **word** is no different than a **phrase** as far as a computer is concerned; both are **strings**—sequences of characters.

You are going to add a sentence to the Term Paper document. The proposed new sentence is as follows:

Teachers cannot be expected to use computer-based learning systems effectively unless they acquire these skills and assimilate these concepts.

The new sentence is to go immediately after the sentence in the document that begins: “**These skills and concepts should form...**” Now, before selecting and entering a string of text for a search, you should take a moment to think about what the string of text should be.

The phrase that marks the point in the document you are trying to find (“**These skills and concepts**”) is long enough to probably be *unique*. This will more unerringly locate the exact string of text you’re looking for.

Here then are the steps to quickly locate and add the proposed new sentence (see highlighted text towards the end of the previous page) in the specified location in the Term Paper document.

It is often easiest to start a search at the beginning of a document if you are not absolutely sure where the text you want to find occurs.

In case you are not already there, use the **right scroll bar** to scroll to the **top of the first page of the paper**, place the **insertion point cursor** immediately ahead of the title **FIRST THINGS FIRST** at the **top of the paper**, then press **Ctrl-f** to activate the **Find** function tools

Writer now displays the Find dialog at the bottom of the *Writer* window (Fig. 2.39).

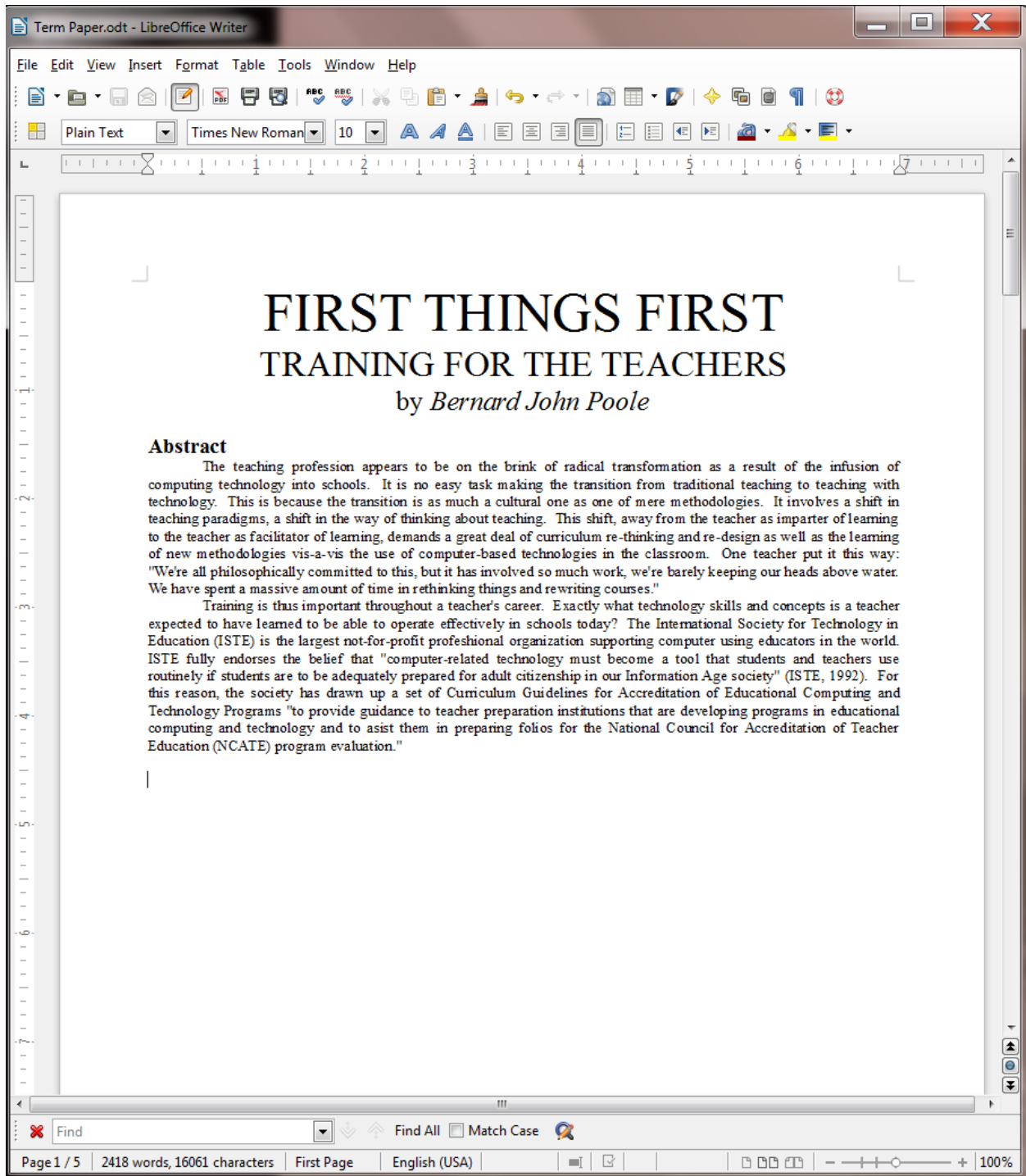


Fig. 2.39 The Find function tools (Ctrl-f)

Writer needs you to enter the text for the search. To make sure the phrase is unique, you might as well type “**These skills and concepts**” as your search text.

In the **Find dialog box** type **These skills and concepts** (including the uppercase “T”) and hit the **Enter/Return** key

Look now at the highlighted phrase in the document and you will see that this small string of characters is indeed the start of the phrase you’re looking for.

If you mis-typed the search text so that *Writer* is unable to find it, the search will conclude with a warning message telling you that the search was unsuccessful and asking you if you want to try again from the beginning of the document (Fig. 2.40), and you would try again with a corrected sequence of characters or another phrase altogether.

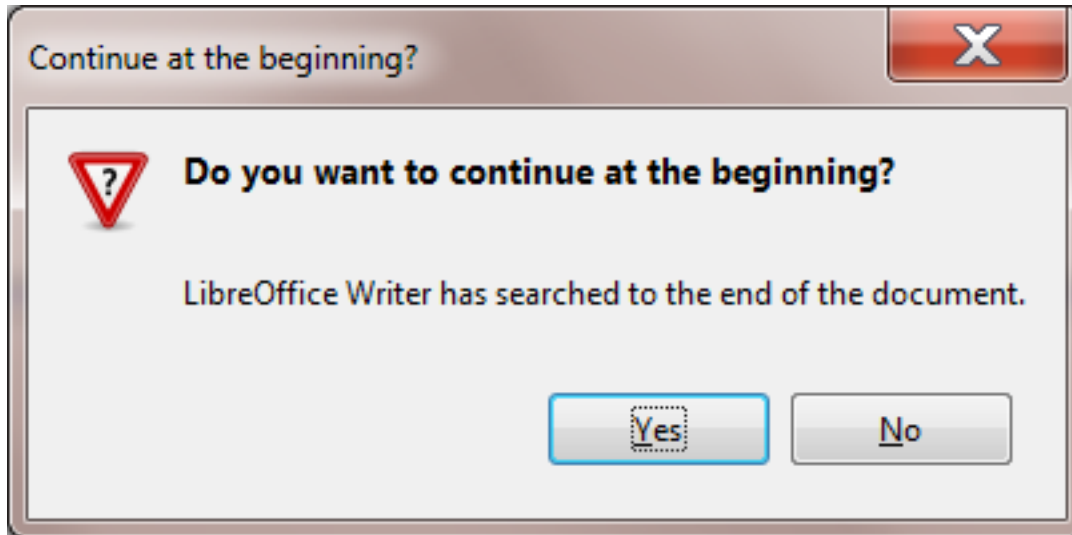


Fig. 2.40 Unsuccessful search

Once the search is successful, the text you have been looking for is selected (highlighted). You want to insert the new sentence immediately after the sentence that *Writer* has found for you.

Click **after the period** at the **end** of the sentence to put the insertion point cursor after the phrase “**...teach in the modern computerized classroom.**”

Press the space bar to put a space after the period, then type the new sentence: **Teachers cannot be expected to use computer-based learning systems effectively unless they acquire these skills and assimilate these concepts.**

Click anywhere to remove the highlighting, read it over to check for errors, then **Save** the changes you have made

Replacing a multiple occurrence of a text string

Suppose you have just finished typing the Term Paper into *Writer* and saved it on your disk. You print a draft copy so that you can read it over before producing a finished copy. Amongst other edits, you decide to change the phrase “skills and concepts”, which is a phrase that occurs throughout the paper, with the words “concepts and skills”.

Again, you could use your eyes to visually scan through the text on the screen until you find each occurrence of “skills and concepts” and, each time you find it, change the phrase to “concepts and skills”. But this would take some time and, anyway, you will be likely to miss some of the changes.

Alternatively, you can use the Find and Replace option to locate each occurrence of “skills and concepts” and change it to “concepts and skills”. Follow these steps to use this function now.

Position the cursor at the **beginning of the Title** at the top of Page 1

Press **Ctrl-h** (or from the **Edit** menu select **Find & Replace...**)

Writer presents the Find and Replace dialog box with the Replace tab selected in the set of index options (Fig. 2.41).

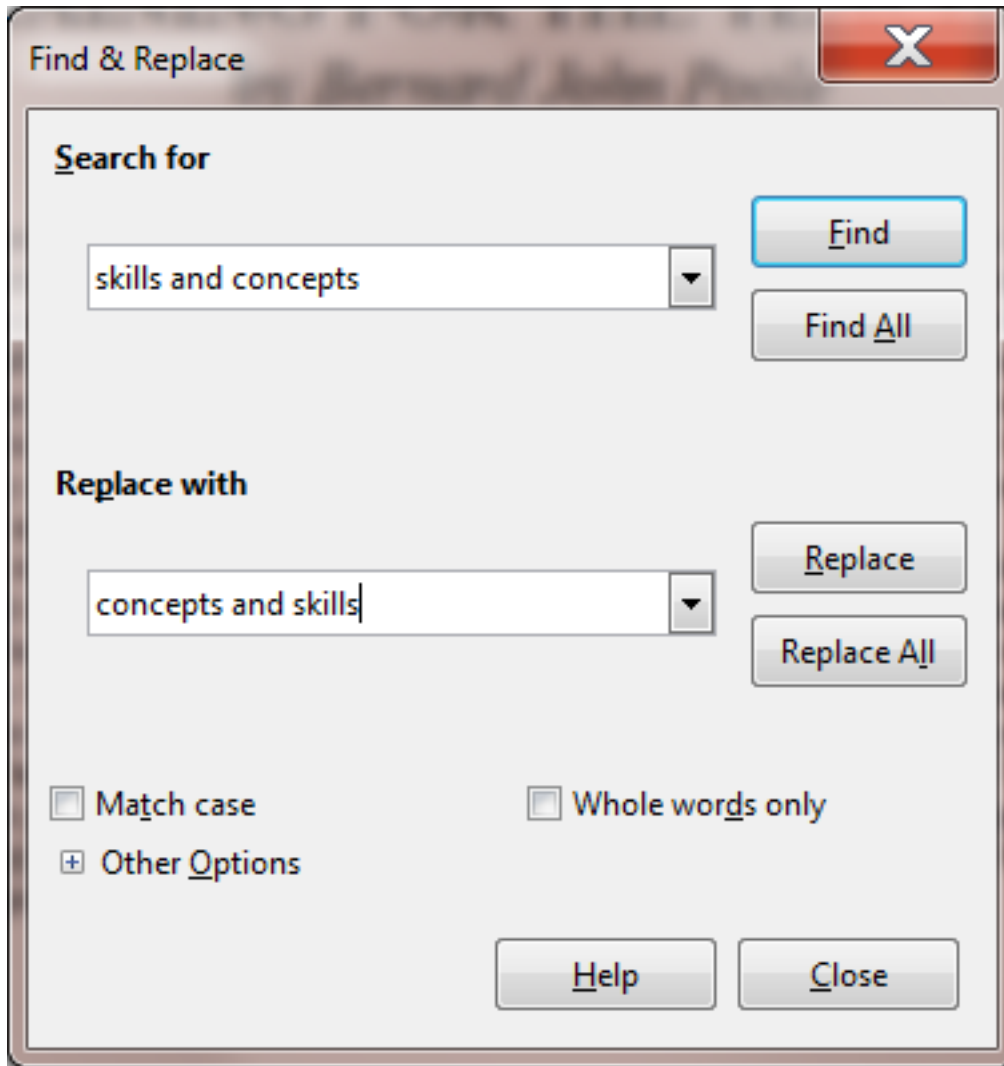


Fig. 2.41 Replace options in the Find and Replace dialog box

Type **skills and concepts** in the **Search for** box, and **concepts and skills** in the **Replace with** box, then click on the **Find** button

Writer goes to work and highlights the first occurrence of “skills and concepts”. If you cannot see this highlighted phrase on your screen, it may be because the Find and Replace dialog box is covering it. You can move the window around on the screen by dragging on the light pink Title bar at the top of the Find and Replace dialog box.

The basic options available to you in the Find and Replace dialog box are as follows. You can:

1. Click on the button to **Replace All** occurrences of the search text in the entire document;
2. click on the button to **Replace** only *the one occurrence* of the search string;
3. click on the button to **Find** the next occurrence of the search string without changing anything;
4. click on the button to **Find All** occurrences of the search string without changing anything.

As a rule of thumb, you should be wary of telling *Writer* to **Replace All** occurrences of a piece of text unless you are *absolutely* sure you know what you are doing. It is surprising how easy it is to specify a string of characters that turns out to be not quite what you had in mind. By telling *Writer* to **Replace All** occurrences of a string of text you might result in your document being peppered with unwanted changes.

So be careful! Suppose, for example, you told *Writer* to correct a misspelling where you spelled receive with the “i” before the “e” (“recieve”). You specify “ie” as the search text, and innocently tell *Writer* to replace all occurrences of “ie” with “ei” (because you want to correct the misspelling of “receive.” Well, as it happens, in the Term Paper document the character sequence “ie” occurs many times (about 50 times!) in all kinds of innocent words (technologies, belief, etc.)!

Should they *all* be replaced with “ei”? Clearly not. Even “cie” occurs 8 times in the Term Paper, and so on. So you have to be careful (1) to specify the search text that will get you right away the result you want, and (2) work your way through the document selecting only the iterations of the string you want to replace. In our hypothetical case you would type the entire incorrectly spelled word “recieve.” Then you could safely tell *Writer* to replace all occurrences of it with the correctly spelled word “receive.”

Back to our example. As it happens, the search string (“skills and concepts”) is sufficiently unique for you to go ahead and *Replace All* occurrences.

Click on the **Replace All** button

Writer may take a few seconds to make the changes, depending on how fast your Windows computer is. Soon you will see a window telling you how many occurrences of the search string were replaced. So... How many were there? There should have been 10.

Click on **OK**, then **close** the **Find and Replace** dialog box and press **Ctrl-s** to save the changes you have made

In the course of completing this exercise you may have noticed some spelling and typo errors in the text. Later in this lesson you will use the *Spelling and Grammar* feature to clean up the document. The more you use the word processor, the more you will appreciate the power of the simple word processing tools such as the ones you have just learned. The best, however, is yet to come.

2.10 MOVING and copying text within a document

In Lesson 1 you learned to appreciate the power of a word processor as a tool for writing because of the ease with which you can edit your work. Now you will learn how to move sections of text from one place to another within a document. You already practiced doing this when you used cut and paste to move all those concepts and skills to a special 2-column section of its own.

The ability to move text is crucial to the process of successful writing. Using a traditional typewriter, you would be lucky if you could get away with doing this by using a pair of scissors and literally cutting and pasting your document onto new sheets of paper in the sequence that you required. More often than not you might have to re-type the whole document before you could submit it for others to read.

The word processor, on the other hand, makes editing tasks such as moving text around simple and fast. You can manipulate the text at will, trying ideas on the fly, and save different versions until you decide on the one best version that makes the desired impact you’re looking for.

Very few, if any, writers write without needing to edit their work. Indeed, you might say that bad writers are the ones who can’t be bothered to edit at all. The word processor takes much of the sting out of editing. Because of this, it literally helps to make you a better writer by simplifying the essential task of molding your ideas into nuggets of golden thought.

Moving text within a document

As with all the functions of *Writer*, the steps involved in moving text within a document are simple enough. In the Term Paper document you are going to move a paragraph from one place to another within the document. Here are the steps to do this.

Once again, make sure the cursor is positioned **at the top of** the paper

Use the **Find** function (**Ctrl-f**) to locate the phrase: **Training is thus important**

The phrase (in the Abstract on page 1) should be highlighted on your screen. The next step can be tricky for beginners, so don’t be surprised if you have to try it a couple of times before you get it right.

Click to position the insertion point cursor **immediately before** the word “**Training**”

Scroll down if necessary so you can see the rest of the paragraph, then hold down the **Shift Key**, and keep it down, while you click at the end of the paragraph

This will highlight the whole paragraph. Another, quicker, way to highlight a paragraph in *LibreOffice* is by triple-clicking on it. Now that the paragraph is selected (highlighted), you need to **cut** it to the **clipboard**.^[2]

Press **Ctrl-x** to **Cut** the paragraph out of the Term Paper document

Cutting text removes the selected text from the document and transfers it to the *clipboard*. Once it is on the clipboard you can move it anywhere you want, either within the same document, or to some other document altogether.

You are going to move the “**Training is thus...**” paragraph (currently on the clipboard) to page 6 of the document, immediately after the last paragraph in the second column of the two-column section you created earlier in this tutorial.

Scroll to the end of the document on **page 6** and click to position the **cursor** right at the end of the paragraph that ends “...**professional work with children.**”

Hit the **Enter** key and then hit **Ctrl-v** (or from the **Edit** menu select **Paste**)

With the mouse pointer somewhere on this last paragraph (the one you just pasted), change the **font size** to **12 pt**

Writer completes the paste process in no time at all by pasting the section from the clipboard back into the document at the insertion point. Now you have a strong concluding statement before your Bibliography.

When you are satisfied that all is well, press **Ctrl-s** again to save the changes you have made thus far

Copying text within a document

The process of copying text is almost identical to that of moving text. You select the section of text you want to copy, in the same way as you did when you cut text in the previous exercise. But now you will have *Writer copy* the selection without *cutting* it, and then *paste a duplicate* of it somewhere else in the document, leaving the original text where it is.

For example, let us say you want to copy the title lines of the paper so that they occur not only at the top of the first page but also at the top of Page 2. The title lines include the two title lines followed by the author’s name—three lines in all. Follow these steps to place a copy of the title lines at the top of Page 2.

Position the **insertion point** at the top of the paper

Hold down the **Shift key** while you click at the end of the author’s name (or **drag down** to select all three title lines)

Press **Ctrl-c** to copy the selected text to the clipboard

Notice that the original text is still in place—you haven’t *cut* it from the document. All you have done is transfer a copy of the text to the clipboard.

Now scroll to the **top of the second page** of the document and click to **position the cursor** at the **top** of this **second page** (immediately before the section header “**ISTE Foundational skills and concepts**”), press the **Enter/Return** key **once** on the keyboard, and click in the empty line **above the section header** to put the cursor there

Press **Ctrl-v** to paste the **title lines** from the clipboard

Writer instantly makes a copy of the titles where the insertion point cursor is located.

Press the **Enter/Return** key **once** more to space down after these title lines, then **scroll down** to check the effect of the copy operation

Press **Ctrl-s** again to save the changes

2.11 SPELLING AND GRAMMAR CHECKING

Now would be a good time to check the document for spelling errors and other typos. As you already may have noticed, there are a few errors that have been intentionally introduced into the document.. Before you begin checking for errors, though, remember that a spelling checker is

1. only as good as the person using it;
2. unable to pick up grammar or word choice errors (where the word “to” may have been typed, when “too” or “two” was intended);
3. may find a problem when there is none (such as an abbreviation it doesn’t recognize).

You may already have had the experience where you have corrected someone’s spelling only to have the person retort: “But I ran it through the spelling checker!!” Be sure, of course, that you know how to spell the word in question yourself. Then, assuming you are right, take advantage of the situation to tell your friend that a computer is just a dumb machine—it depends on *people* for its *intelligent* use. Since the Spelling Checker is only as good as you are, you would be wise to always have a good dictionary at hand. Get into the habit of looking up words that are new to you when you come across them in your reading.

This will be the case when you are checking the spelling of the Term Paper document. There are quite a few important technical terms in the document that you may not have come across before. Some of them may not be in the *Writer* dictionary. Does this mean you can’t check them? Of course not. Look them up in your dictionary so as to extend your word power. Make this a lifelong task.

Time to go ahead and run the document through the Spelling Checker.

Start by running the document through the **AutoSpellcheck**, using the **AutoSpellcheck tool** in the **Standard toolbar**

Don’t trust the AutoChecker, though. You should still run the basic Spelling and Grammar checker AND proofread the document by reading it through carefully yourself.

Put the cursor at the **beginning** of the Term Paper document, then in the **Tools** menu click on **Spelling and Grammar...** (or click on the **Spelling and Grammar** button in the **Standard toolbar**)

This brings up the Spelling and Grammar dialog box (Fig. 2.42).

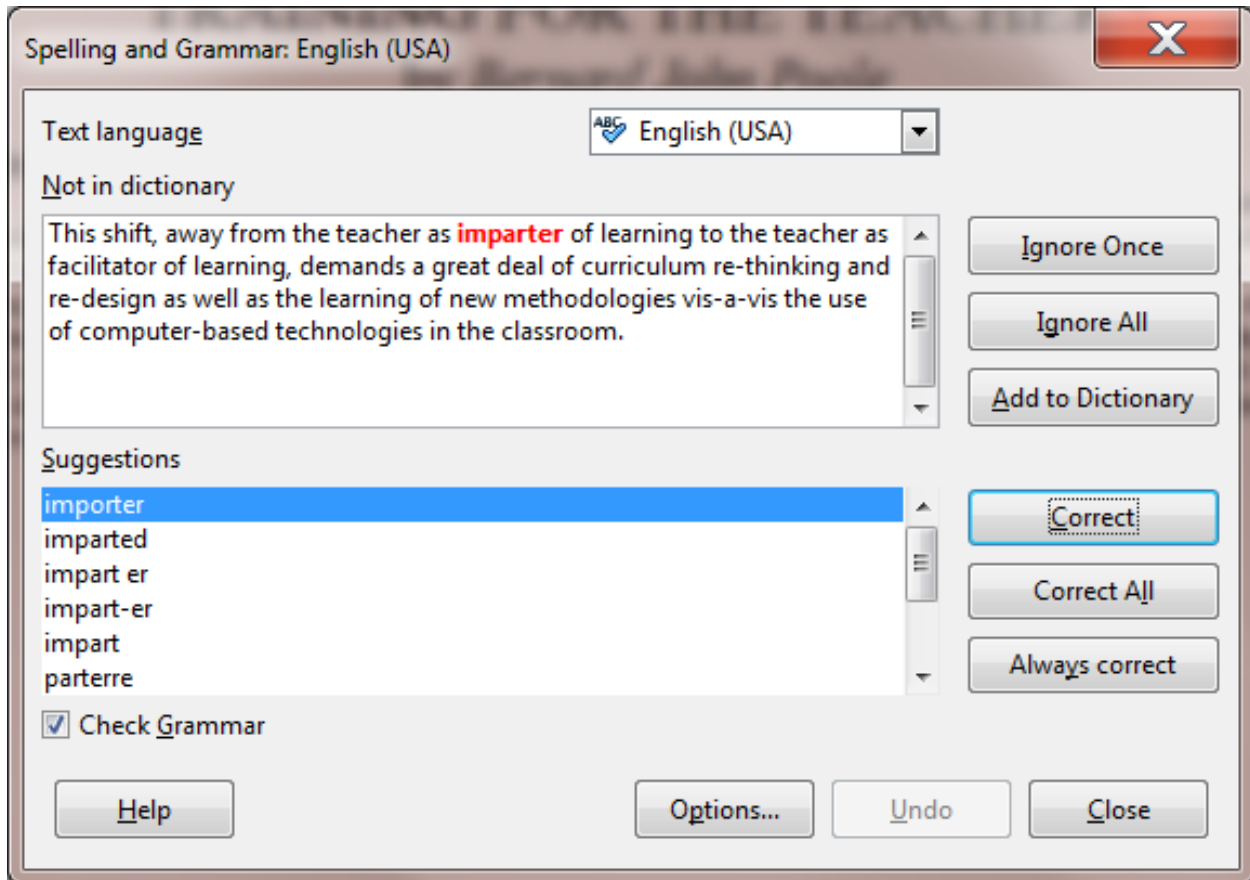


Fig. 2.42 The Spelling and Grammar dialog box

Now... For each word that is highlighted (in red), choose whether to **Ignore** (the suggested error) **Once**, **Ignore All** (further occurrences of the same word), **Add** (the word) **to the dictionary**, **Correct** (the word to a suggested alternative or to one of the suggested correctly spelled versions), or **Correct All** (including further occurrences of the same word)

The first “error” found by the system is actually not an error at all (“imparter” is a perfectly good word in this context), so you will click on the **Ignore once** button because it may be used incorrectly later in the document

As you work your way through the document, notice how often the Spelling and Grammar checker makes sense of what *should* be there and makes recommendations that are really, really useful. You might even be tempted to think the computer has some kind of intelligence. But the fact is that a lot of spelling and grammar is formal and computable. The computer seems intelligent because it has been programmed by intelligent humans, like you, so don’t be afraid to make the computer your friend.

Press **Ctrl-s** to save the corrected document after you have completed the Spelling and Grammar check

2.12 ADDING DROP CAPS

Drops caps are neat, easy to use, tool which helps to set off one section, or one chapter, of a document from another. You have undoubtedly read books where the first letter of any section or chapter is made distinctive like this (Fig. 2.43).

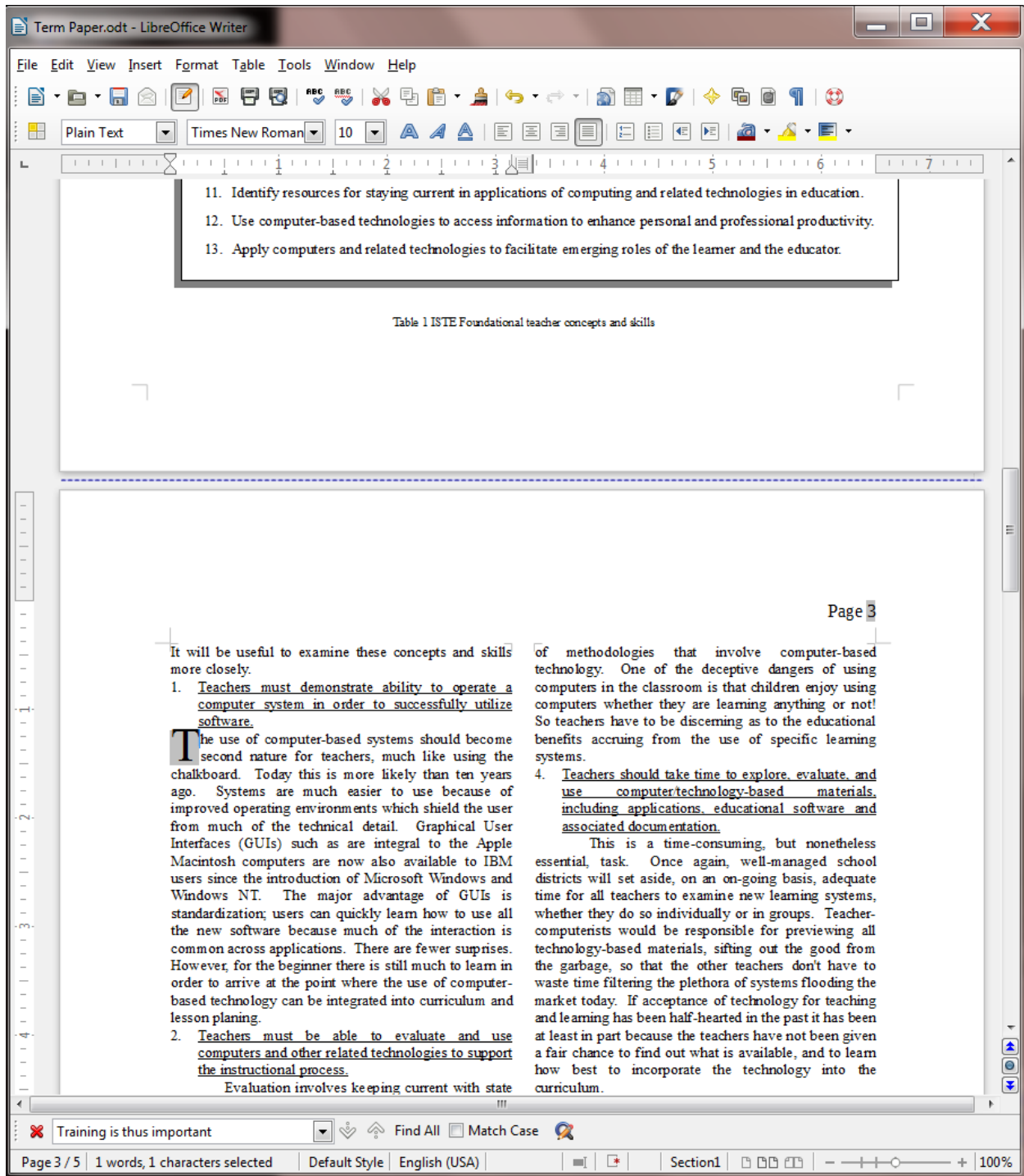


Fig. 2.43 Using Drop Caps to highlight the beginning of a new section of text

You are going to do this for each of the 13 sections which explain the various Concepts and Skills that every teacher should have acquired to be proficient in a modern teaching environment.

First, position the cursor, in **Column 1** towards the top of **page 3**, after the **underlined** title of the **first** Teacher Concept and Skill, and **immediately before** the phrase “**The use of computer-based systems...**” (Fig. 2.44)

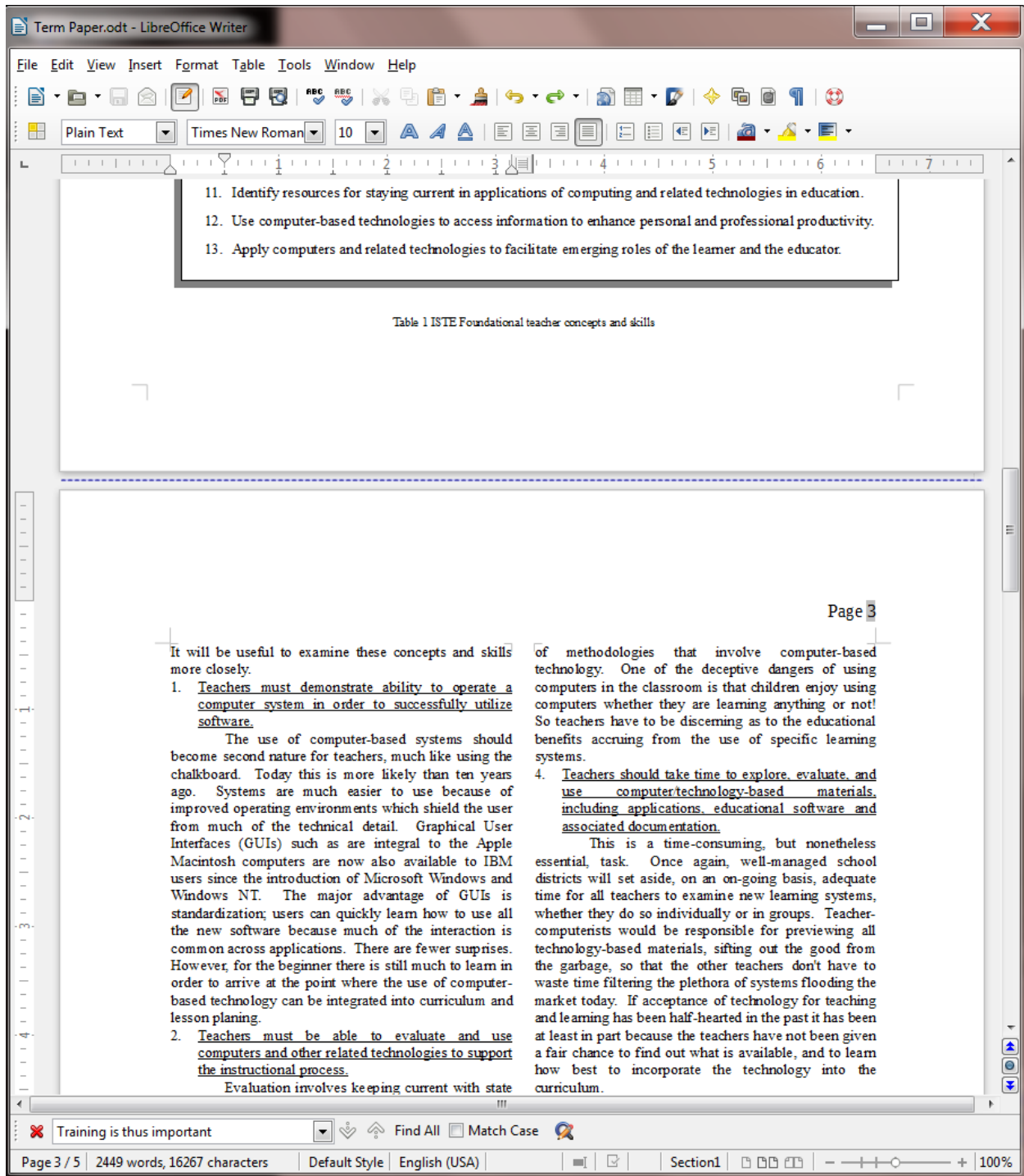


Fig. 2.44 Where to put the first drop cap

In the **Format** menu > **Paragraph...** dialog box click to put a **check mark** in the **Settings > Display drop caps** box and change the **Lines:** item from **3** to **2** to make the **Drop Cap** letter **two lines high**, then click on **OK** (Fig. 2.45)

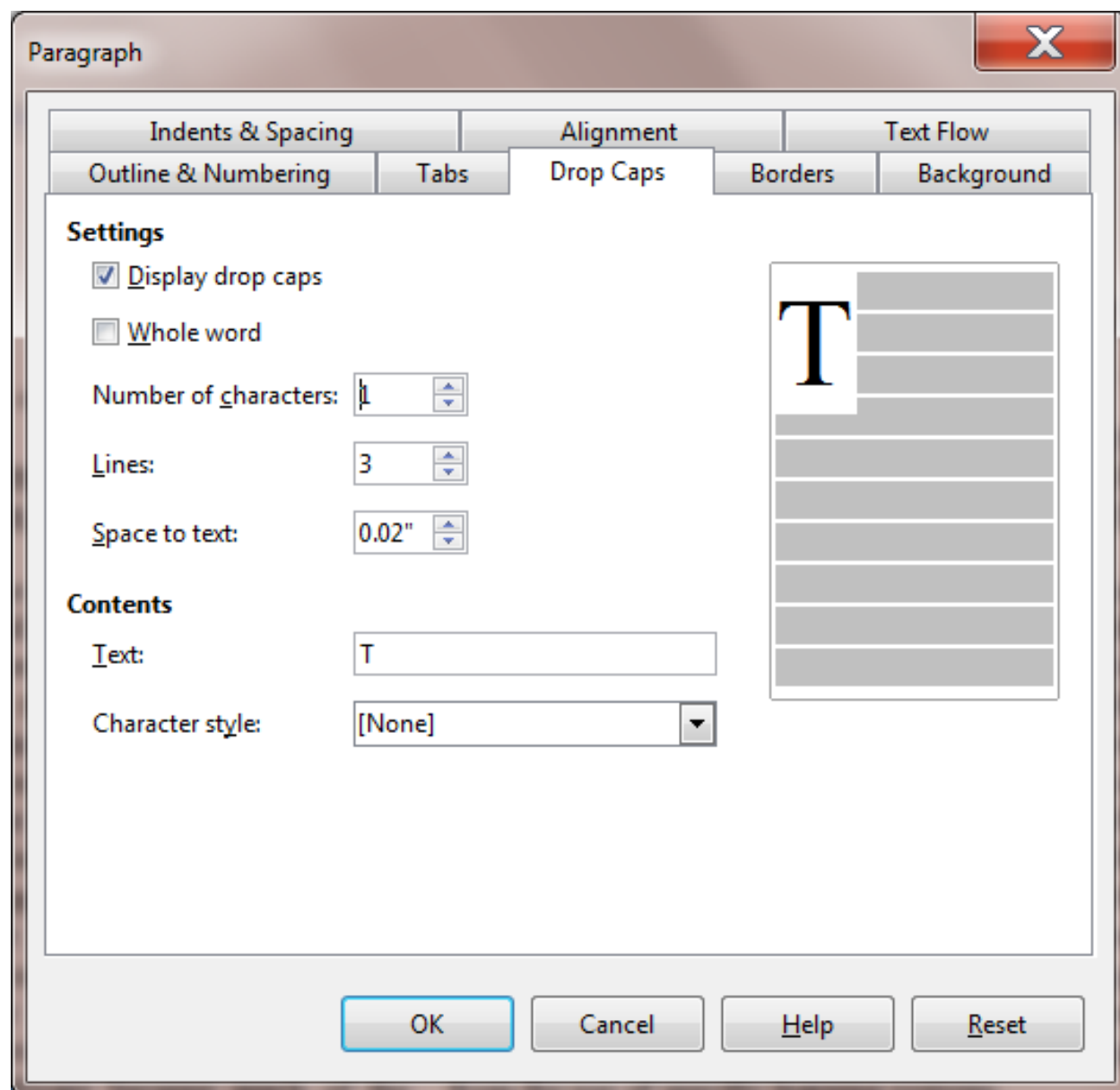


Fig. 2.45 Formatting the drop cap

The drop cap letter for the first Concept or Skill in your Term Paper document on Page 3 should now look like what you see in Fig. 2.46.

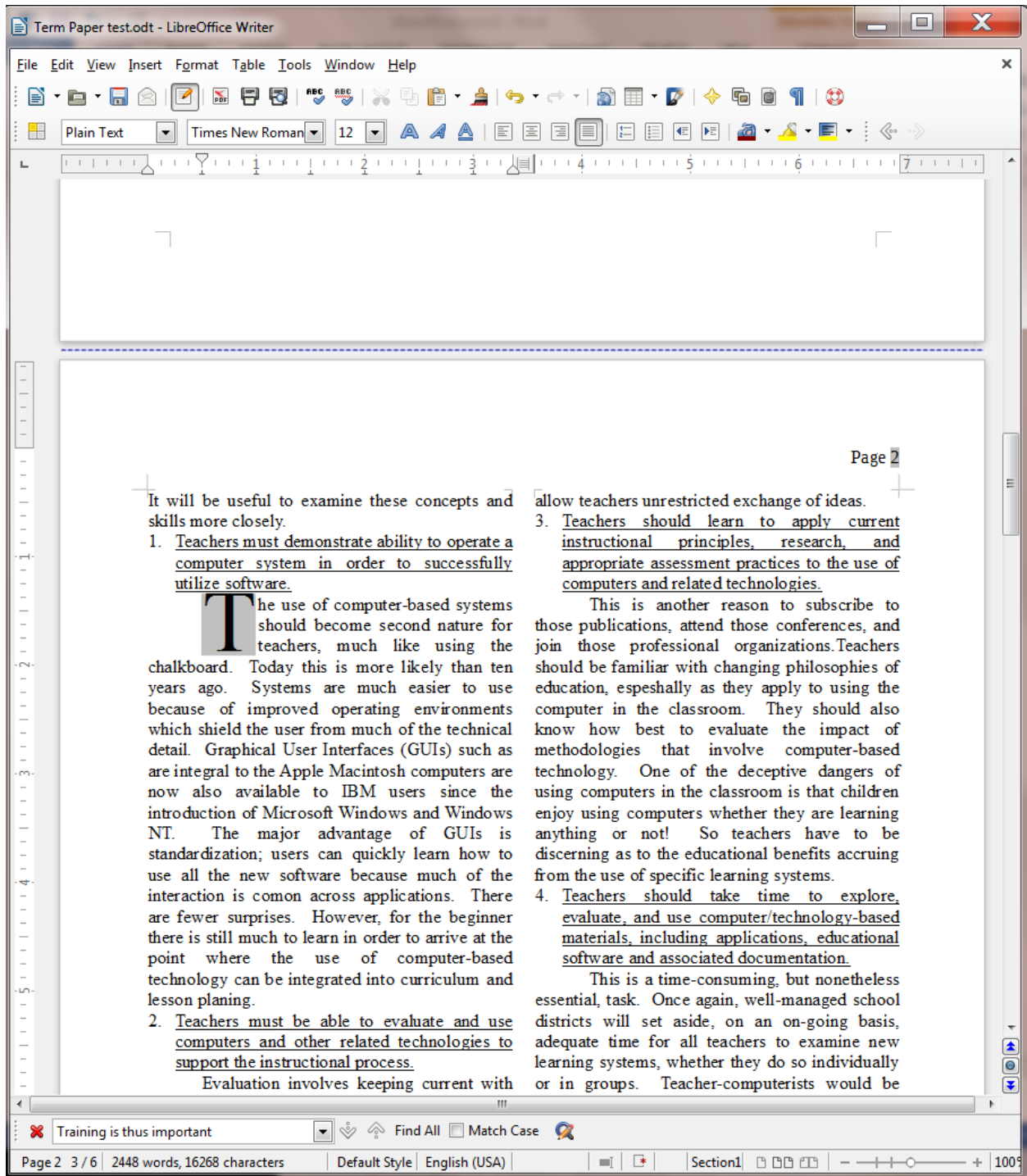


Fig. 2.46 Using Drop Caps

The last thing you need to do is move the Drop Cap letter to the *left edge* of the column. You need to do this for all the Concepts and Skills on pages 3 thru 5 of the document, so before you add a Drop Cap to the first paragraph of the other Concepts and Skills, let's change the First Line Indent for all the first paragraphs to 0".

Position the cursor anywhere in the **first paragraph** of each of the 13 Concepts and Skills sections and, in the **Ruler bar**, each time, slide the **First Line Indent marker** back to the **0" hash mark**

Now, for each of the other 12 sections, position the cursor at the beginning of the first line of the first

paragraph, then, in the **Format** menu > **Paragraph...** dialog box (Fig. 2.43 above), click to put a **check mark** in the **Settings > Display drop caps** box and change the **Lines:** item from 3 to 2 to make the **Drop Cap** letter **two lines high**, then click on **OK**

The end result for each of the 13 items will look like Fig. 2.47.

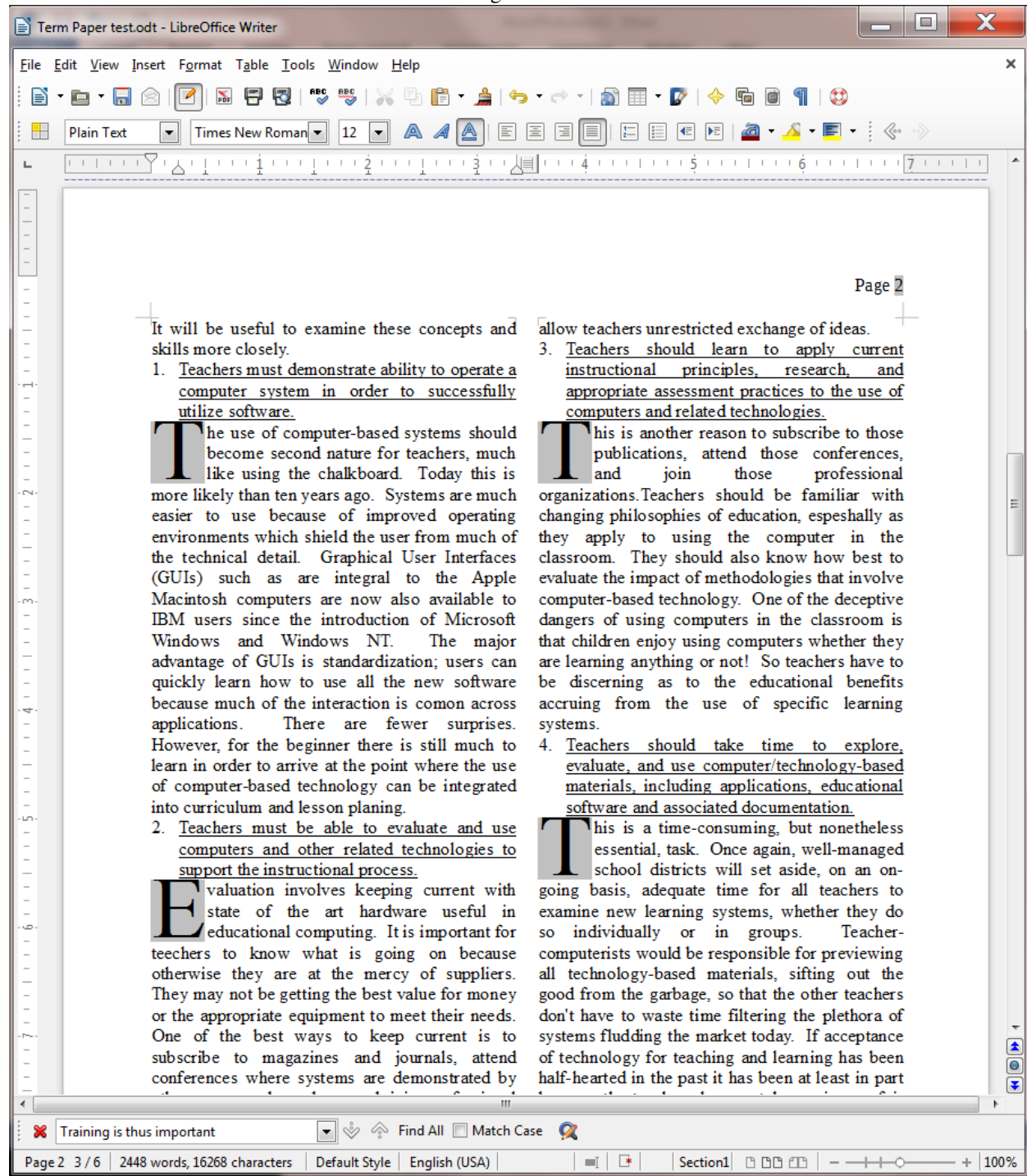


Fig. 2.47 The Drop Cap letter aligned on the left margin of the column

2.13 CREATING A TABLE CONTENTS

You're almost done with the tutorial. It is sometimes useful to put a Table of Contents (TOC) at the beginning of a

longer document and there are appropriate ways of doing this. You are going to add a TOC on a page by itself right after the Title page (Page 1).

So the TOC will become Page 2 of the Term Paper document. The following figure illustrates how the TOC will look when you have completed this exercise (Fig. 2.48).

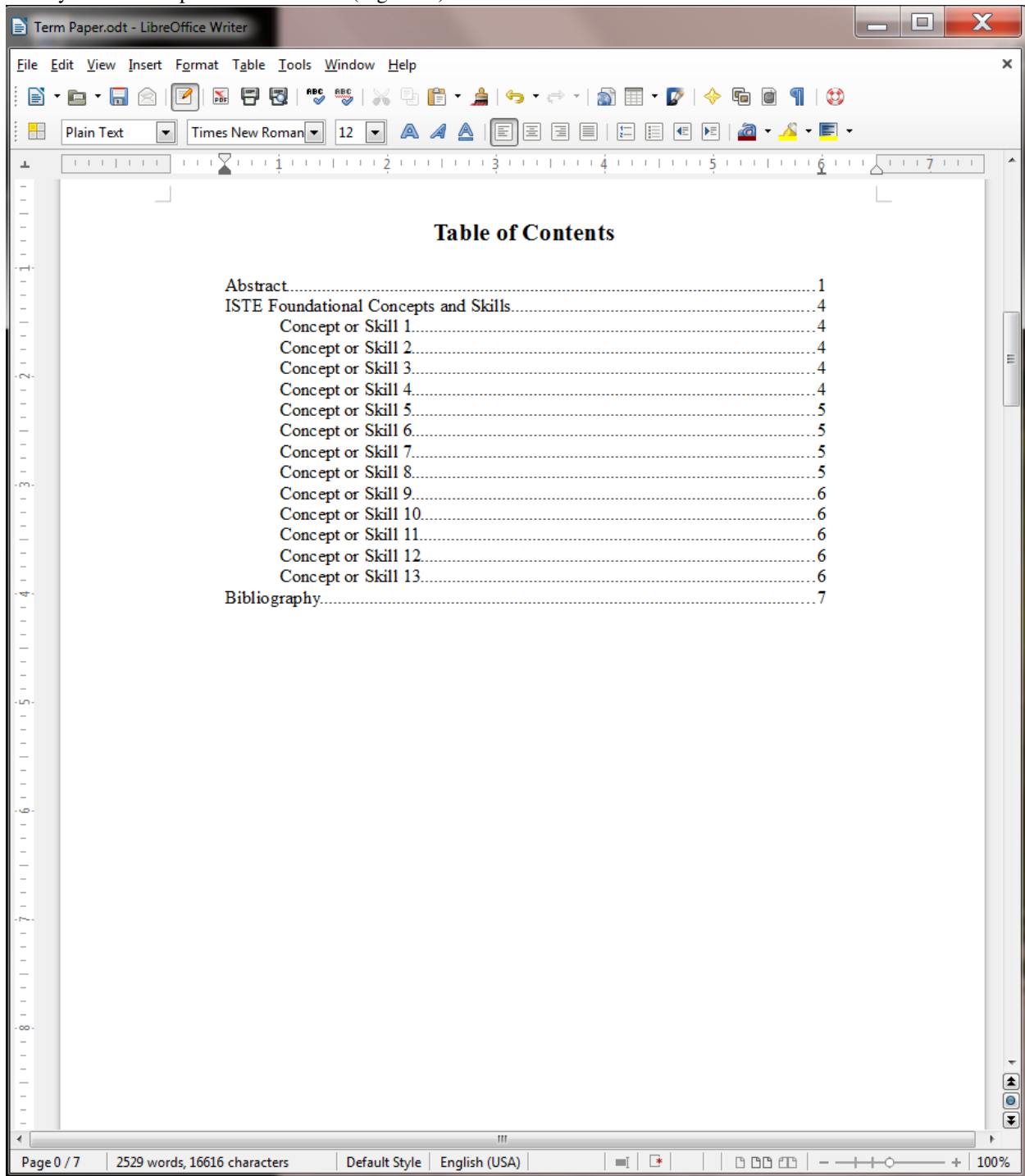


Fig. 2.48 Finished Table of Contents

Click to put the cursor at the **end of the Abstract on Page 1**

In the **Insert menu** select **Manual Break...**, and click on **OK** to accept the default **Page Break**

The cursor should now be waiting at the top of the new page (page 2). Notice that the cursor is indented ½” because that was the indent you set for the Abstract earlier in this tutorial. You need to change that back to 0” on the Ruler bar.

Use the mouse to drag the **First line Indent marker** (the upper of the two markers on the left of the Ruler Bar) back to the **0” hash mark** on the Ruler

As you see in Fig. 2.48 on the previous page, the title **Table of Contents** is **boldface** and **centered** on the page, and it is also a **larger font size** than the rest of the text (**16 pt**), so, in the **Formatting toolbar > Font size** menu, select a font size of **16 pt**, click on the **boldface** icon, then click on the **center** icon and type **Table of Contents**

Hit **Enter** twice, then click on the boldface icon to **turn off boldface**, select **Left justify** for the items that go in the Table of Contents and change the font size to **12 pt**

Move the **Left Indent Marker** (the lower of the two indent markers on the left of the Ruler bar) to the **½” hash mark** on the ruler, then type **Abstract** for the first item in the TOC (Table of Contents)

Now you need to set a Tab Stop for the *right edge* of the TOC, where you want all the page numbers to line up on the right *and* you want what are called “*dot leaders*” to run across the page to visually connect the TOC item with its page number (see Fig. 2.48 on the previous page).

On the **Tab Stop tool** (over to the far left of the Ruler bar—see Fig. 2.48 on the previous page), click **twice** to change the Tab stop to **Right Tab**, then click **once** on the **ruler** at the **6” hash mark** to place the **Right Tab Stop** there (see Fig. 2.48 on the previous page again)

Now, with the **tip** of the mouse **pointer** positioned on this **Right Tab Stop** at the **6” hash mark**, **double click** on the **Tab Stop** to bring up the **Paragraph** dialog box, then click on the **Tabs tab** (Fig. 2.49)

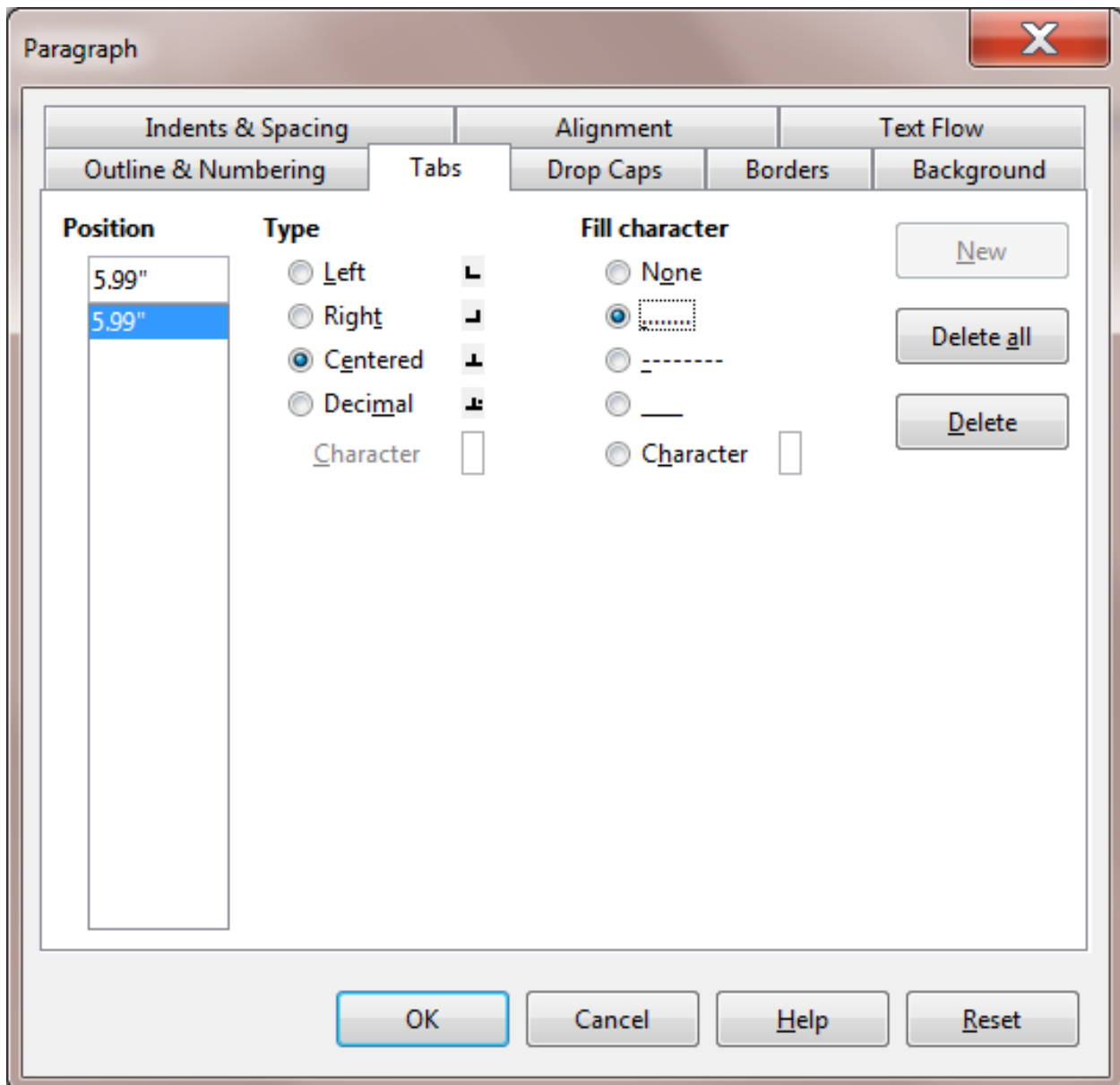


Fig. 2.49 Paragraph/Tabs dialog box

In the **Leader** section of the dialog box, click in the **radio button** next to, which will give you the **dot leaders** in the TOC, then click on the **Set** button, and click on **OK**

Dot leaders will now be applied to every item you subsequently type into the TOC.

Hit the **Tab** key just **once** to put a line of dots all the way across the page as far as the **Right Tab Stop** (these dots are called **dot leaders** and they help the eye flow across the page to the correct page number relative to the item in the Table of Contents to which it refers)

Type the page number **1** and hit **Enter**

Now type up the rest of the TOC as per **Fig. 2.48** on **page 71**, moving the **left indent marker** to the **1" hash mark** for the **13 Concepts or Skills**, and back to the **1/2"** hash mark for the **Bibliography** item

Save the document when you're done creating the TOC

Backing up your Term Paper document

You should know how to do this by now, but if you need a refresher, here are the steps.

Go to **File > Save As > Navigate to your Work Files for LibreOffice** folder > **Data Files** folder > name the document **Term Paper Backup** > click on **Save**

Printing the document

At some convenient time^[^3], print out a draft copy of the entire Term Paper document. Carefully proofread the printed copy of the paper. Have a dictionary handy. Any words you don't understand, look them up; extend your vocabulary. Use a pen with some color other than black to correct any errors you spot that were not picked up by the spelling checker. Go back to the *Writer* document, correct any errors you find, save the document again, and print a final letter-quality ("Best") version to present to your instructor.

SKILL CONSOLIDATION

Complete as many exercises as you can so as to reinforce what you have learned in Lesson 2.

1. Load the document Term Paper onto the Desktop.

1. Use the Find and Replace function to locate the words "electronic bulletin board"
2. Use the Find and Replace function to replace every occurrence of "conferences" with "meetings"
3. Boldface the title lines at the top of the first page (before the Abstract)
4. Move a complete section of your choice so that it follows the section it currently precedes.

2. Underline the word "computer" wherever it appears in the document Term Paper, then adjust the line spacing to 1½ for the entire Term Paper document.

3. Open up a new word processor document. Call the document "Format Options." Type in a list of at least ten words, and select a different option for each one: normal, italics, boldface, font size of 14, font size of 20, centered, underlined, and any combination of these you want. Proof read it, correct any errors, then print out the document.

[^1]: *Sans* is French for "without." So *Sans Serif* refers to fonts *without* the extra little flourishes that embellish the characters.

[^2]: Recall that if you click on the right mouse button while pointing at an object, *Writer* will bring up a context menu which will allow you to access the cut and paste functions.

[^3]: It may not be convenient to run off a copy of the document during a lab session when other students in your class may be waiting in line for the printer. Also, if you are using your own printer at home and it's an inkjet printer, you may want to save ink on the draft copy by using the *Quick Print* option in the Print Preferences.

3.3 Lesson 3 The *LibreOffice* Drawing Tools

3 The *LIBREOFFICE* Drawing Tools

LEARNING OUTCOMES

Lesson 3 will cover the following:

- Drawing, moving, rotating, resizing, and otherwise editing simple shapes and lines
- AutoShapes
- Selecting one or more objects at once—overlapping, ordering, aligning, and rotating objects
- Using colors, patterns, and other visual effects

- Grouping and ordering objects
- Using Fontwork

3.1 GETTING STARTED

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (*Continuing with the tutorial, on the next page*). If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 3.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to take to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by double clicking on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it and, in the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 3.1)

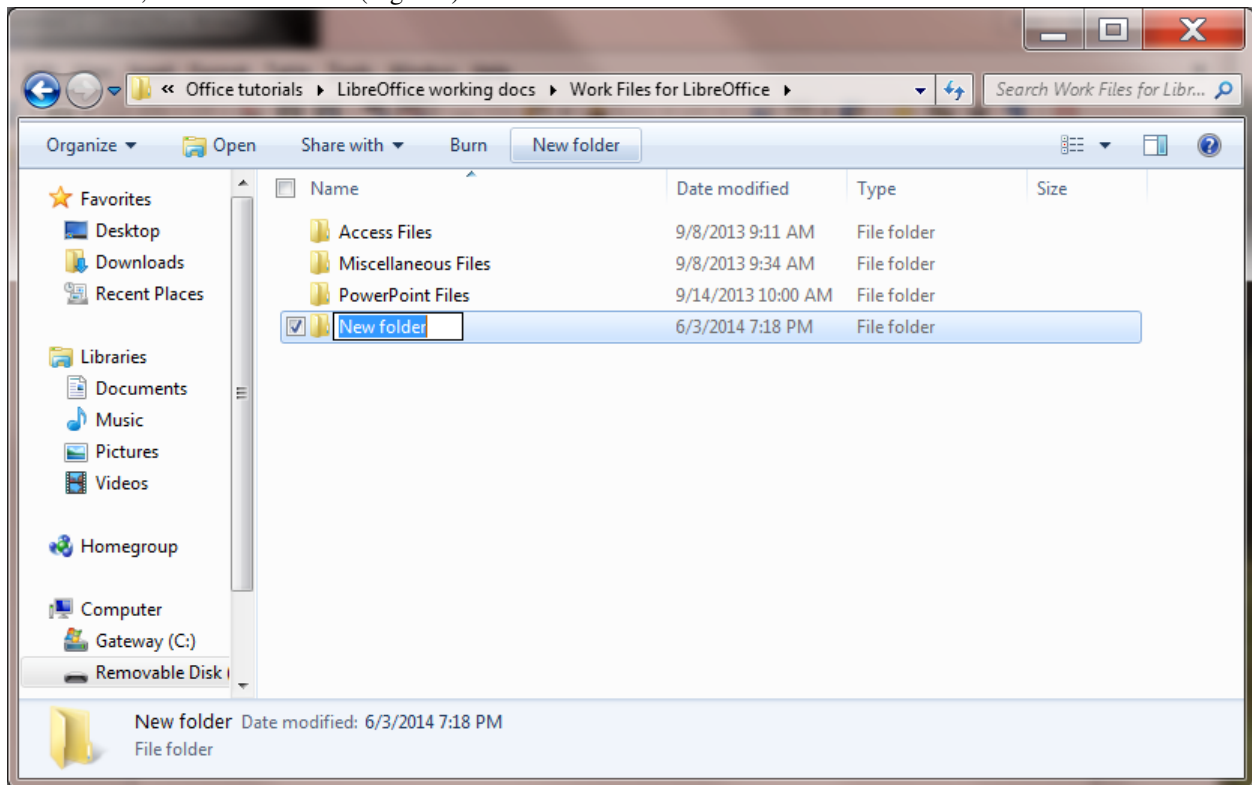


Fig. 3.1 Creating a New Folder

The system will create a new folder and then wait for you to give it a name of your choice (Fig. 3.1 above).

Call the new folder **Data Files**

Continuing with the tutorial

This tutorial is designed to give you practice working with the drawing tools that are built into the various *LibreOffice* applications, including *Writer*. Drawings that you create in one *LibreOffice* application such as *Writer*, can be easily copied and pasted into other *LibreOffice* applications, such as *Impress* or *Calc*.

For this lesson it will be useful to have a separate folder, inside your Data Files folder, for all the drawing-based documents you're going to create.

On your computer, go to your **USB drive (Removable Disk) > Work Files for LibreOffice > Data Files** folder, and, in the dialog box, click on **New folder** and name the new folder **Drawing Documents**

3.2 OVERVIEW OF THE *LIBREOFFICE* DRAWING TOOLS

In this lesson you will learn about many of the more frequently used, and indispensable, drawing tools, all of which are accessed in the *View* menu > *Toolbars* option (Fig. 3.2).

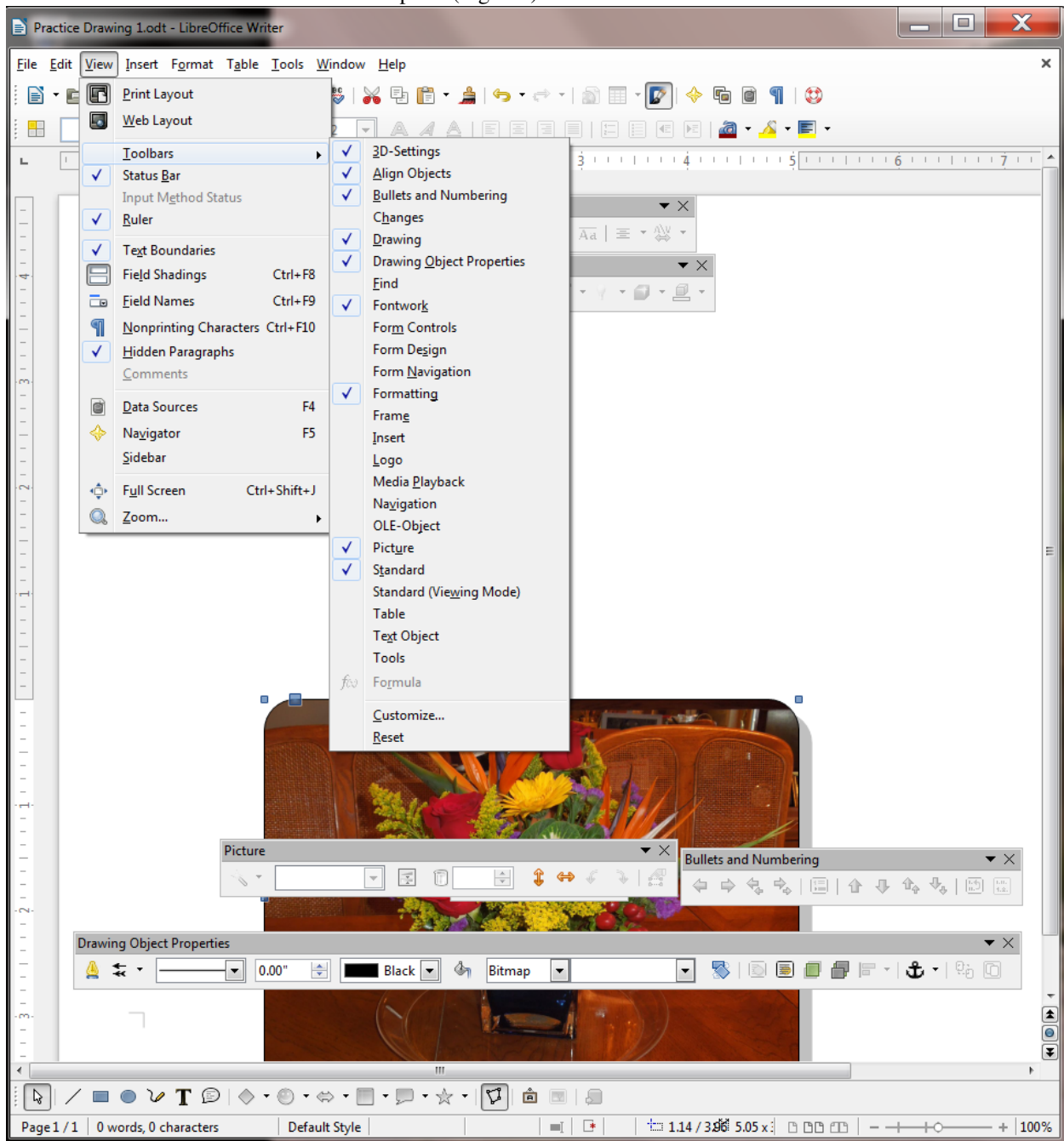


Fig. 3.2 The Toolbars you need for this lesson

Overview of the tools for working with Lines and Shapes

If you are drawing lines and shapes you'll use the tools in the *Drawing* toolbar (Fig. 3.3).

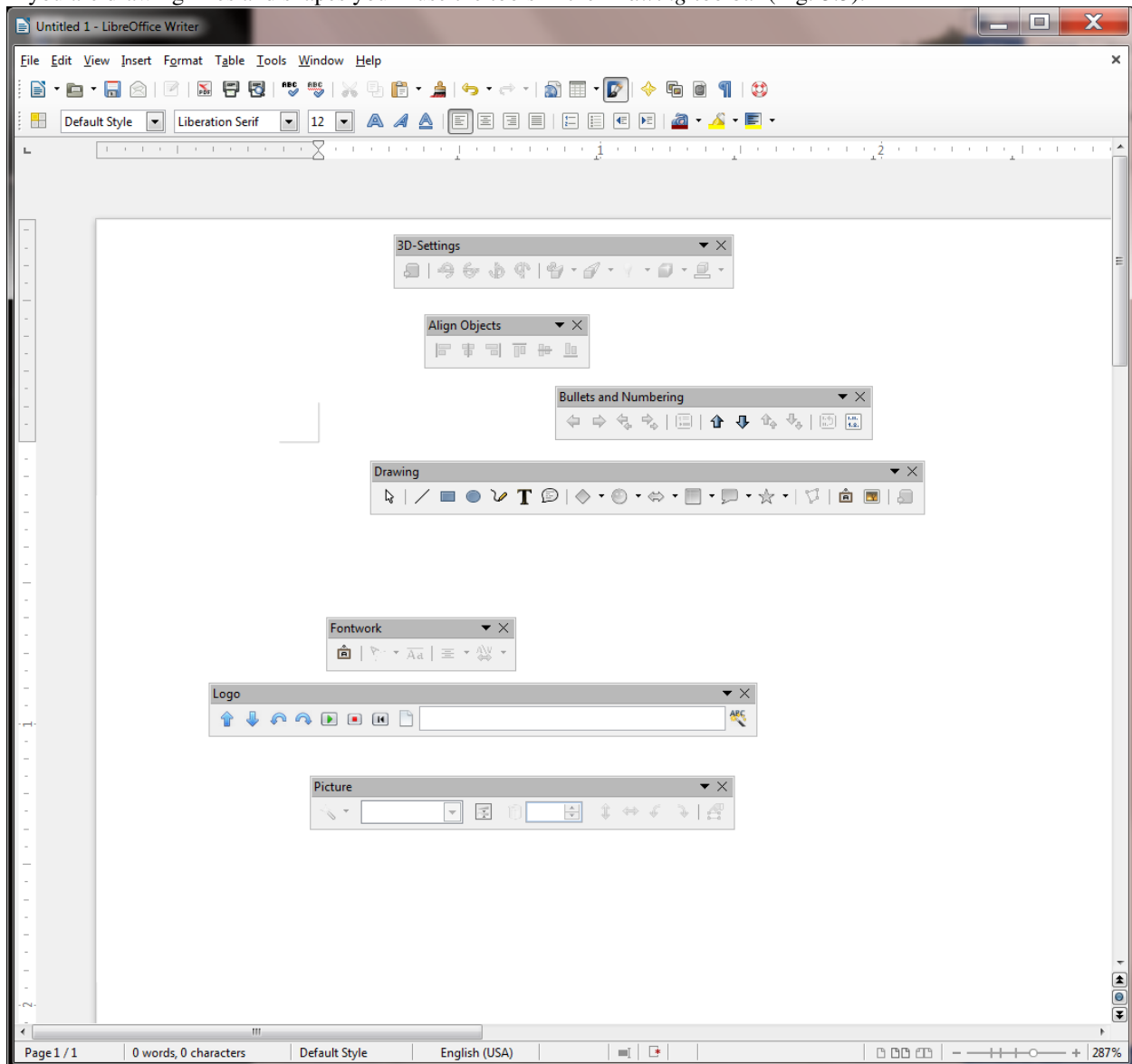


Fig. 3.3 The set of lines and basic shapes in the Drawing toolbar

Aside from basic lines and shapes, the Drawing toolbar provides *symbol* shapes, *callout* shapes, *block arrow* shapes, *flowchart* shapes, and *star* shapes.

In order to work with those lines and shapes—change the line or border color or the area style or filling of a shape, rotate the shape, and so on—you'll use the tools in the *Drawing Object Properties* toolbar (Fig. 3.4).

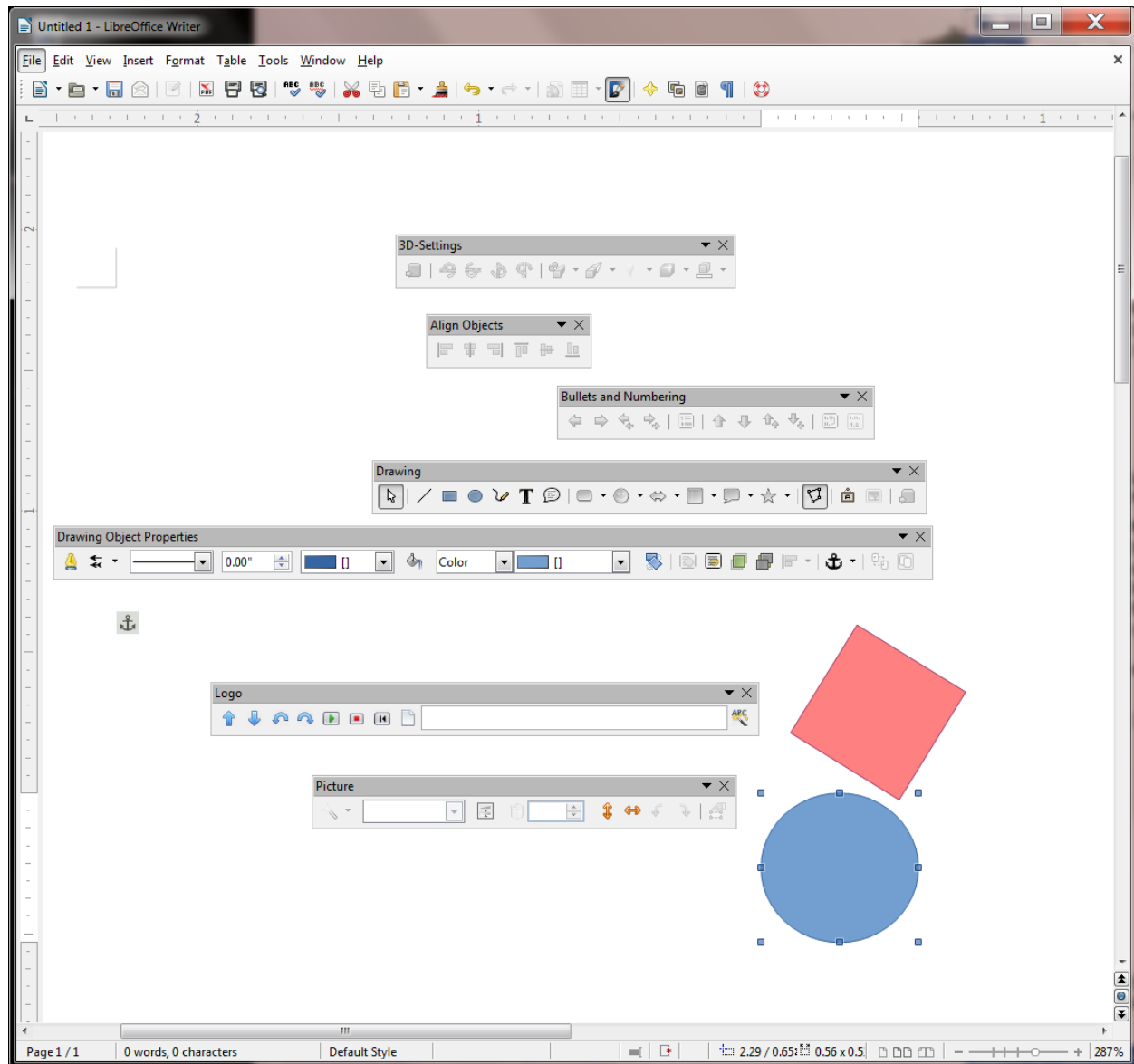


Fig. 3.4 Working with existing lines and shapes

Grouping and Aligning objects on the page

When using the drawing tools to create shapes and other objects, you may well want to align some or all of them and perhaps group them together so that they become one object. To do this you would use the *Select* tool in the Drawing toolbar to select or “gather” the objects you want to group together. Having done that, you would then select from the several *alignment tools* available in the Align Objects toolbar to align them according to your design (Fig. 3.5).

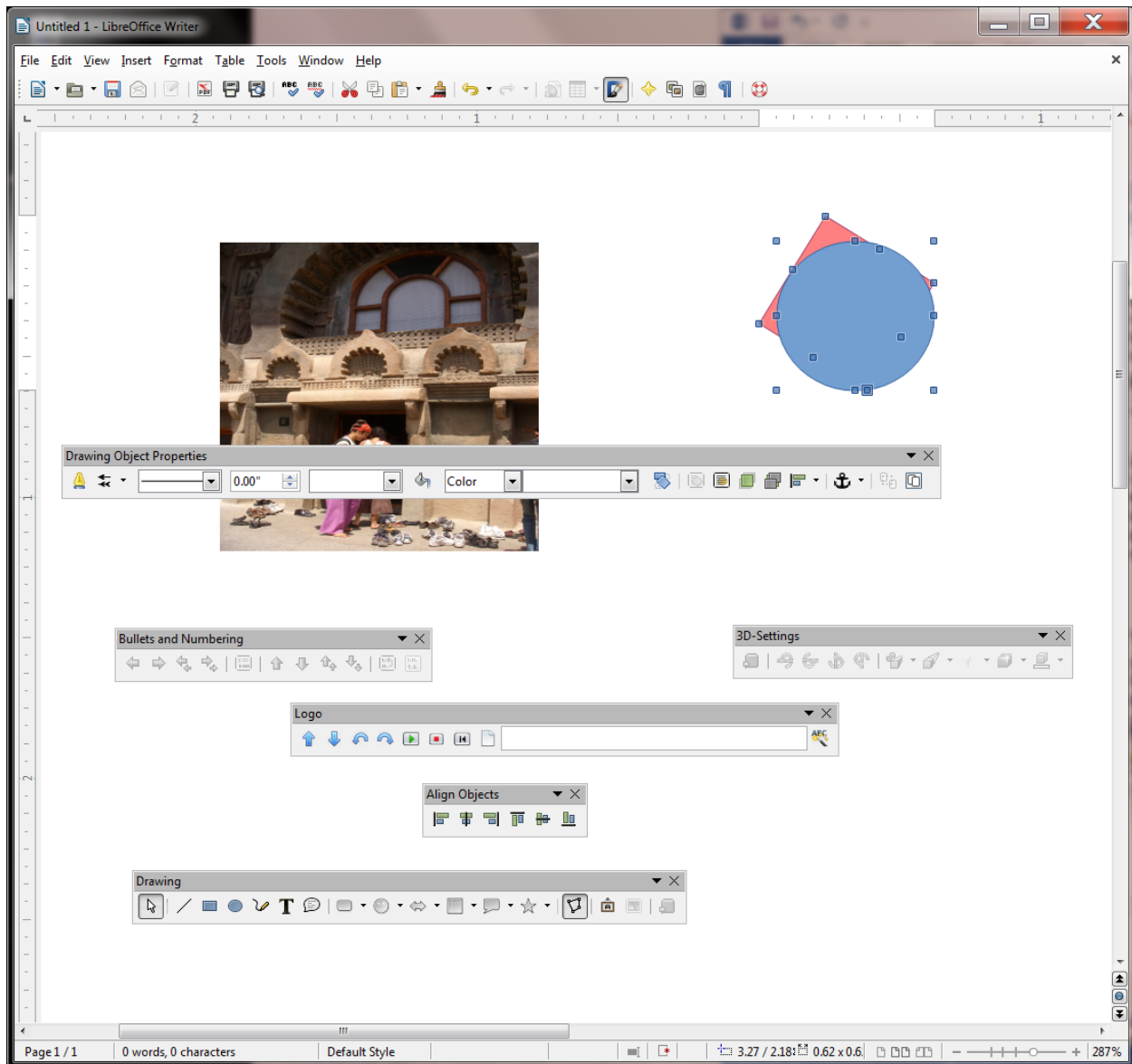


Fig. 3.5 Aligning selected groups of objects on the page

If you wanted to convert several objects into a single object, you would use the *Group/Ungroup* tools to “combine” them as one. This is very useful when you have a complex set of objects (perhaps an architectural drawing, for example) that you need to move around *en bloc* on the page, or transfer to another page or another document, and so forth.

Working with your own Pictures

If, on the other hand, you are working with a *picture* that you already have stored on your disk—such as a photograph or a diagram or a chart—you’ll use the *Picture* toolbar (Fig. 3.6).

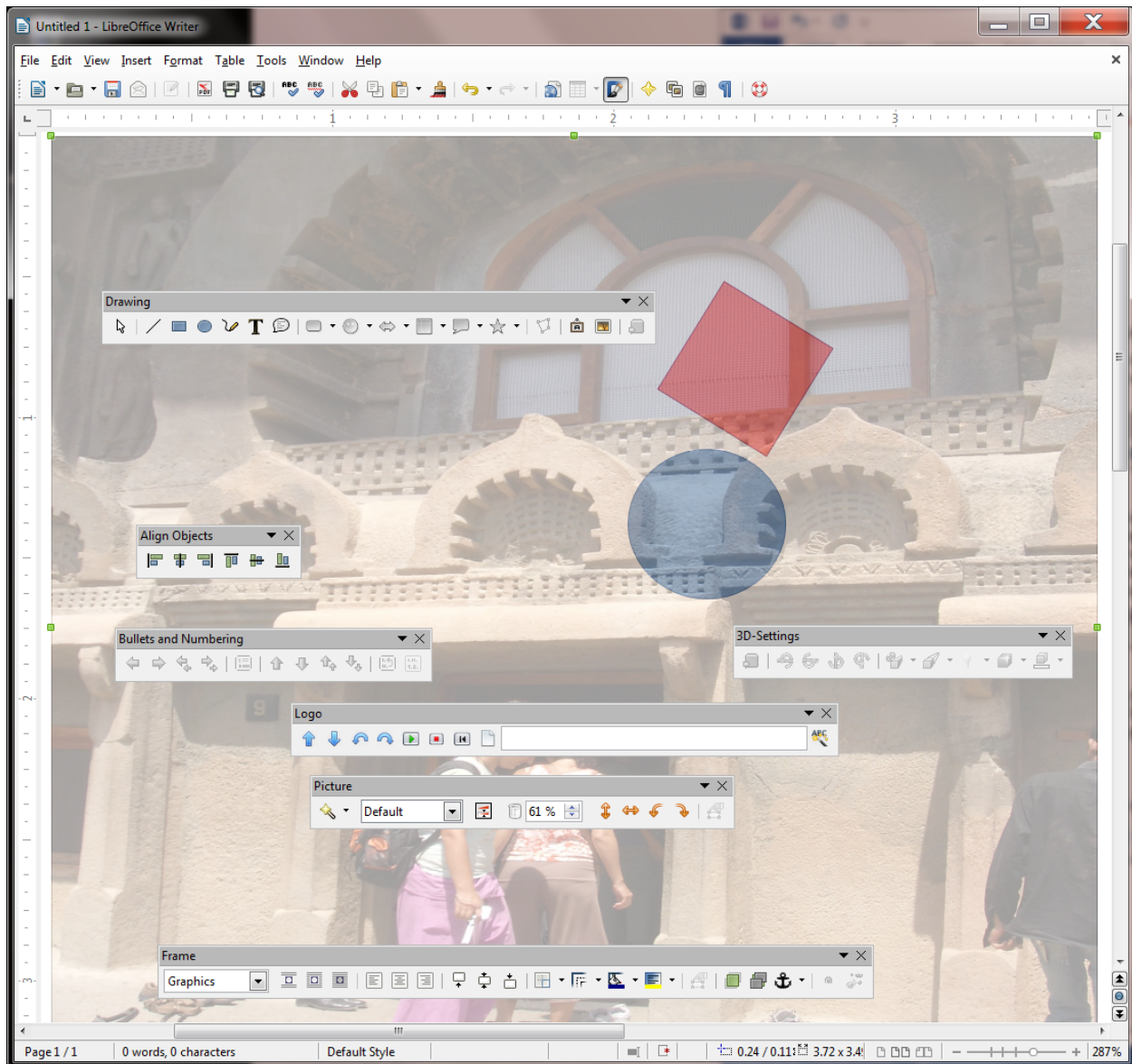


Fig. 3.6 The set of tools for working with photographs and other prepared images

The Picture tools enable you to create *watermarks*, for example, convert a picture to *grayscale*, make adjustments to *color density*, *brightness*, and *contrast*, adjust the *transparency* of a picture, and *rotate* and *flip* it in various ways.

Bullets and Numbering

In *Writer* you will sometimes have lists of items in your document. If you want to use bullets or have a numbered list, or if you needed to create different levels, or change the level of a list item; or if you needed to adjust the numbering of the list, you would use the Bullets and Numbering toolbar (Fig. 3.7).

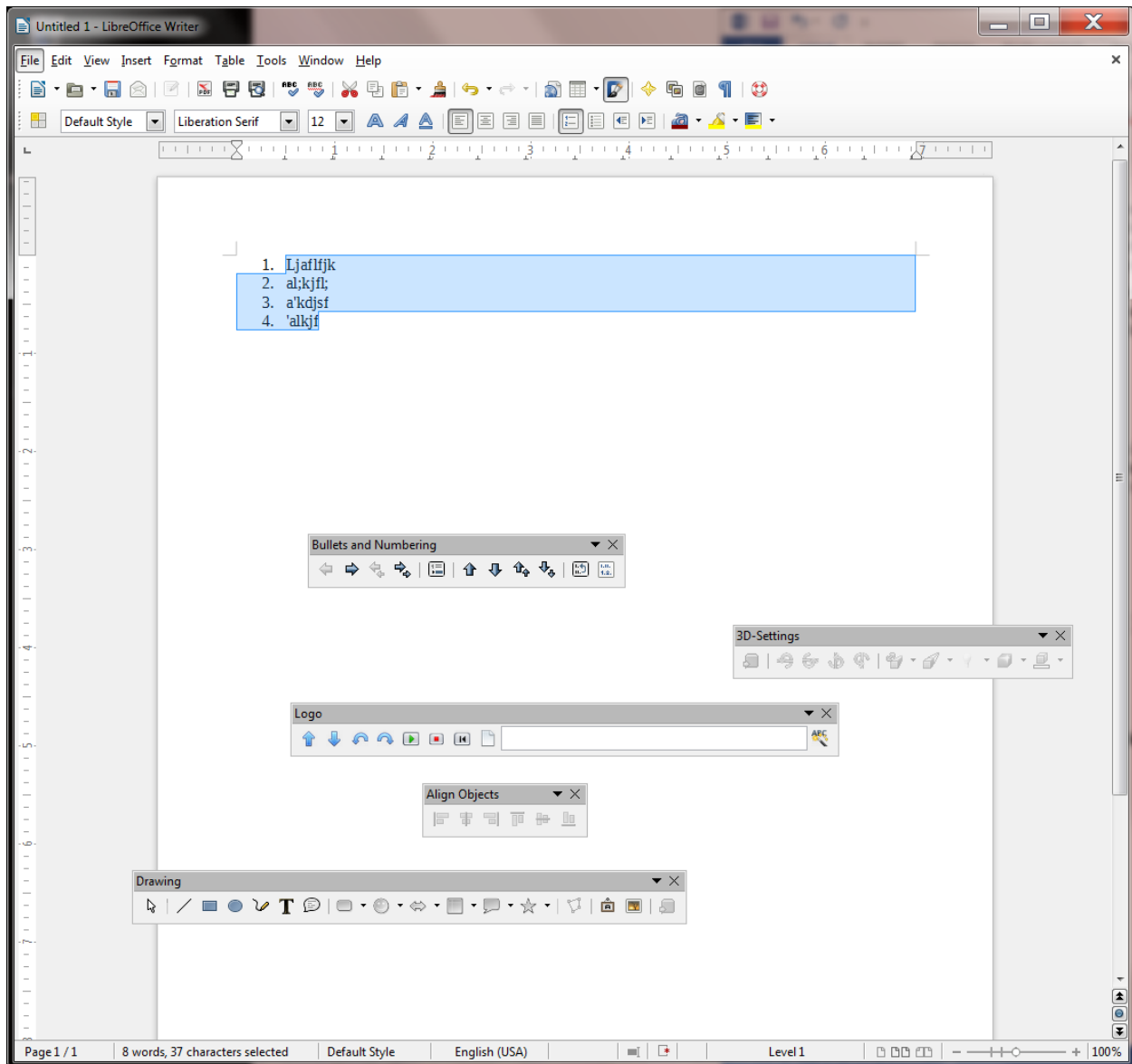
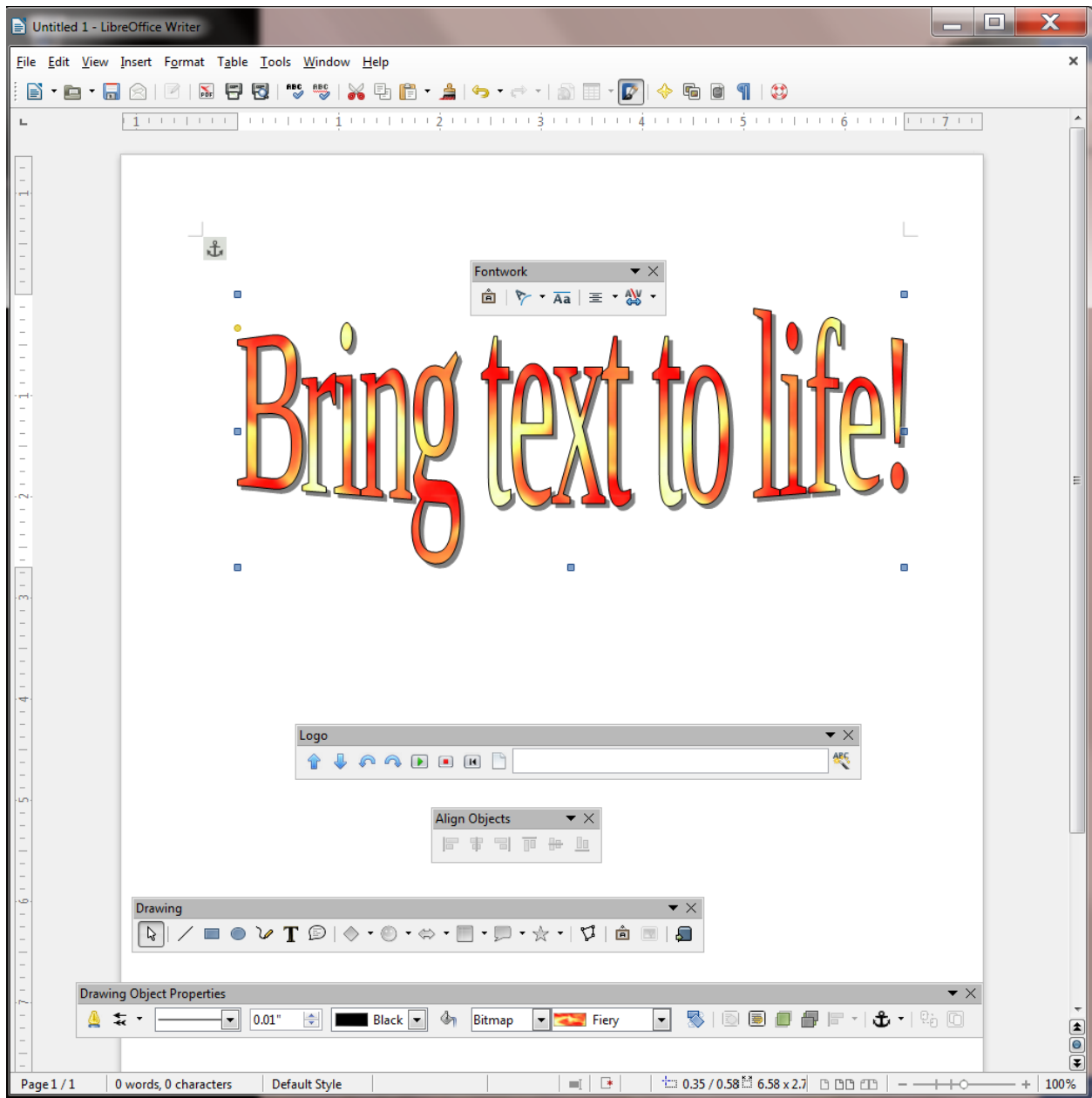


Fig. 3.7 The Bullets and Numbering toolbar

Fontwork

LibreOffice lets you create eye-catching text-based graphics, which can come in handy when you want to create signs, posters, and displays of various kinds. You'll find this toolbar, called *Fontwork*, in the View > Toolbars menu, too (Fig. 3.8).



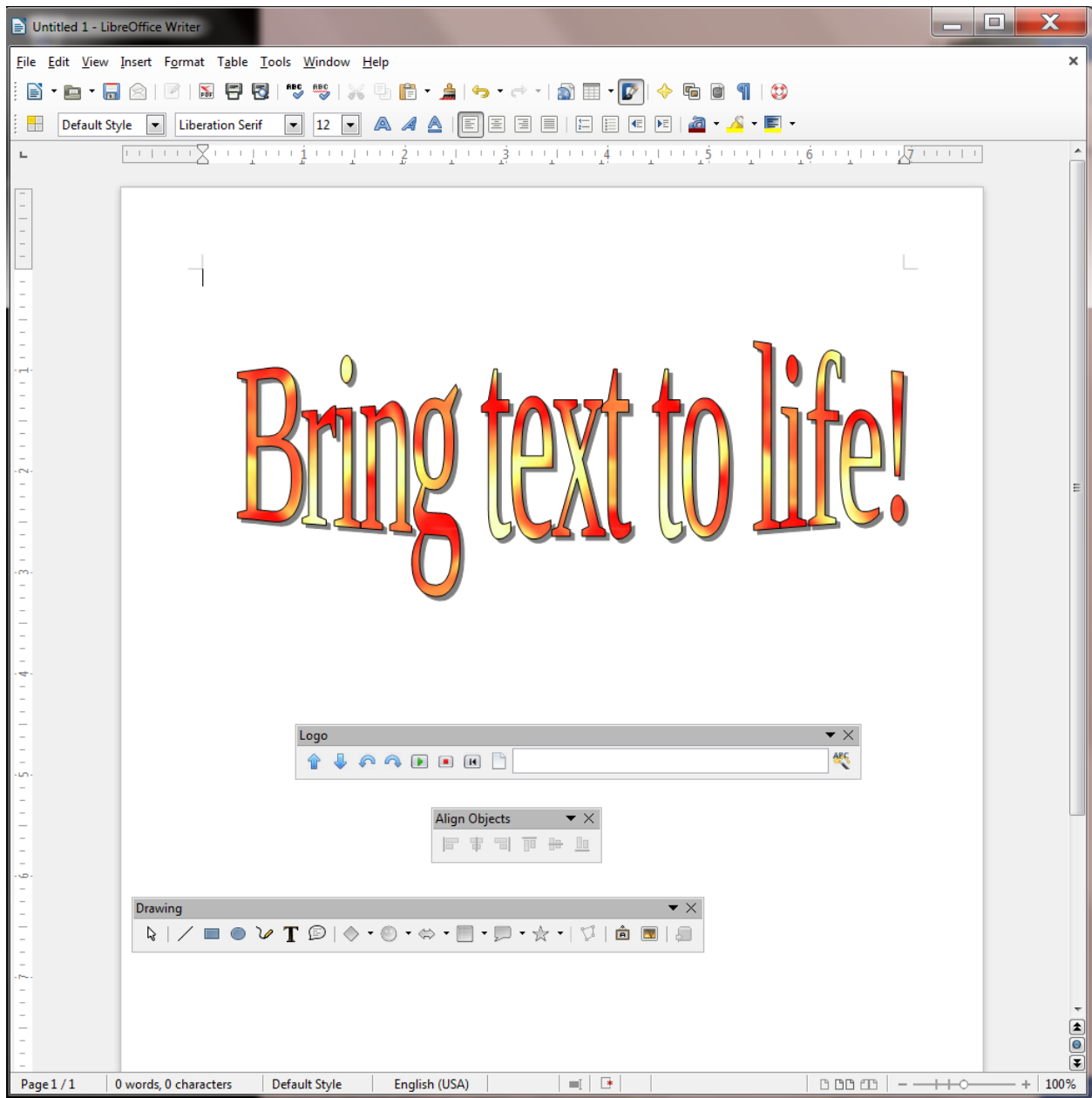
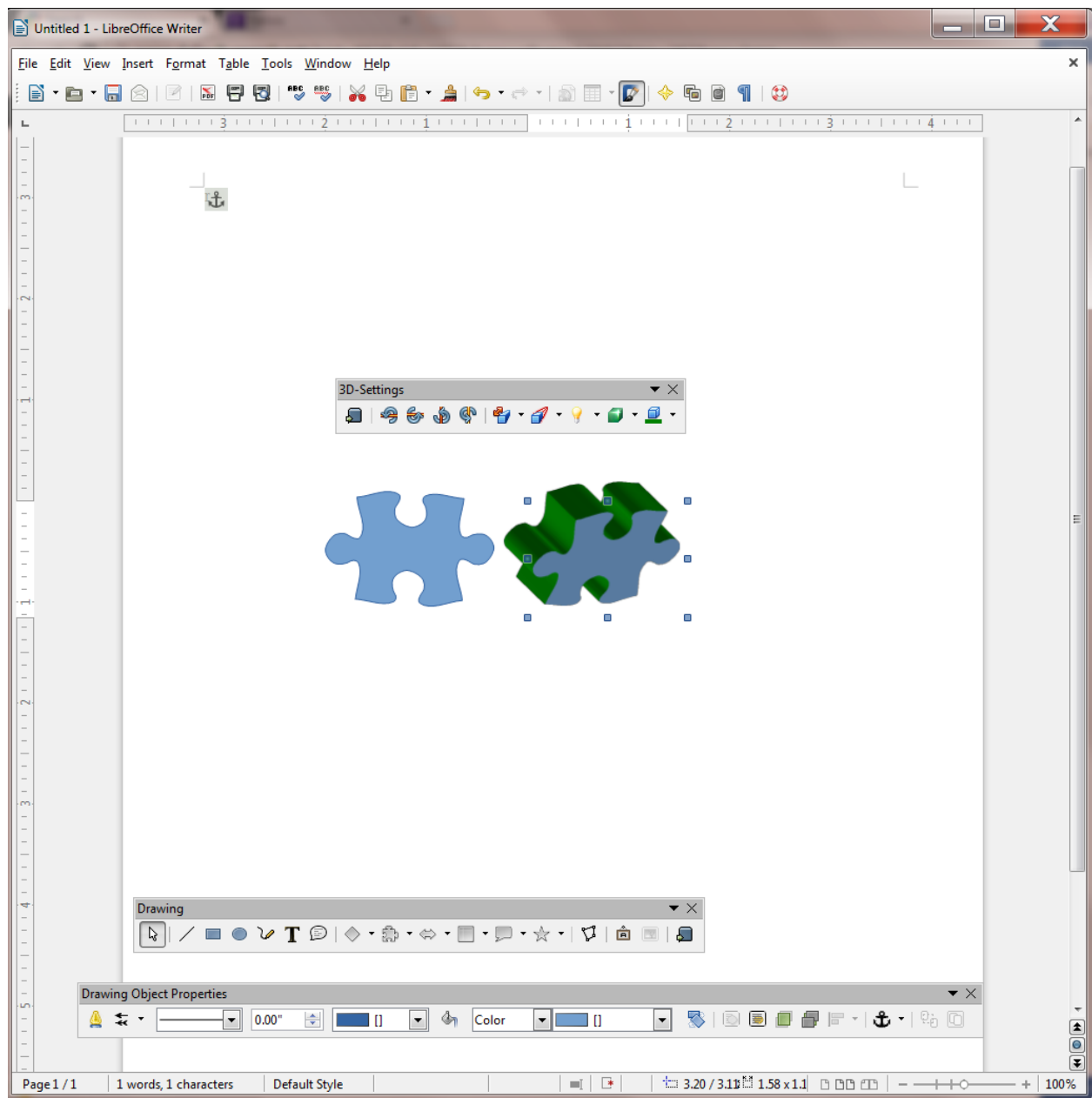


Fig. 3.8 Fontwork toolbar with a Fontwork example

3D-Settings

Any shape you draw can be rendered as a 3-dimensional (3D) object, a process called *extrusion*. Fig. 3.9 shows the 3D-Settings toolbar, also accessed from the View > Toolbars menu.



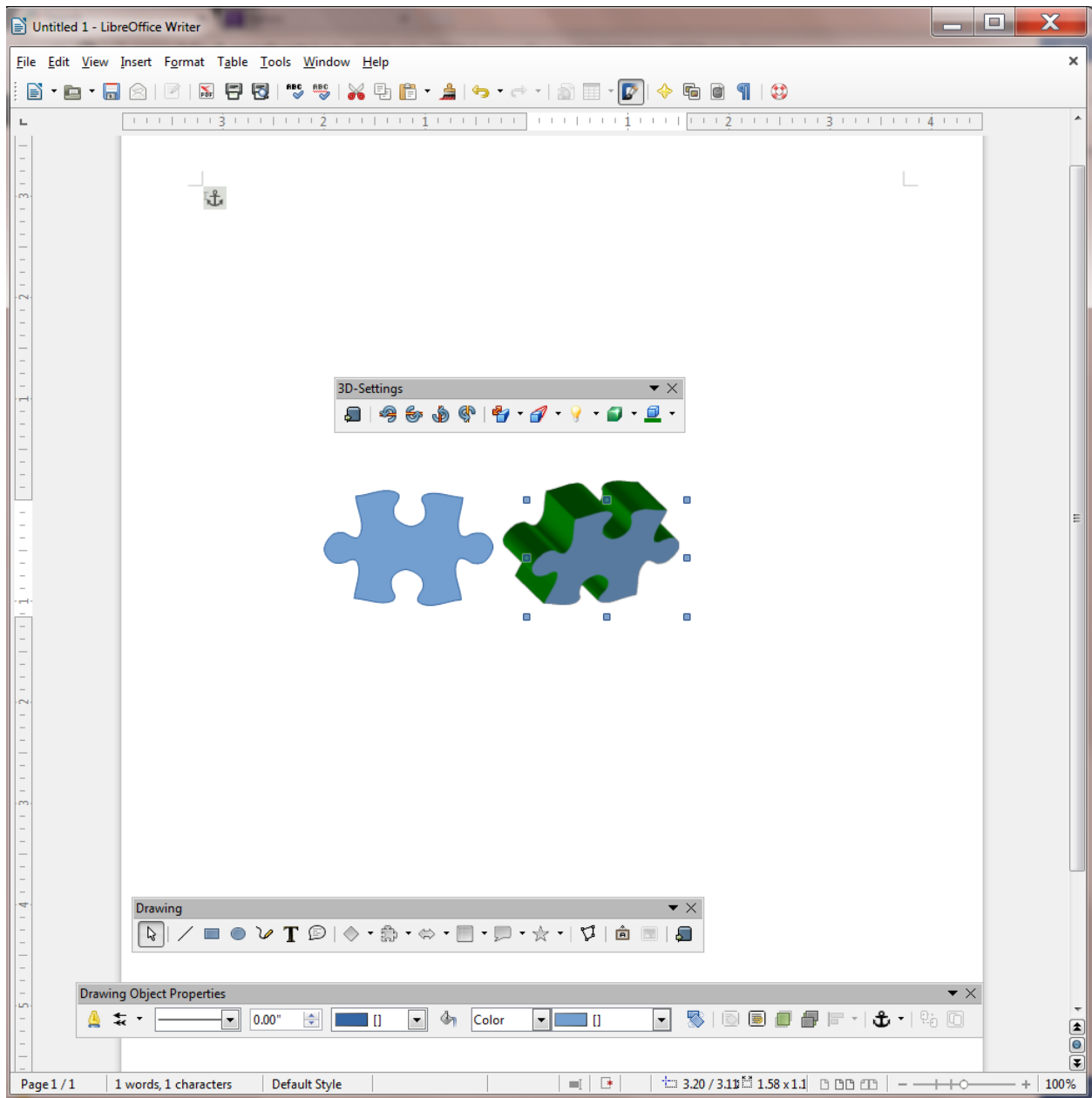


Fig. 3.9 The 3D-Settings toolbar with example of an extruded puzzle shape

Changing the Page Orientation

In *Writer* there are two possible orientations for a page—*Portrait* and *Landscape* (Fig. 3.10).

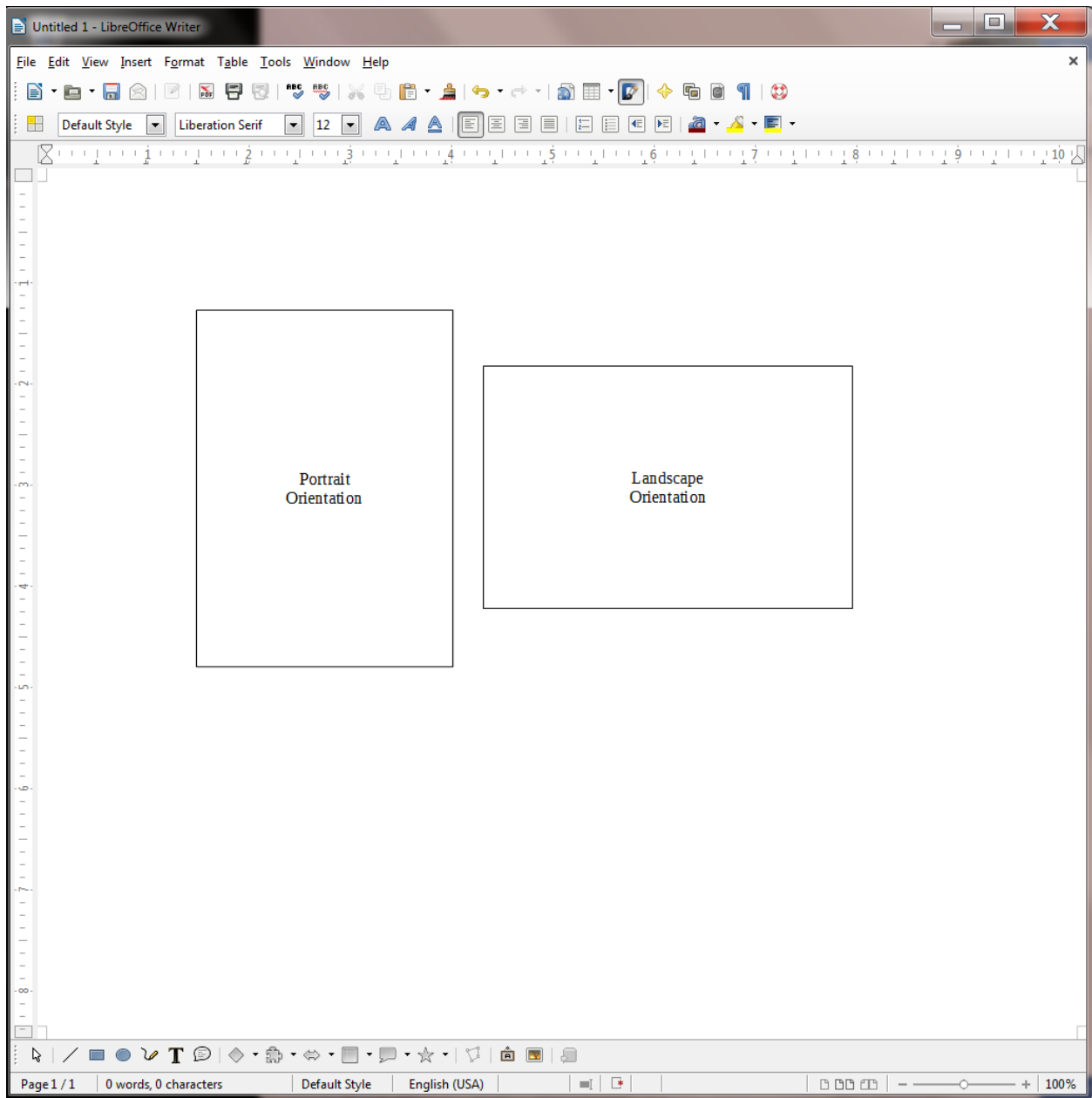


Fig. 3.10 Portrait or Landscape page orientation

You want Landscape orientation for most of the exercises that follow. The default in *LibreOffice* is Page Orientation, but here is how you select one or the other.

From the **Format** menu select **Page...**, in the **Page dialog box** click on the **Page** tab, then in the **Paper format** section click on the radio button to select **Landscape** (Fig. 3.11)

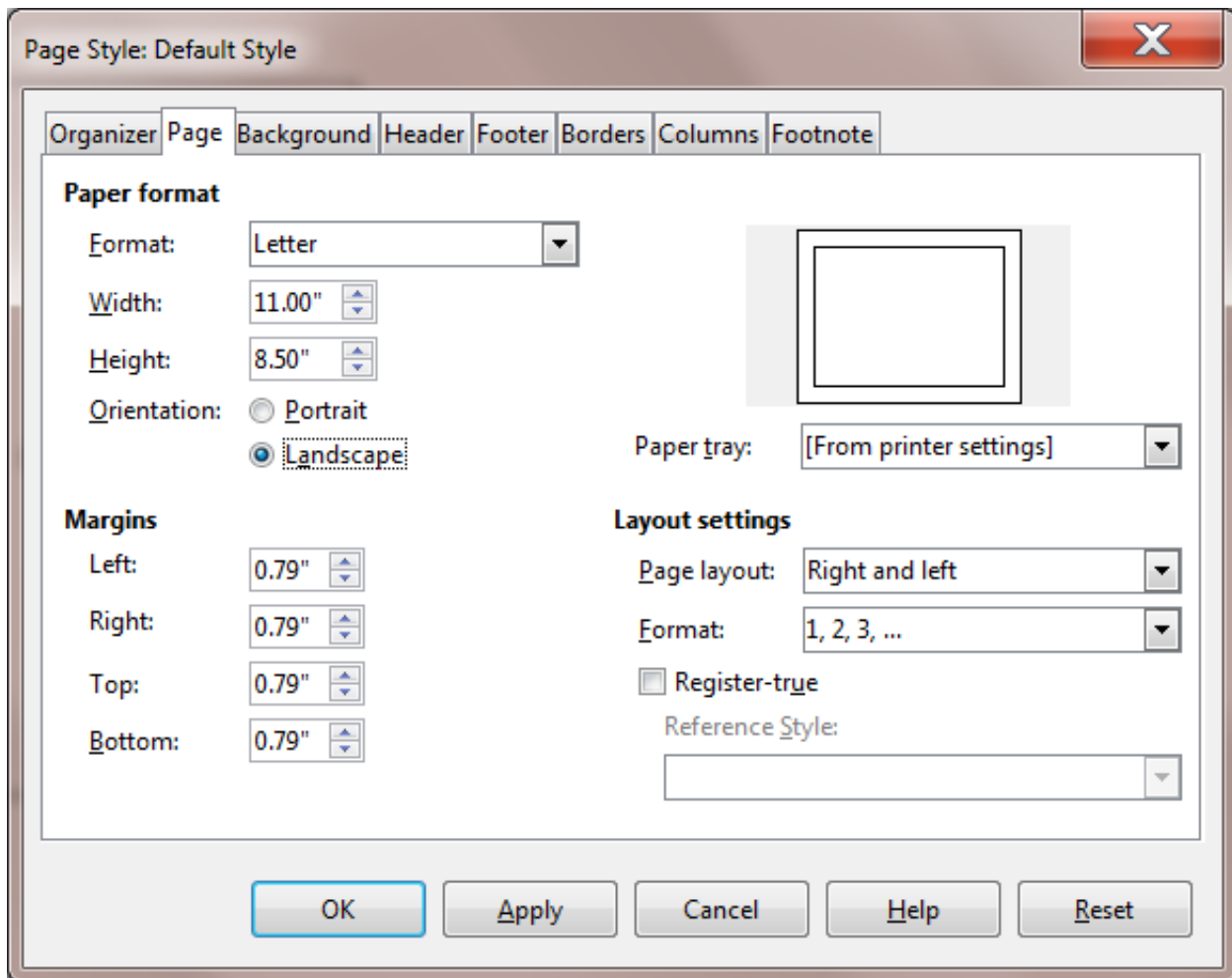


Fig. 3.11 Selecting Portrait or Landscape Page Orientation

Landscape orientation turns the page on its side. This mirrors the orientation of the computer screen and often makes it easier for you when you are working with drawing objects, though there will be many occasions when you will want to work in Portrait orientation, too.

Using the Zoom tool

The Zoom tool lets you zoom in on a page (so you can check out the details) or zoom out (so you can see the big picture of a page or the document as a whole).

While using the *LibreOffice* drawing tools, you will often want to zoom *in* on an object you are working on, and it is also useful at times to zoom *out* so you can check out the big picture. For this reason it is good to know where to find the Zoom tools (Fig. 3.12 on the next page).

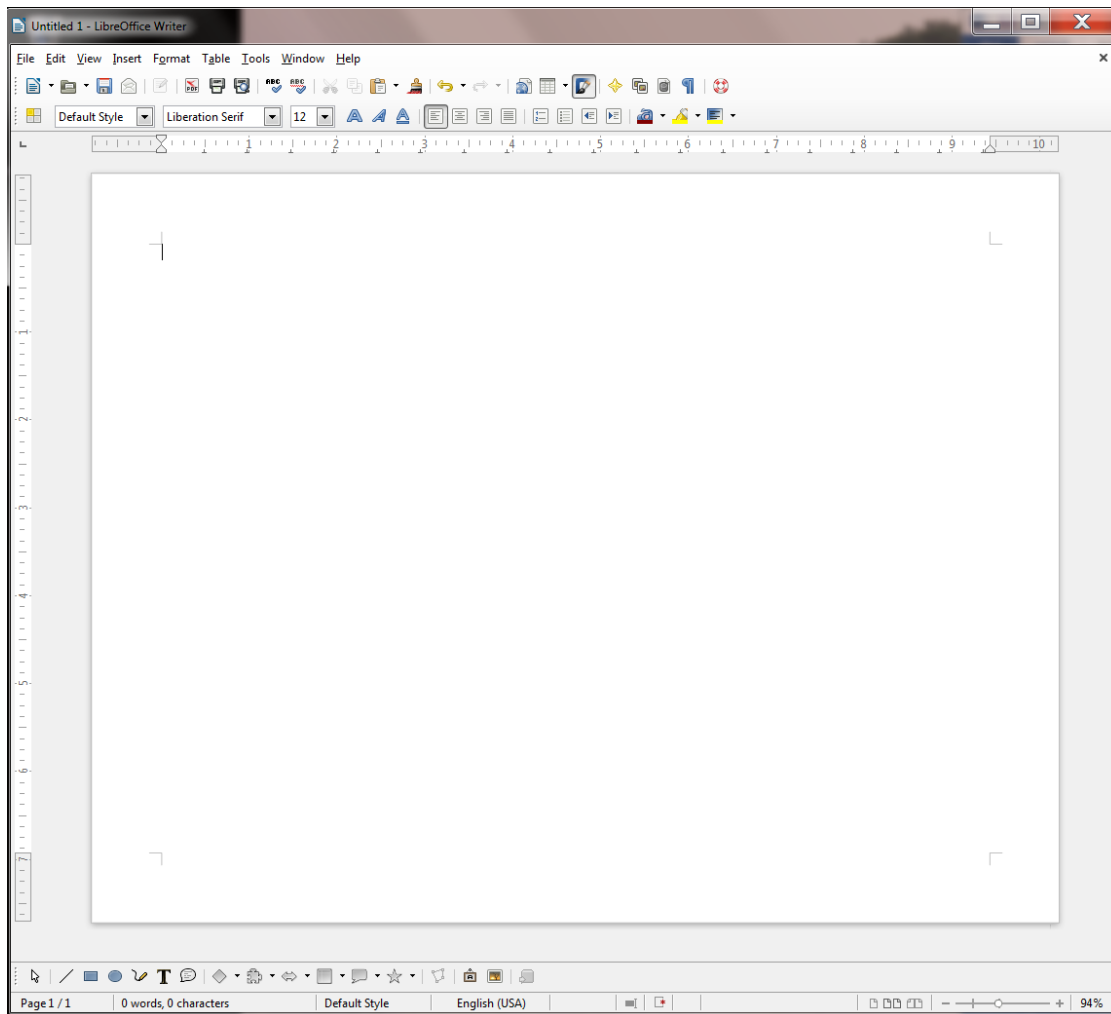
As you can see in Fig. 3.12, you can Zoom in and out using the various selections in the *View menu > Zoom...* options. Alternatively, you can Zoom in and out very discretely using the *slider* in the Status bar at the *bottom right* of the *Writer* page (check the second illustration in Fig. 3.12).

Try out each of these **Zoom options** now to see how they work

When you're done, make sure you leave the Zoom setting at **100%**

In the sections that follow, you will practice zooming in and out of the pages you are working on, and you also will use most of the tools in the various drawing toolbars.

Time to get to work.



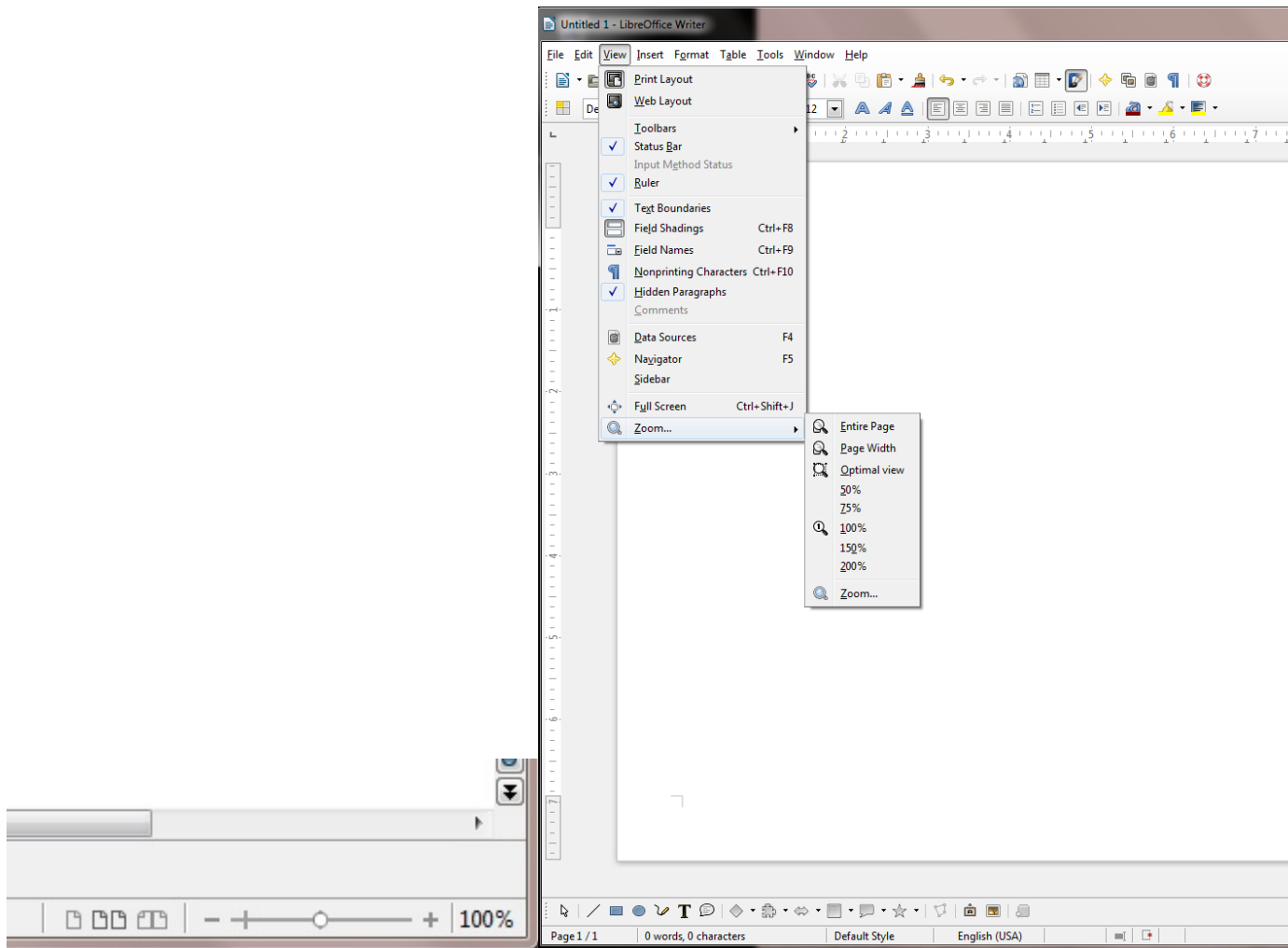


Fig. 3.12 The Zoom tools

3.3 drawing, moving, ROTATING, resizing, and otherwise editing basic shapes and lines

Let's start by learning how to use the basic drawing tools to work with simple shapes and lines.

In the **View menu > Toolbars menu** click on the **Drawing** option to bring the **Drawing toolbar** onto the *Writer* screen (Fig. 3.13)

Fig. 3.13 Drawing toolbar (annotated)

Look at the bottom of your *Writer* screen, which is where the Drawing toolbar is located.

Slide your mouse pointer along the toolbar and read the descriptions about each of the drawing tools (Fig. 3.13 above summarizes the sections of tools)

As you can see, there are *dozens* of shapes to choose from, including the simplest shapes such as lines, rectangles, ellipses, and freeform lines, which you will practice using in this section of the tutorial.

In the **Drawing toolbar**, click on the **Rectangle** shape (Fig. 3.13 above)

Immediately, *LibreOffice Writer* brings up the Drawing Object Properties toolbar, which offers a range of options (*Object Properties*) for the rectangle you want to draw even before you've drawn it (Fig. 3.14)!

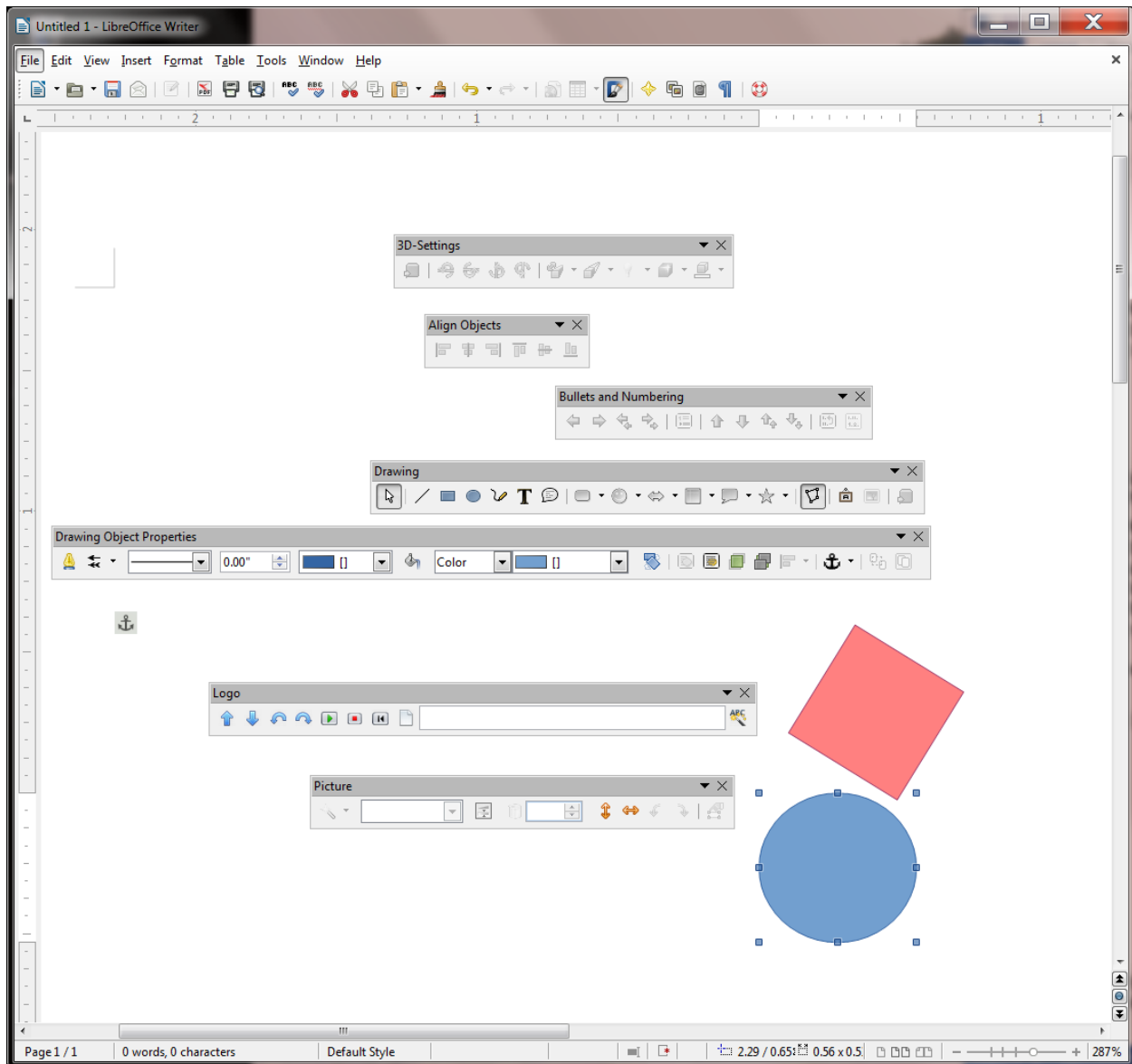


Fig. 3.14 The Drawing Object Properties toolbar

Because the Drawing tool bar and Drawing Object Properties toolbar pop up at the bottom of the *Writer* window, it will be easiest to complete the exercises that follow if you *zoom out* on the page. This will allow you to view the whole page on the screen without the toolbars getting in the way.

Use the **zoom** slider in the **lower right corner** of the *LibreOffice* window (Fig. 3.15 and see Fig.12 on the previous page) to **zoom out** to **at least 84%** (the first hash mark to the **left of center** in the slider)

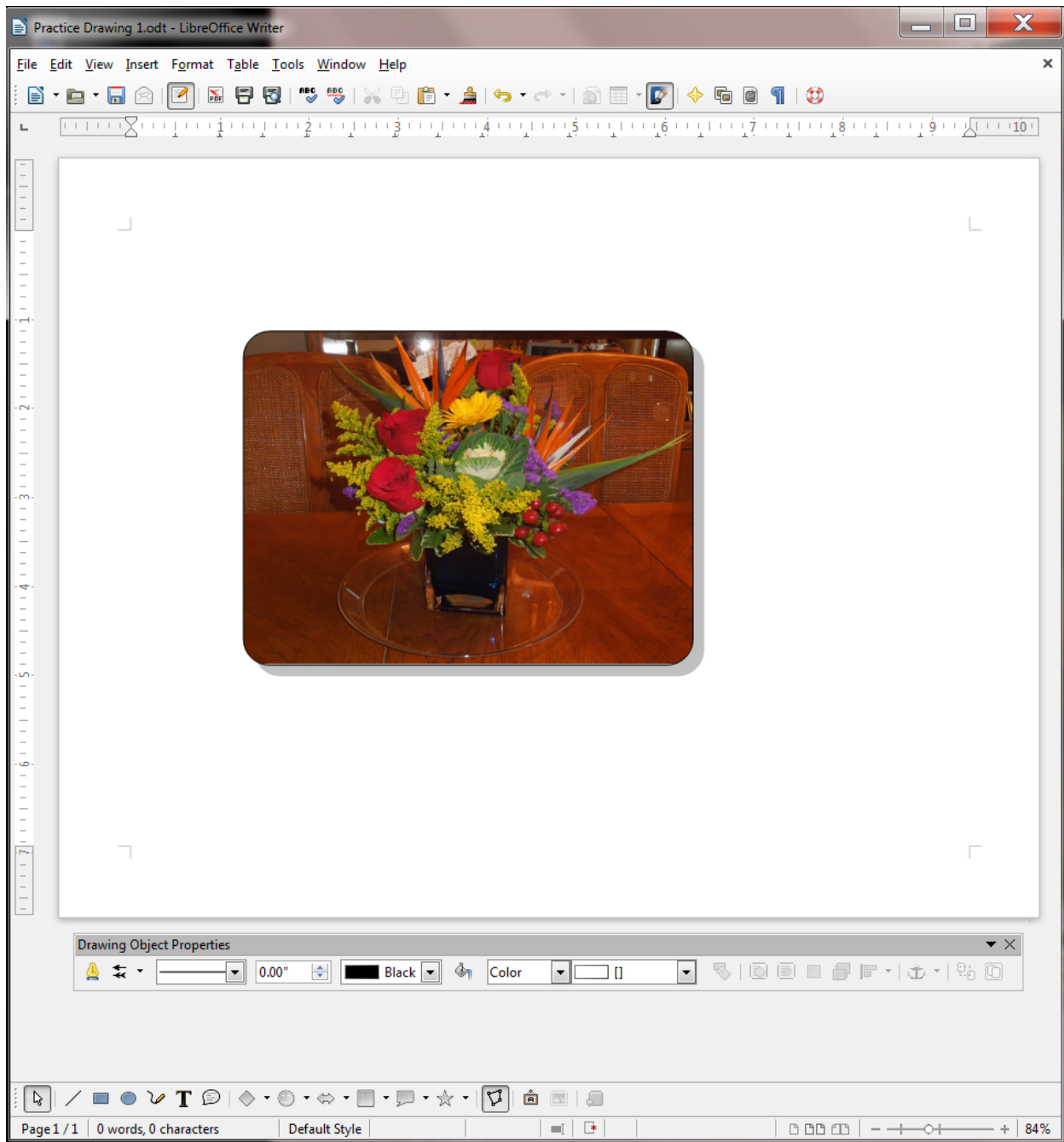


Fig. 3.15 The *LibreOffice* Zoom tool set at 84%

There, now you can see what you're doing. You could, if you wanted to, move the toolbars (by grabbing them with the mouse pointer and dragging) to the top of the window, amongst the other toolbars, or even to either side of the page, but it is convenient to leave them where they are for now.

Go ahead and draw a **rectangle** of any size or shape on the page

Notice that the rectangle has a set of *handles* around it, which allow you to change the shape of the rectangle on the fly by grabbing any handle and dragging on it (Fig. 3.16).

Fig. 3.16 The set of handles around shapes and other images

You're working with a rectangle, so you won't need the simple line or arrow tools at the left of the toolbar. But you

may want to have a different size (thickness), color, or style of *border* on the rectangle.

With the rectangle selected (it has the **handles** around it), in the **Drawing Object Properties toolbar**, take a look at the various tools for working with drawing objects (Fig. 3.17)

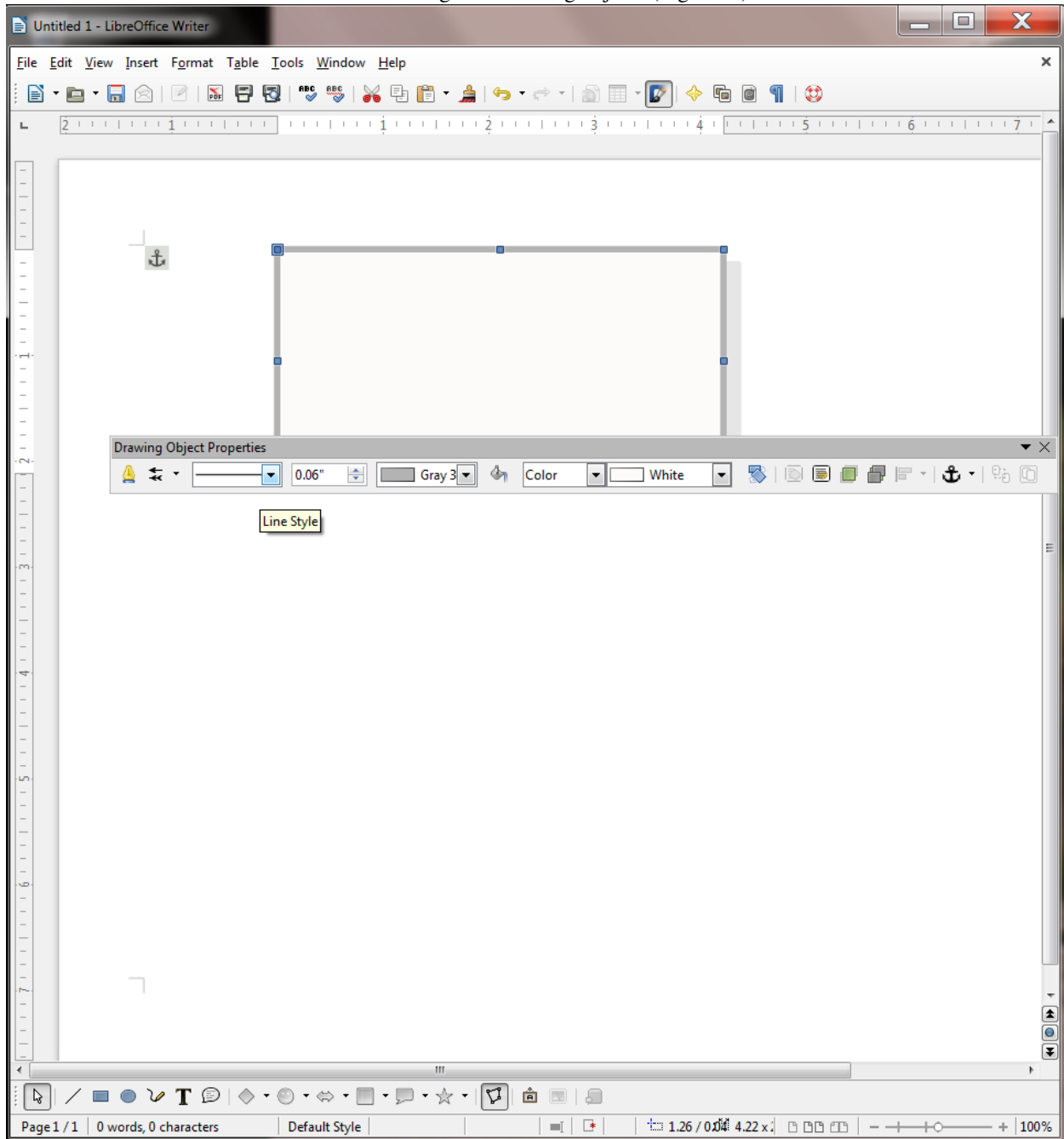


Fig. 3.17 The Drawing Object Properties toolbar (annotated)

Let's quickly check out each of these tools. Refer to the illustration above (Fig. 3.17) as you read the sections that follow.

Line Style

A line can be continuous, or it can be dashed or dotted in different ways. The same applies to the border around a rectangle or any other shape.

With the **rectangle selected** (it has the **handles** around it), try out each of these **Line Styles** before proceeding with the tutorial

Line Width

A line can be thick or thin—or even invisible! The same applies to the border around a rectangle or any other shape.

With the **rectangle selected** (it has the **handles** around it), try out some **border thicknesses** as well as the **0 (zero) thickness** option before proceeding with the tutorial

Line Color

A line or border can be any color. The same applies to the border around a rectangle or any other shape.

With the **rectangle selected** (it has the **handles** around it), try out some of the **border Color options** before proceeding with the tutorial

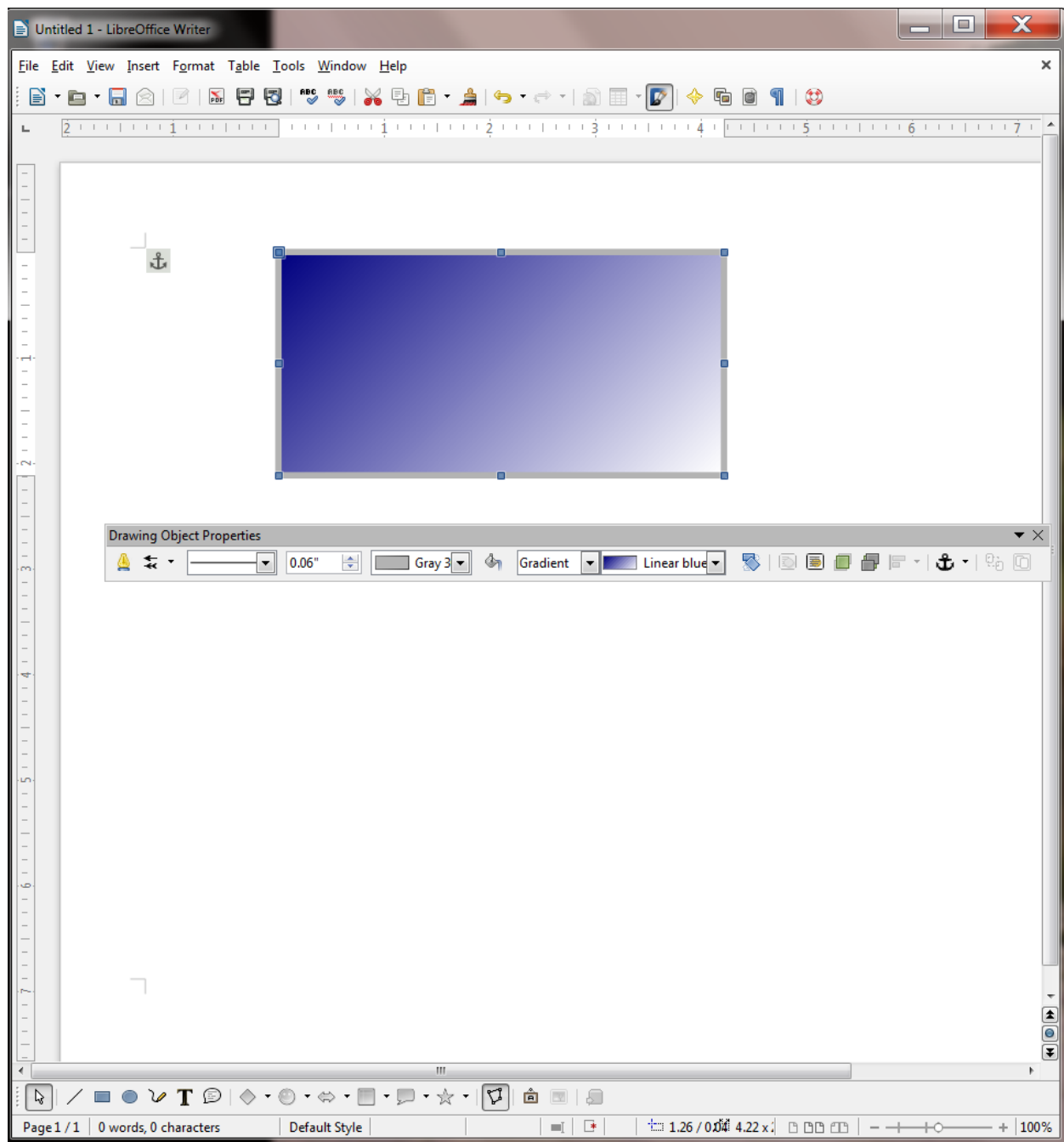
Area

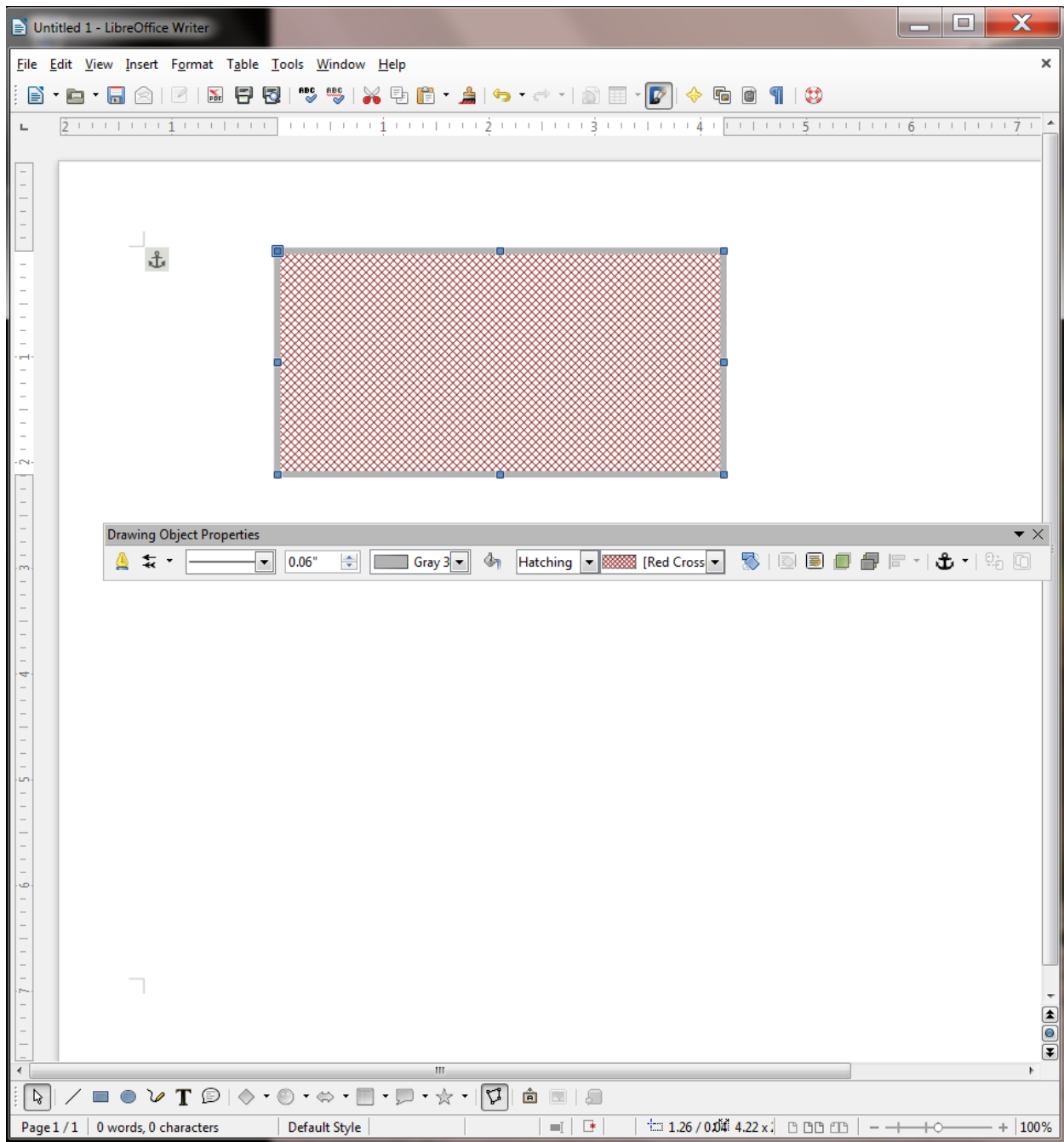
The Area tool gives you access to all the various options when it comes to filling a shape with color, or creating a shadow on the shape, and so forth.

With the **rectangle selected** (it has the **handles** around it), take a look at each of these **Area options**, and try some of them for yourself before proceeding with the tutorial

Area Style / Filling

As you probably noticed when you checked out the Area tool above, the area of a shape (inside area, not including the border) can be filled with a range of colors, but it can also be filled with several *Styles* of fill, such as Gradients, Hatching, and Bitmap (Fig. 3.18).





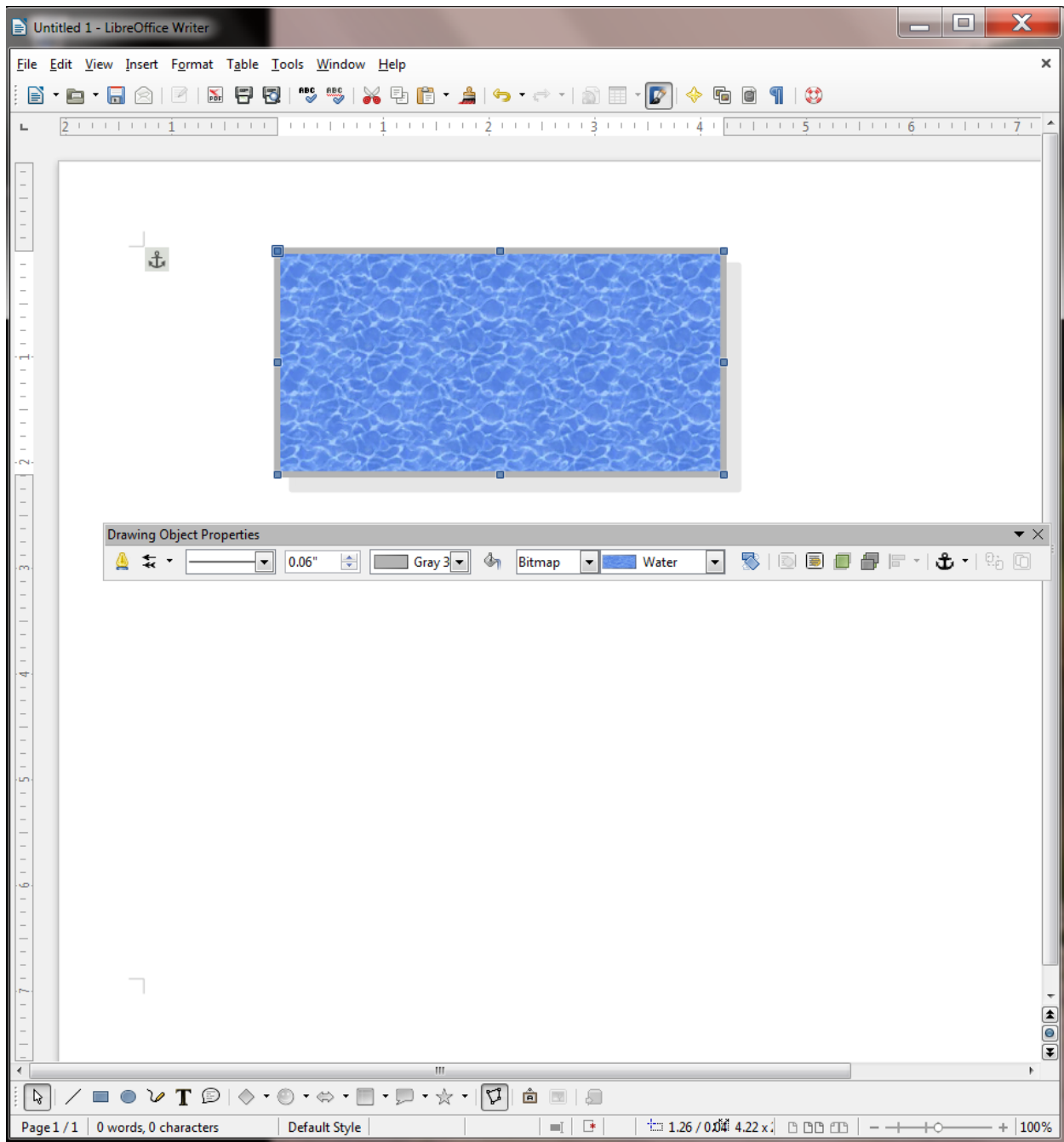


Fig. 3.18 Gradients, Hatching, and Bitmap options for Area Style / Filling

With the **rectangle selected** (it has the **handles** around it), try out each of these **Area Style / Filling options** before proceeding with the tutorial—have fun with it!

Drawing lines

Let's start with drawing lines.

In the **Drawing toolbar** (at the bottom of the *Writer* window) click on the **line tool** to select it, then use the mouse to draw a straight **line** anywhere **on the page**

It doesn't get any simpler than that.

Working with lines

Complete the following tasks to learn how to work with different styles of lines.

Click anywhere **off** the line you just drew and notice that the **handles** (little squares) at each end of the line **disappear**; the *LibreOffice* Drawing toolbar also disappears because it is only useful as long as a drawing object is selected

So... You can only edit or move a drawing object of any kind if the handles are showing. The handles indicate that the object is *selected*. Clicking **ON** the object selects it; clicking **OFF** the object deselects it.



Position the mouse pointer anywhere **on** the line and notice how the cursor changes to a **crosshair** (), which tells you that the mouse is correctly positioned on the line so that when you click the mouse it will select the line

Click anywhere **on** the line now, and notice that the **handles** (little squares) **reappear** at each end, and both the **Drawing toolbar** and the **Drawing Object Properties toolbar** *reappear*, waiting for you to decide what you want to do with the selected Drawing object (the selected line)

Now, with the handles showing, you can edit the line you just drew.

Work your way across the **Drawing Object Properties toolbar**; try out the **Line Styles**, the **Line Widths**, and the **Line Color**

These are all the options you have when it comes to a simple line. Take your time; have fun with it and make yourself familiar with the various options available.

When you are done checking out all the different design options for the line, hit the **Backspace** key or the **Del** key to delete the line from the page

Working with rectangles and ellipses

Creating and editing lines is simple enough. How about shapes such as rectangles and ellipses—or squares and circles?

In the **Drawing toolbar** click on the **ellipse (oval)** tool, and use the mouse to **draw** the **ellipse (oval)** object on the page

Notice the small handles that surround the shape, which you use to change the object's shape.

Grab any of the **handles** and **stretch** them this way and that to change the shape; notice that the **corner handles** allow you to stretch the shape **diagonally** as well as **up, down, left, or right**—whereas the **handles at the middle of each side** only allow you to stretch the shape **up, down, left, or right**

Rotating Objects

To rotate an object that you have drawn on the screen, you need to use the *Rotate* tool in the *Drawing Object Properties* toolbar (Fig. 3.19).

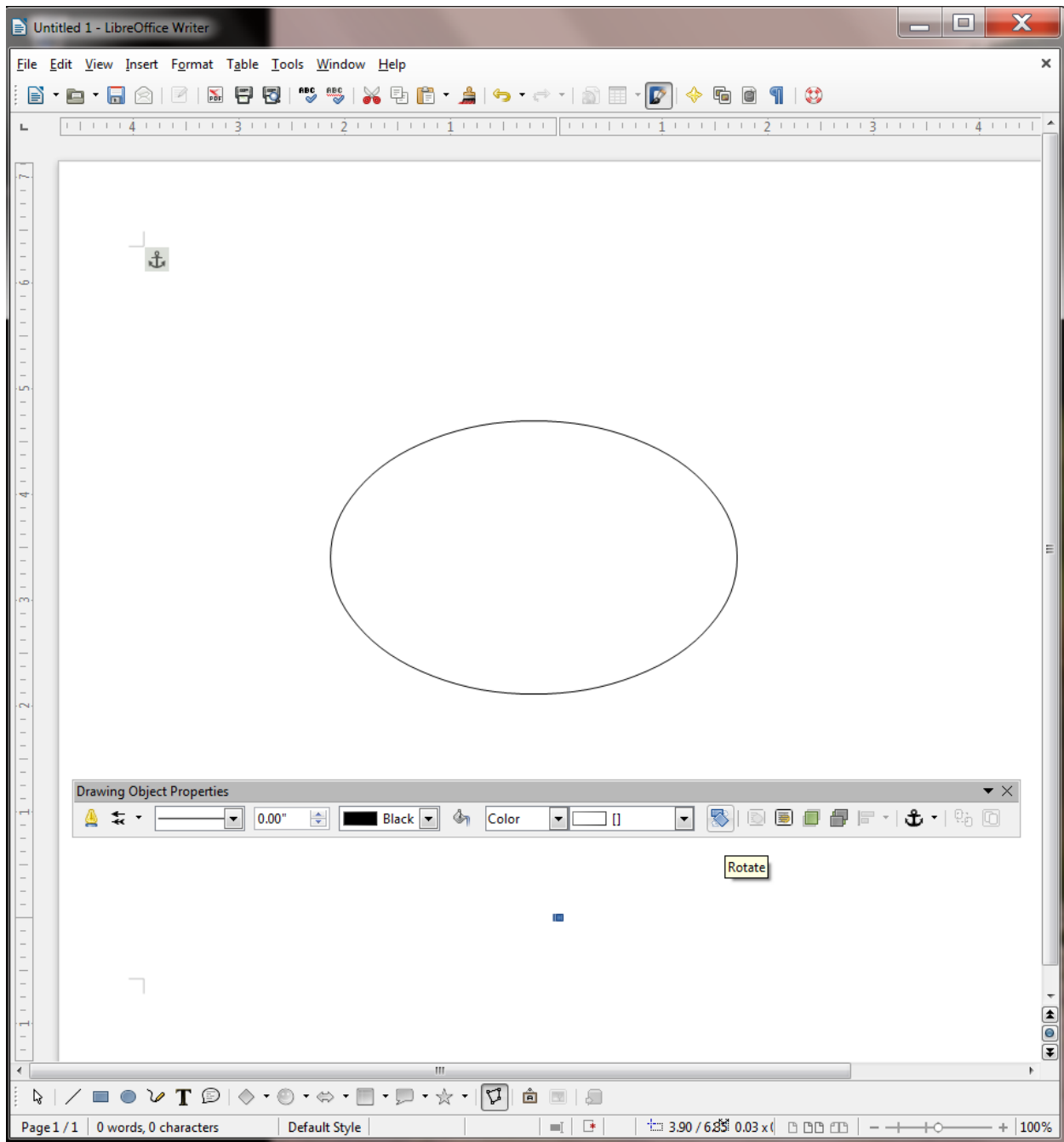


Fig. 3.19 Rotating a shape

Let's try this now.

First, click on the Oval object to select it, then, in the **Drawing Object Properties** toolbar, use the mouse to click on the **Rotate** tool (see Fig. 3.19 previous page)

This changes the appearance of the ellipse shape into an object that can be rotated on a central axis (Fig. 3. 20).

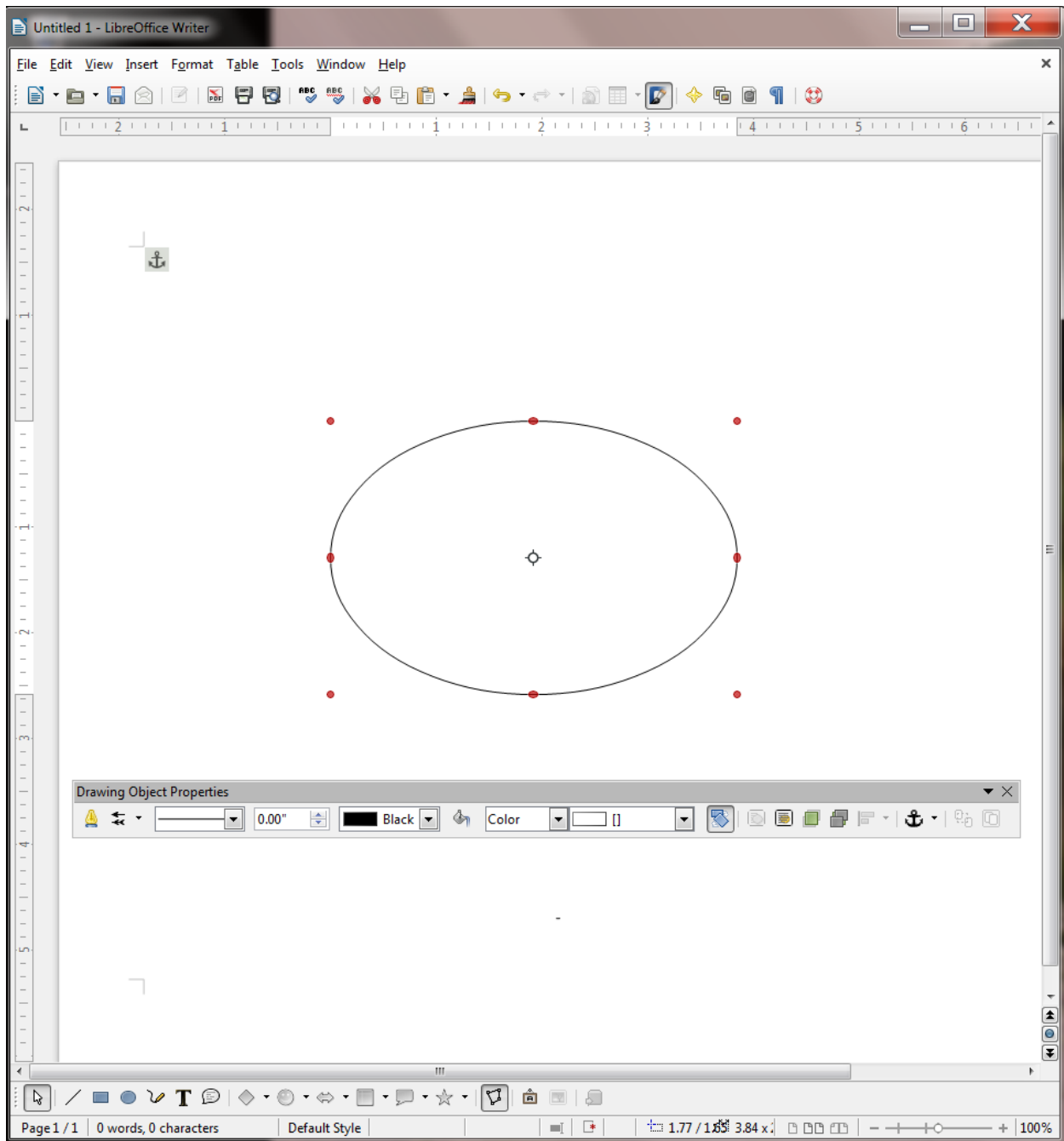


Fig. 3.20 A drawing object that can be rotated

Notice that the handles have changed from a *blue* color to a *red* color and that in the *center* of the ellipse there is a *focal point* around which the ellipse object can rotate (Fig. 3.20 above).

Position the mouse pointer on any of the **corner red handles** (Fig. 3.20 above) and **drag** in a clockwise or counter-clockwise circular motion to **rotate** the object

Now position the mouse pointer on any of the **side red handles** and **drag** in a clockwise or counter-clockwise circular motion to again **rotate** the object

Notice that the *side handles* allow rotation of the shape from side to side or up and down; whereas the *corner handles* allow full rotation of the object on the screen. Take a couple of minutes to check out these *Rotation* tools in the

Drawing Object Properties toolbar.

While you have the shape selected, in the **Drawing Object Properties toolbar**, some of the **Line Styles**, **Widths**, and **Colors**

Also try out some of the **Area Style / Filling options**, including **Gradients**, **Hatching**, and **Bitmaps**

When you are done checking out these **Drawing Object Properties tools**, hit the **Backspace** key or the **Del** key to delete the shape from the page

As you see, there are dozens—well, actually thousands at least—of different options that you can apply to any shape that you draw on the screen.

Drawing a perfect square or circle

Drawing rectangles and ellipses is easy. What about drawing a square or a circle? If you want to draw a “perfect” square or a “perfect” circle, you just hold down the *Shift* key at the same time as you draw with the rectangle tool or the ellipse tool. Try this now.

In the **Drawing toolbar** select either the **Rectangle** or **Oval** tool, hold down the **Shift** key, and draw the shape in any size

Notice that the shape will always be a perfect square or circle *as long as you hold down the Shift key*. After you’ve drawn the square, if you let go of the Shift key you can then go ahead and use the handles to make the rectangle no longer square or to change the circle to an ellipse.

Try this now—**let go of the Shift key** and change the shape of your circle or rectangle

So the shape will always be a perfect circle or square as long as you hold down the Shift key. Remember this neat trick. It’ll work with other software, too.

Moving drawing objects

Creating lines and other shapes is simple enough. But once you have an object drawn, how about editing it and moving it around on the page? To do either of these things, the line or rectangle or ellipse or other drawing object must first be selected (which means clicking on it so that you can see the handles around it). First let’s practice moving an object around on the page without changing its shape.

Click on the **object you have on the screen** to select it (you see the handles around the shape), slide the mouse pointer over the object and notice that the pointer changes to a **crosshair** any time the pointer is **anywhere within the perimeter** of the object or **on** the object if it’s a simple line—the crosshair tells you that you can move or edit the object

Now, hold down the **left mouse button** and **drag** to move the object anywhere you like on the page

Resizing drawing objects

How about resizing drawing objects—changing their size and shape? To do this, once again the line or rectangle or other drawing object must first be selected so you can see the handles.

Make sure the **object** from the previous exercise is still selected—you should be able to see the handles around it

If you want to change the *size* of the object without losing the object’s *shape*, you must use a combination of the Shift key and one of the four *corner* handles (not the 4 handles in the middle of each side). Try this first.

Hold down the **Shift** key, then position the mouse pointer on one of the small handles in any **corner** of the shape (**not** one of the 4 handles in the middle of each side or the rotate handle), hold down the **left mouse button** and **drag** in or out to stretch or squeeze the object you have on the screen

Notice that the object keeps its basic shape; when you hold down the Shift key only the size changes. If you’re not concerned about distorting the object’s shape you can drag on any of the handles without holding down the Shift key. Try this now.

Position the mouse pointer on any of the white handles, hold down the **left mouse button** and **drag** to stretch or squeeze the ellipse anyway you want

The same thing applies to irregular shapes such as polygons in general or freeform drawings like squiggly lines (yes, there's a squiggly line tool, too! It's called the *Freeform Line* tool). When you click on the shape, it shows the handles around it. By holding down the Shift key and grabbing one of the handles in the corners, you can make the shape smaller or larger *without otherwise distorting it*. By grabbing any of the handles around the shape *without* simultaneously pressing the Shift key, you can distort the shape by making it thinner or fatter, taller or shorter—whatever.

Try this now.

Make sure the **object you have on the screen is selected**—you should be able to see the handles around it—then hit the **Backspace** key or the **Del(ete)** key to delete it

In the **Drawing toolbar** select the **Freeform Line** tool (Fig. 3.21), then **write (scribble) your name** anywhere on the page

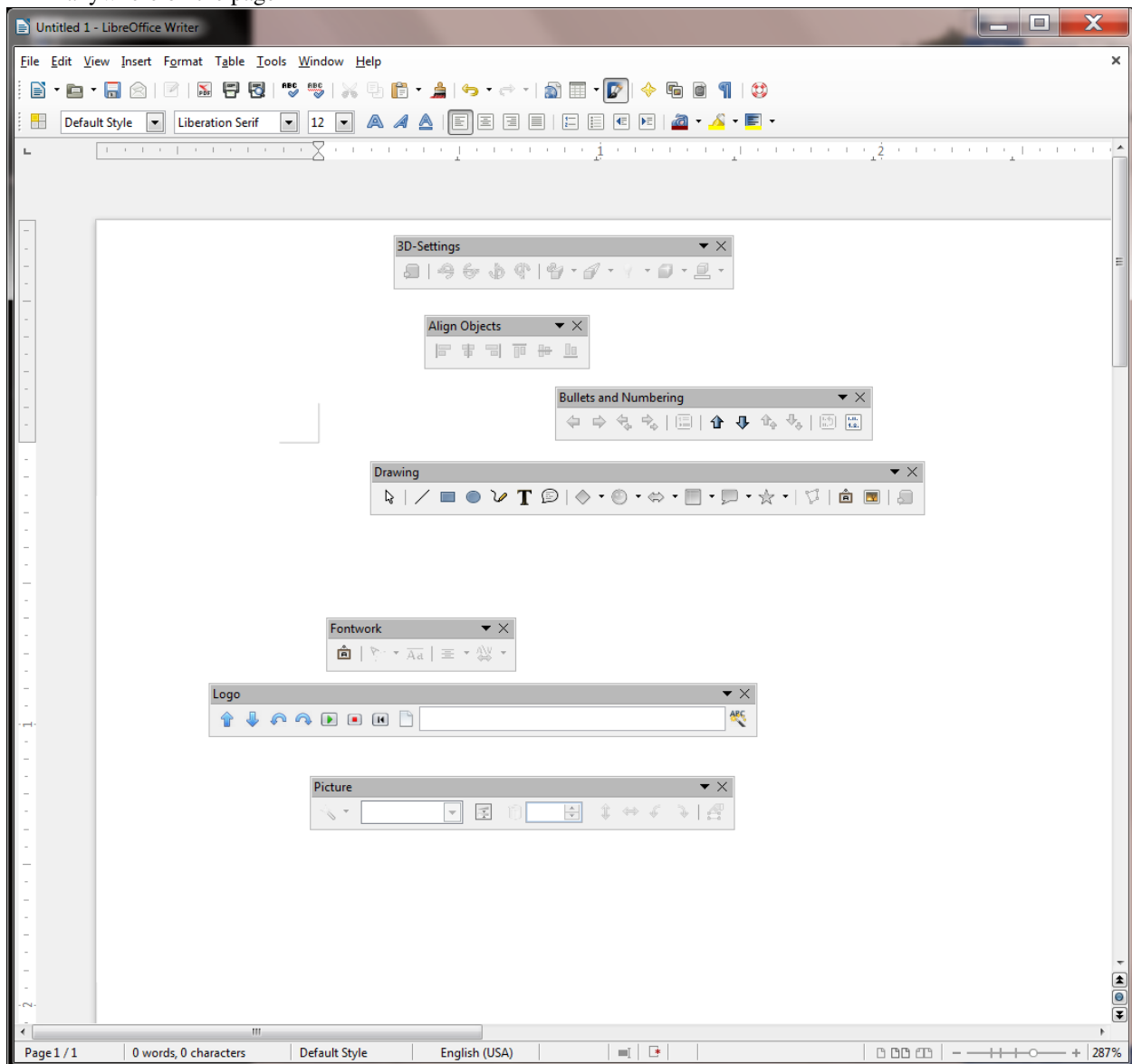


Fig. 3.21 The Freeform Line tool

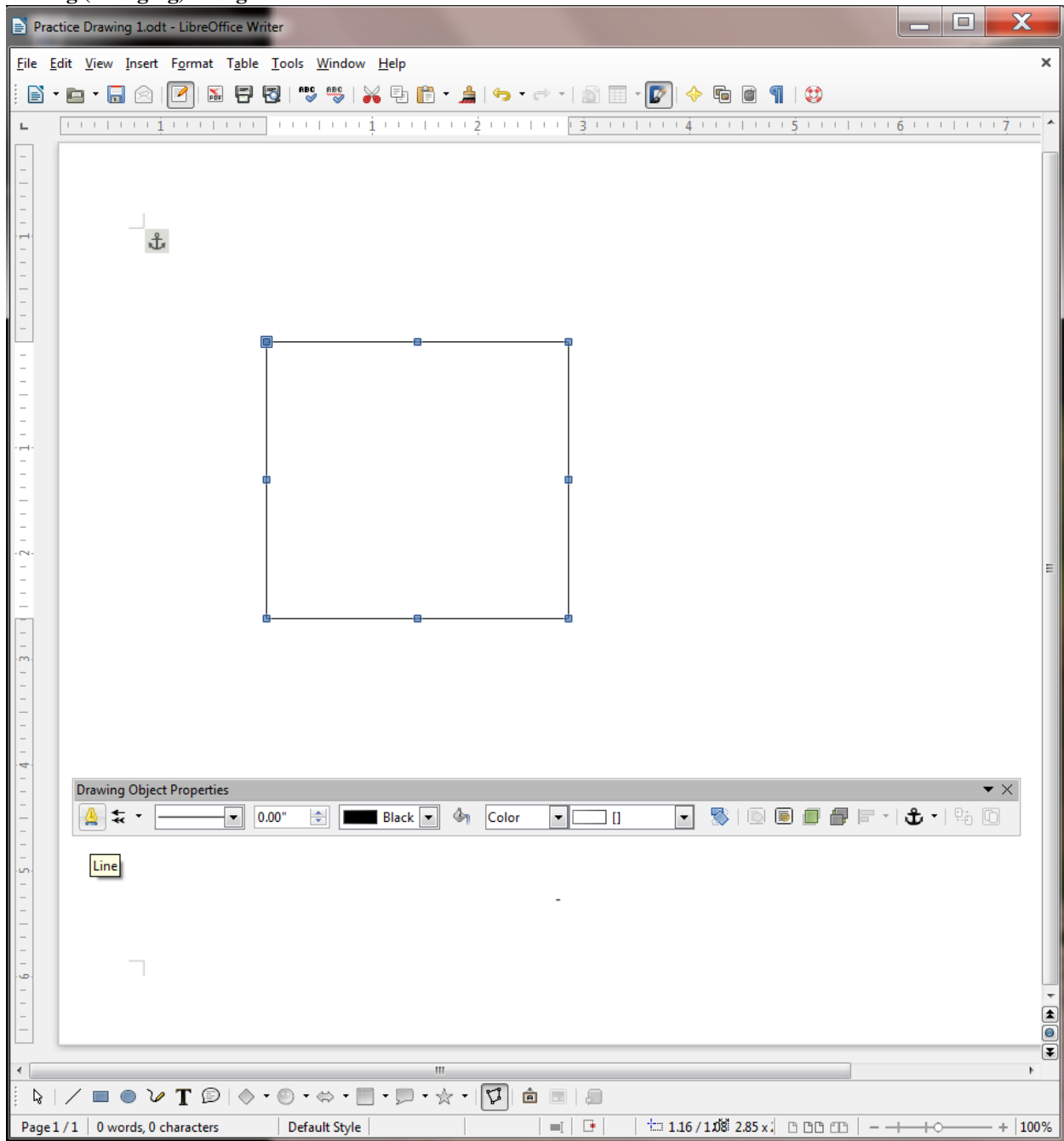
With your name (the object on the page) highlighted, hold the **Shift** key down, then position the mouse

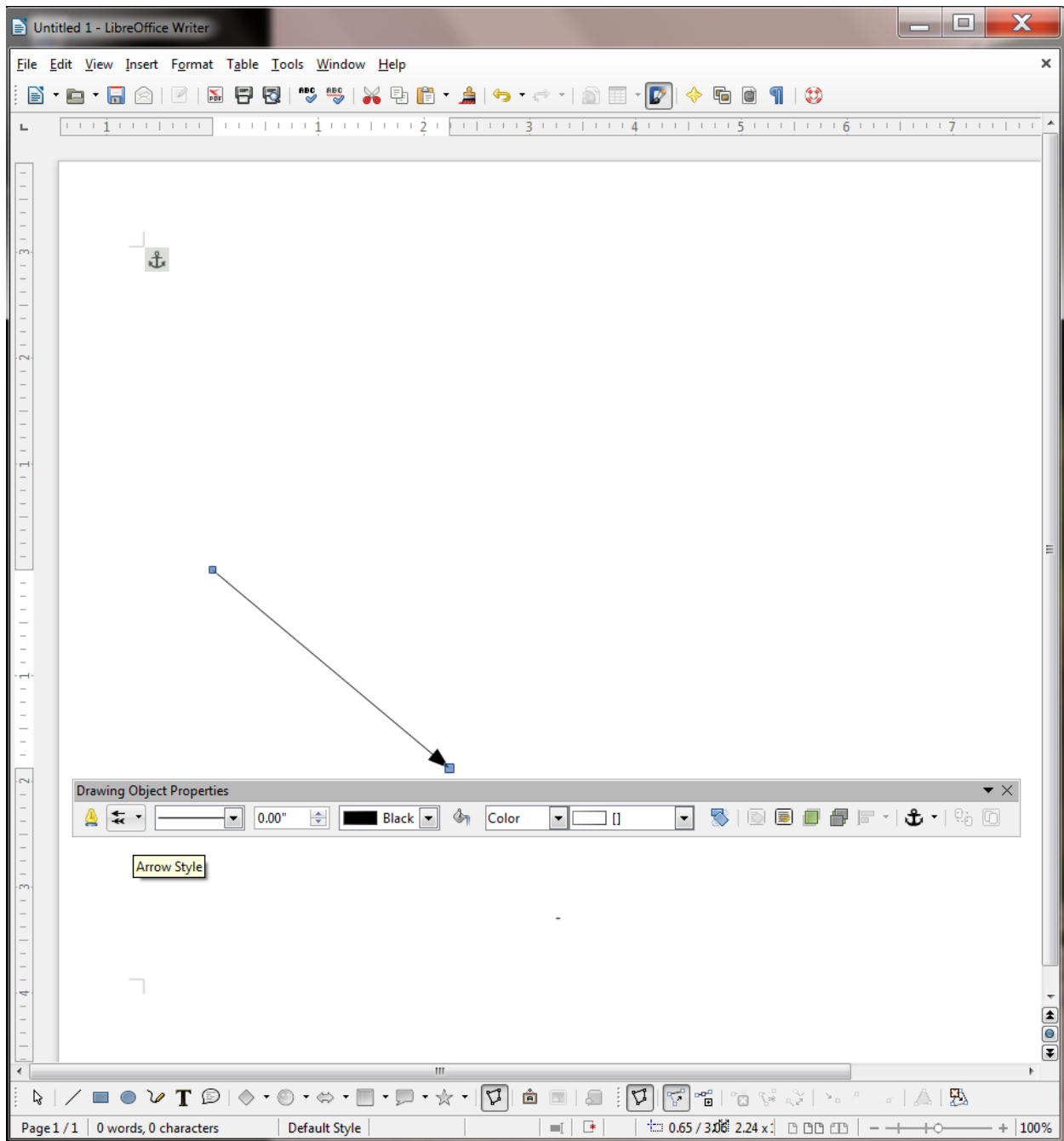
pointer on any of the **corner** handles, hold down the **left mouse button** and **drag** to stretch or squeeze the object anyway you want—it will keep its basic shape; only the **size** of your name will change

Now try it again, but this time without holding the **Shift** key, and notice the **difference**—use all the handles and notice the difference there, too, between using the **corner handles** or the **handles at the middle of each side**

When you are done playing around with your signature, hit the **Backspace** key to delete it from the page

Editing (changing) straight lines or arrows





First of all, an arrow is a type of line, except that it has an arrow head on one end or on both ends. You can draw an arrow by clicking on the Arrow Style tool in the Drawing Object Properties toolbar (Fig. 3.22).

Fig. 3.22 The Line tool and the Arrow Style tool in the Drawing Objects toolbar

Click on the **Arrow Style** tool, select any style, then **draw an arrow** on the page

If you want an arrowhead on both ends of the line, you need to bring up the Line dialog box. There are two ways to do this.

Either click, at the **left end** of the **Drawing Object Properties toolbar**, on the small yellow **Line tool** (see Fig. 3.20 on the previous page)

Or you can position the **mouse pointer** anywhere along the **arrow line** (you'll see the pointer change to

a **crosshair**), hold down the **right mouse button** and, in the **context menu** that pops up, select the first item: **Line...** to bring up the **Line dialog box** (Fig. 3.23)

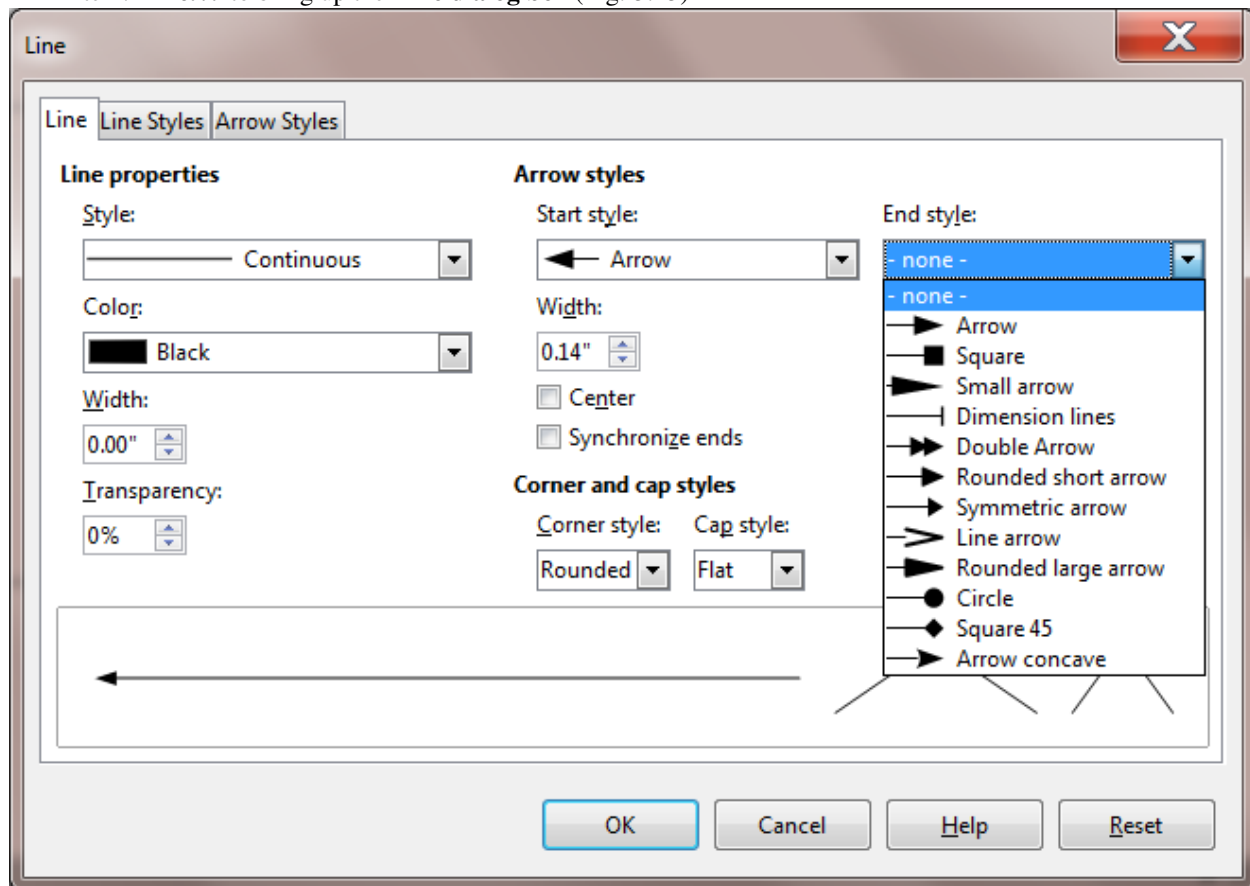


Fig. 3.23 Changing the Arrow Style in the Line dialog box

Now, towards the **top right** of the dialog box, click on the down arrow to drop down the menu of **Arrow End Styles** (see Fig. 3.23 above) and select the same **arrowhead** as you selected for the arrow you just drew on the page

Notice that the Line dialog box also lets you put a shadow on the line or arrow object you've drawn, or you can change the color, size, and shape.

Editing a straight line or a straight line arrow works a little differently than solid shapes such as ellipses, polygons, and so forth, since you only have two handles to worry about—one at either end of the line or arrow. You use either of the handles to lengthen or shorten the line. You also can drag on either handle to rotate it from either end. Let's try this now.

Grab hold of the **handle** at either end of the line or arrow, and **drag the handle** in or out, up or down, from side to side, so you can get a feel for how to change its **length** and **orientation**

Clear the **Page** of any drawing objects when you are done

3.4 OTHER DRAWING shapes

There is a wide selection of predefined shapes that you can use to create your drawings. These shapes are accessed from the Drawing toolbar (Fig. 3.24).

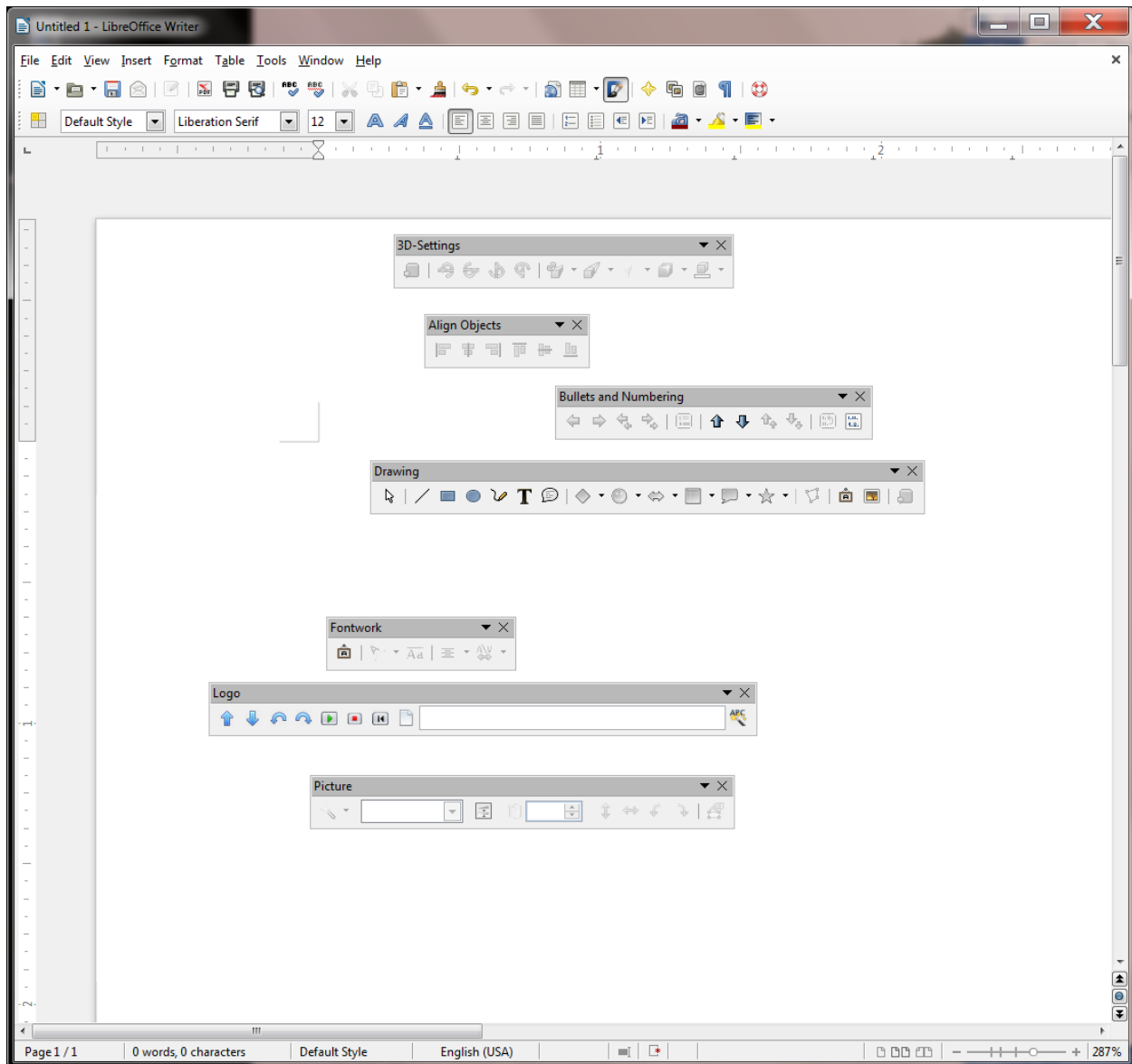


Fig. 3.24 Drawing toolbar (annotated)

Specifically, there are Basic Shapes like rectangles, ellipses, triangles, cylinders, and so forth, most of which would take you quite a while to create from scratch by hand—unless you’re a talented artist, of course.

Then there are shapes designed to help you draw Block Arrows, and shapes to help you create Flowcharts—very useful for planning diagrams. If you want to add “speech” to characters in a diagram, there is a nice selection of Callouts you can use. Finally, when you want to create certificates and such, you can use the Stars and Banners shapes.

For the next exercise, when you have finished the exercise, you are going to Save the file in your Drawing Documents folder (in the Data Files folder) so that you can later send it to your instructor as an attachment in email. So let’s save the blank document you have open on your screen now before we proceed.

In the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 1**, and hit **Save**

Now, in the **Drawing toolbar** at the bottom of your *Writer* page, spend a few minutes checking out the many sets of shapes available to you

When you are ready, complete the following exercises—draw each of the shapes **small enough** so you can fit them all on the page **without overlapping** and *don't delete any of them* because you're going to send the file to your instructor when you have completed Lesson 3

When you are done with this particular exercise, your page will look something like (though obviously not exactly the same as) Fig. 3.25.

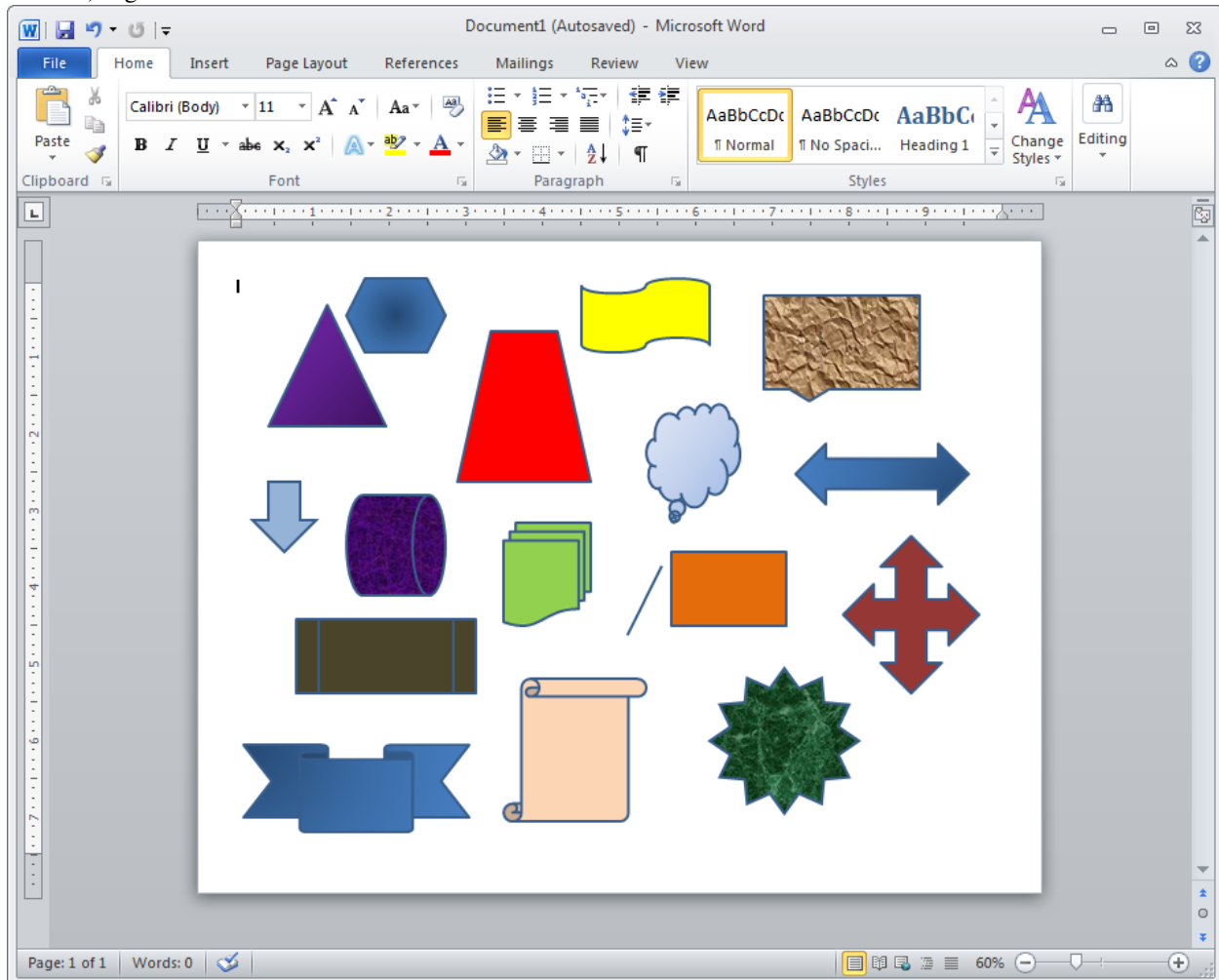


Fig. 3.25

Draw at least **three Basic Shapes** (line, rectangle, ellipse, freeform shape, triangle, hexagon, cube, etc., etc.)

Draw at least **three Block Arrows**

Draw at least **three Flowcharting Shapes**

Draw at least **three Callouts**

Draw at least **three Stars or Banners**

Now use the tools in the **Drawing Object Properties toolbar** to add **Line Styles** and **Line Colors** to lines and the borders of the various shapes

Fill the **Areas** of **shapes** with a mix of **colors**, **gradients**, and **bitmaps**

Save the file (**Practice Drawing 1**), then **Close** the document (later in the lesson you'll be sending it as an **attachment in email** to your instructor)

Now you are ready for the next exercise.

3.5 using colors, patterns, and other visual effects

Transparencies

As you have already learned, the *Writer* drawing tools give you lots of control over colors, patterns, gradients and other visual effects, such as shadows and 3-D. Let's take a closer look at some of these tools, starting with transparencies.

You need a new document for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 2**, and hit **Save**

Start by drawing a **rectangle** on the blank page and give it an **Area Fill color** of your choice, then draw an **ellipse** that **overlaps** the rectangle and which has a **different Area Fill color** than the rectangle—something like Fig. 3.26

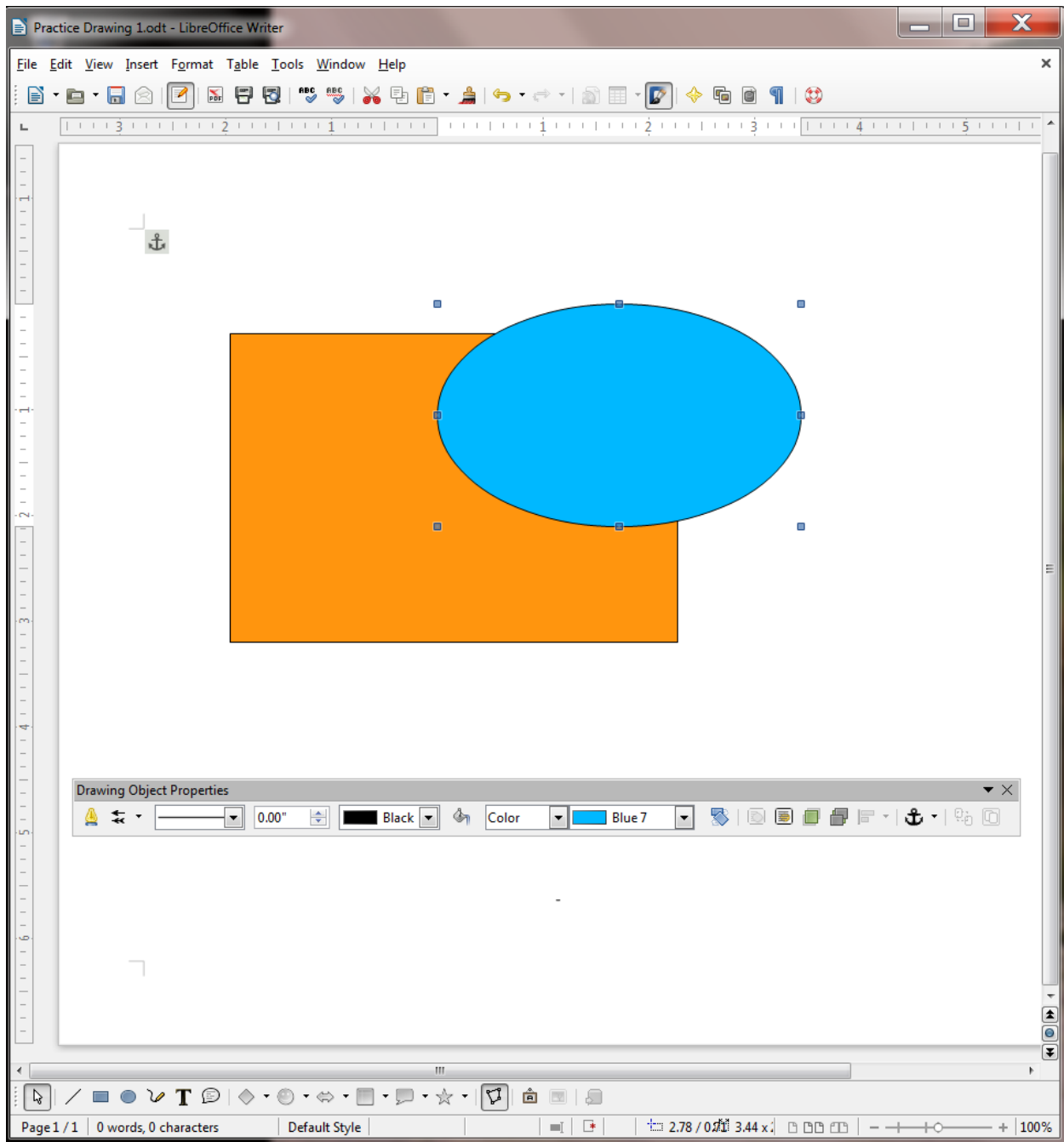


Fig. 3.26 One shape overlapping another

The ellipse, being opaque (a solid color), hides part of the rectangle. But you can adjust the *Transparency* of the Area Fill Color of a drawing object such as the ellipse in this case, thus allowing a drawing object that is hidden behind it to show through. Let's try this.

With the ellipse selected, in the **Drawing Object Properties toolbar** click on the **Area** tool to bring up the **Area dialog box** (Fig. 3.27)

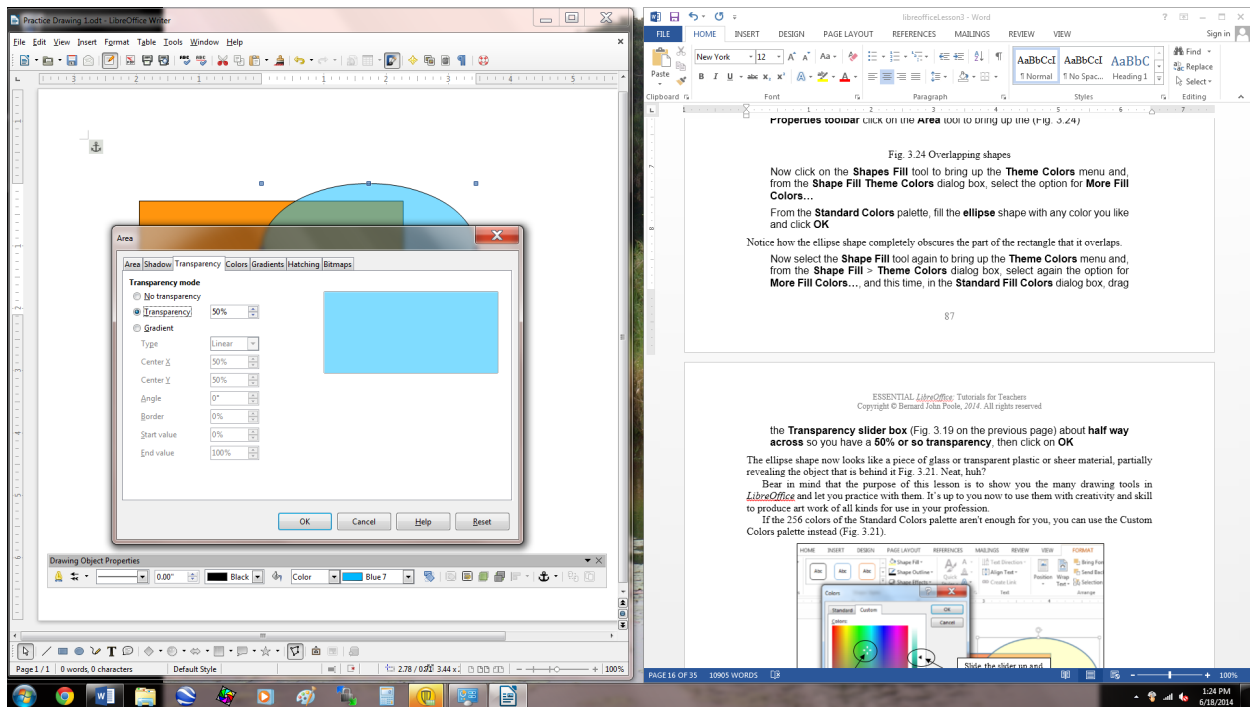


Fig. 3.27 Settings for a semi-transparent shape

Now, in the **Area dialog box** click on the **Transparency** tab, then click, in the **Transparency mode** section, on the **radio button** next to **Transparency** (Fig. 3.24 on the previous page) so that you will have a **50% transparency** for the selected object (the ellipse), then click on **OK**

The ellipse shape now looks like a piece of glass or transparent plastic or sheer material, partially revealing the object that is behind it Fig. 3.28.

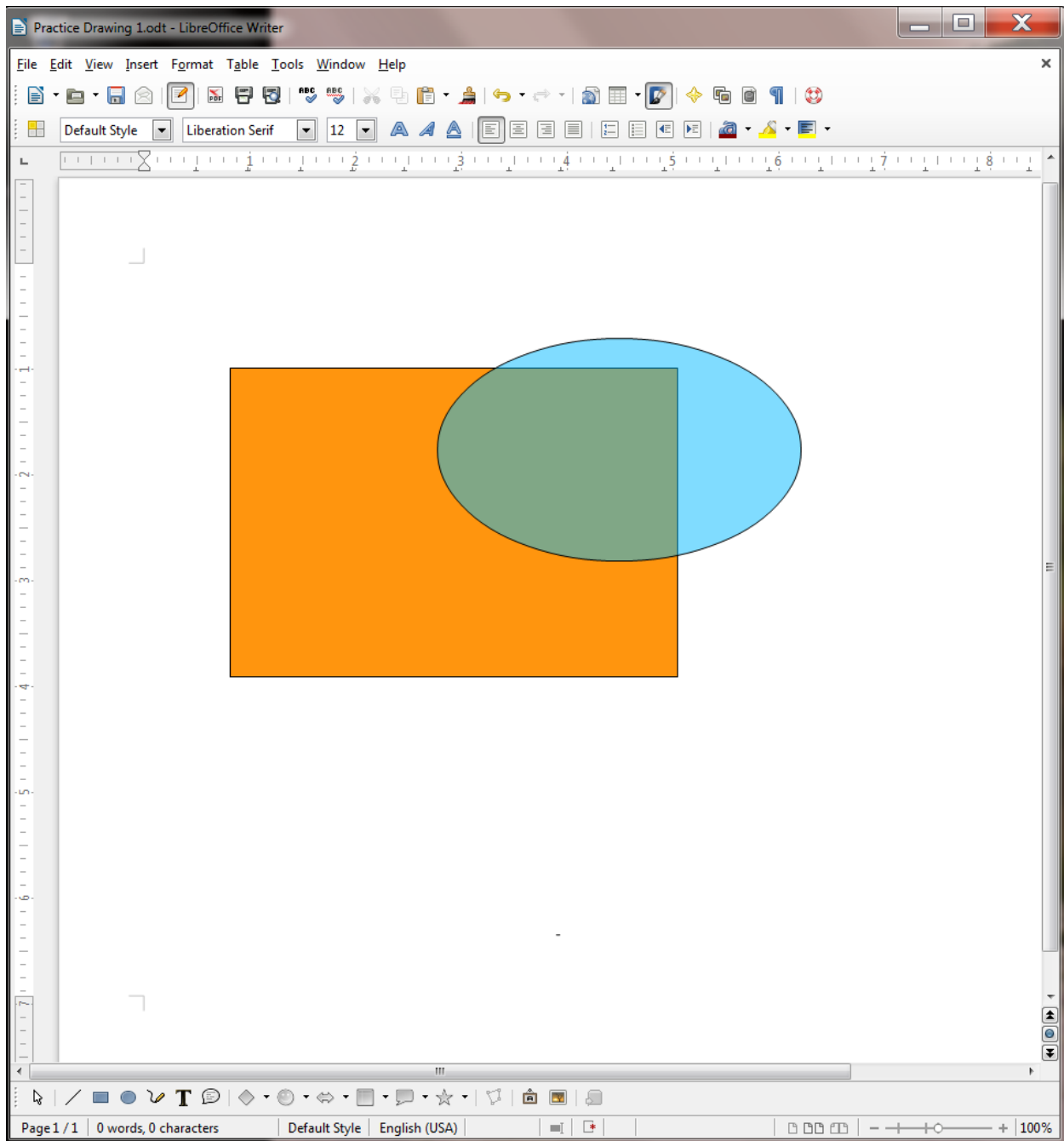


Fig 3.28 The transparent ellipse

Neat, huh? Notice that you can also add gradients to the transparent shape. Try this now.

With the ellipse still selected, in the **Drawing Object Properties** toolbar click on the **Area** tool to bring up the **Area dialog box**, click on the **radio button** next to **Gradient** and then select the **Type** of gradient you want from the **drop down list**

Area Fill Effects

Other than plain colors, there are different *gradients* you can use to fill shapes with smoothly graded shades of color; there also is a small selection of *hatching* fills; and you can fill shapes with *bitmaps* that come with *LibreOffice*. Now let's check out a couple of other useful *Area Fill* tools along these lines.

Filling Shapes with Imported Pictures

Bitmaps are essentially digital images, and can include any picture you want—pictures that you may have taken yourself, for example, or which you might find amongst collections of pictures and other art work that are freely available on the web.

Click on the **ellipse** shape to select it, and hit the **Backspace/Del(ete)** key to remove it from the page, then click on the **rectangle** shape to select it

In the **Drawing Object Properties toolbar** click on the **Area** button to bring up the **Area dialog box**

Click on the **Import** button

The Import button brings up the *Import dialog box*, which is essentially the Open button for the operating system you're using on your computer—Windows, Mac OS or otherwise.

In the **Import dialog box**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Miscellaneous Files folder > Practice folder**, then double click on the file named **Bouquet**

Immediately the Bouquet picture is uploaded to the rectangle shape on the *Writer* page (Fig. 3.29).

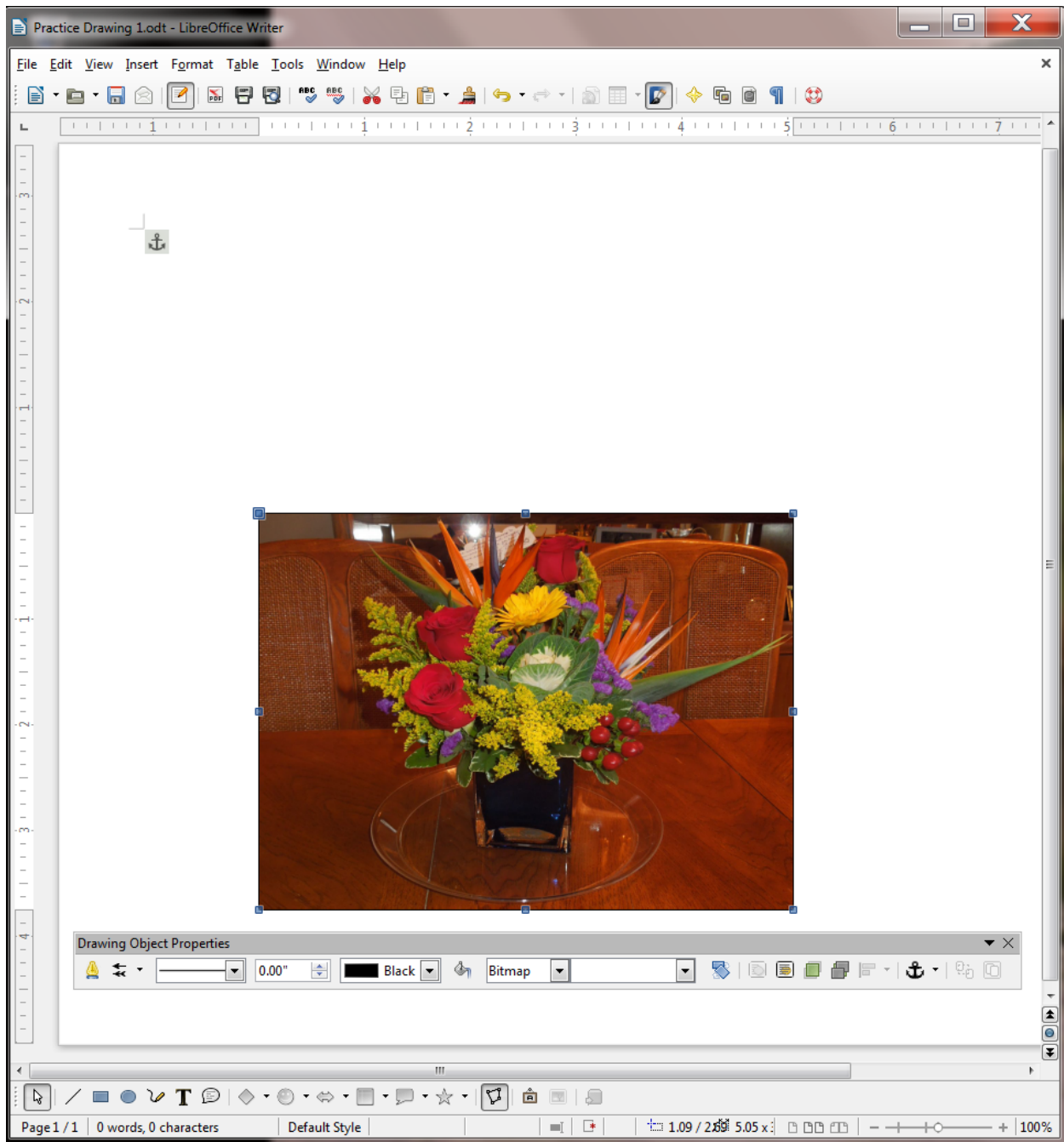


Fig. 3.29 Filling a shape with a picture imported from your disk

Depending on the shape of your rectangle, the image may be **distorted**, so use the **handles** to stretch the rectangle one way or another till it looks OK

In the **Drawing Object Properties** toolbar click on the **Area Tool** to bring up the **Area dialog box** (Fig. 3.30), and in the **Fill** section scroll to the bottom of the list of bitmaps

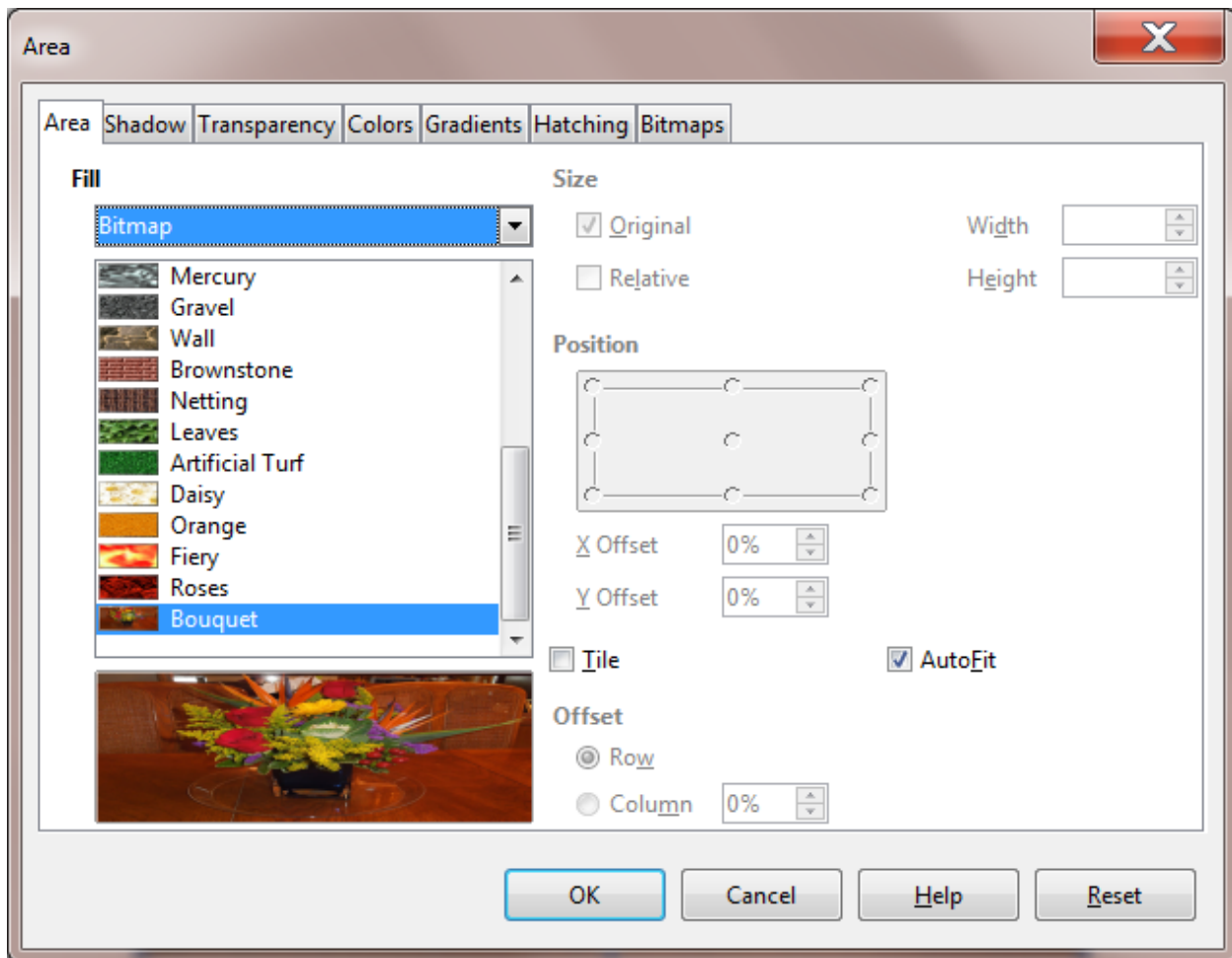


Fig. 3.30 Adding a picture to the set of bitmaps in the Area dialog box

Notice that the Bouquet picture has now been added to the set of bitmaps (Fig. 3.30 above), which means you no longer need to *Import* it again from your disk. You'll be able to easily use it again whether in *Writer*, *Draw*, or any of the other *LibreOffice* applications.

You do not want to **Tile** the picture inside the rectangle and you do want it to **Fit**, so in the **Area dialog box**, remove the check mark next to **Tile** and put a check mark in the **Autofit** box

Rounding corners and applying a Shadow effect on images

LibreOffice provides drawing tools to round off the corners of images and apply shadow effects. Both are easy enough to use, once you know how. Let's round the corners of the picture first.

Right click on the **Bouquet picture** to bring up its **context menu** (Fig. 3.31)

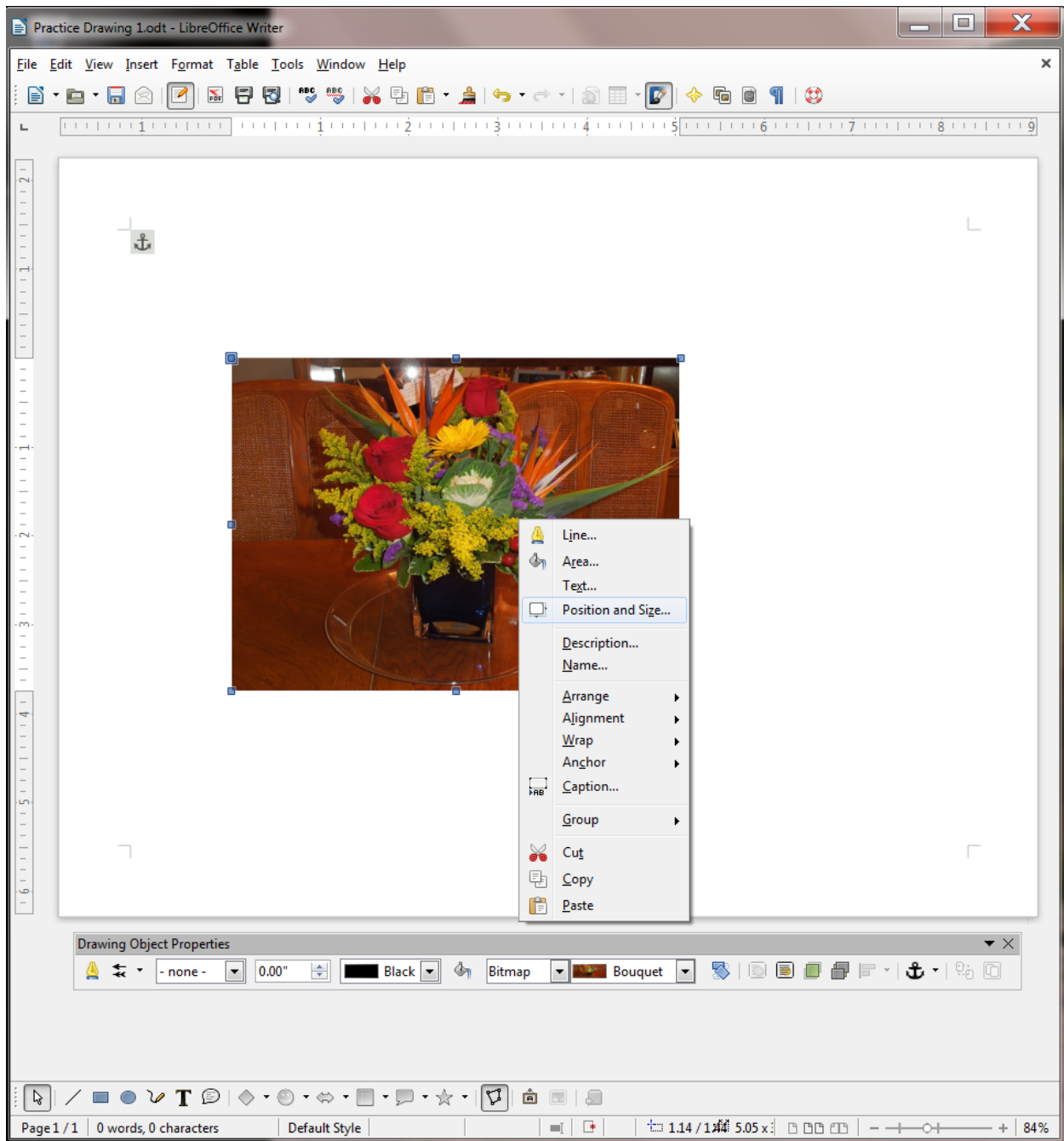


Fig. 3.31 The picture object's context menu

Click on the **Position and Size...** menu item (Fig. 3.31 above) to bring up the **Position and size dialog box**

Now click on the **Slant and Corner Radius** tab and increase the **Corner radius** setting to **0.20"** and click on **OK** (Fig. 3.32)

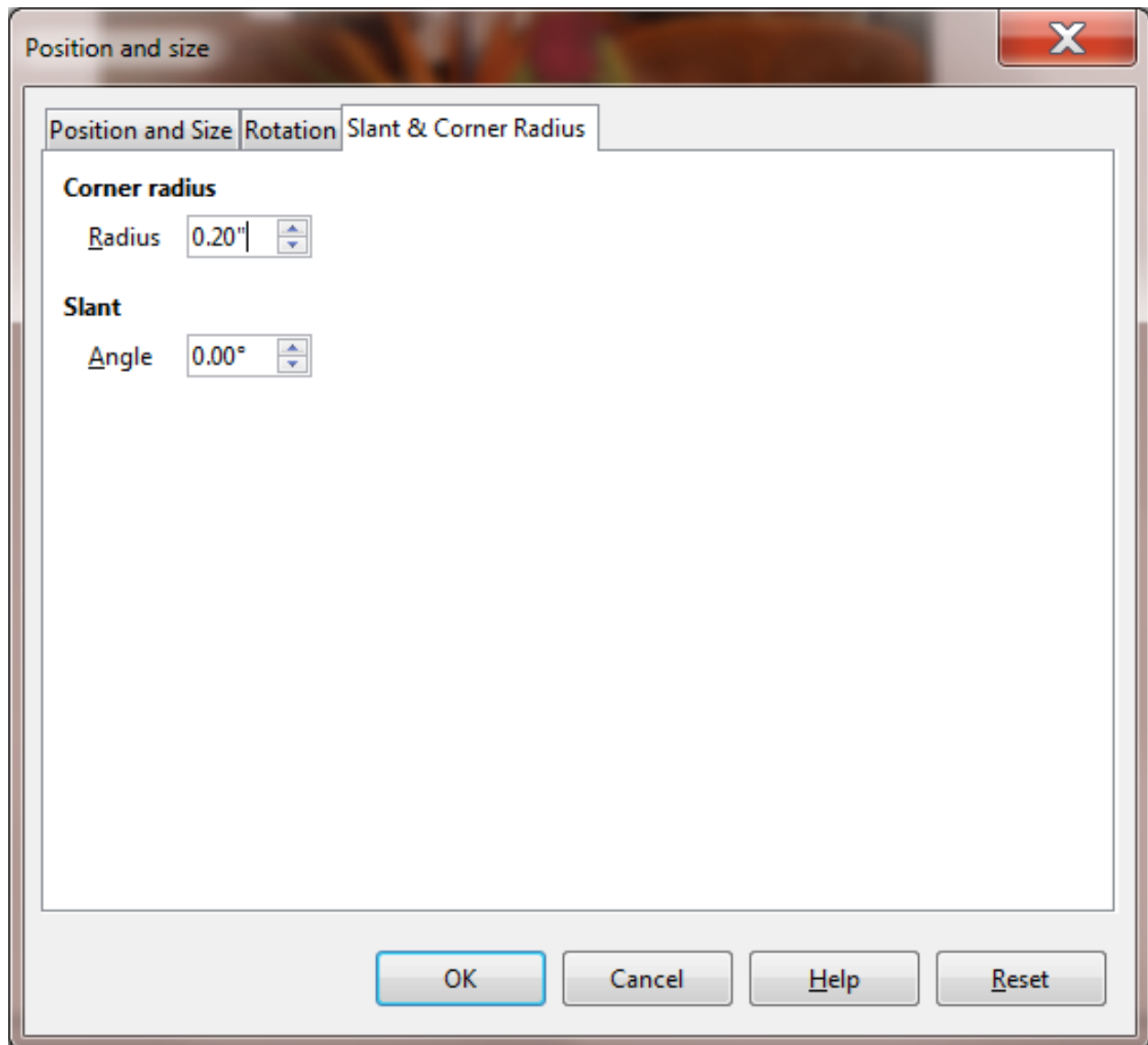


Fig. 3.32 The Position and size dialog box

Next you need to create a shadow effect on the image.

Right click again on the **Bouquet picture** to bring up its **context menu** (Fig. 3.31 on the previous page) and this time click on the **Area...** menu item, then in the **Area dialog box** click on the **Shadow tab** (Fig. 3.33) and, in the **Properties section** click to put a **check mark** next to **Use Shadow** and, in the drop down menu of Colors, select **Light Grey**

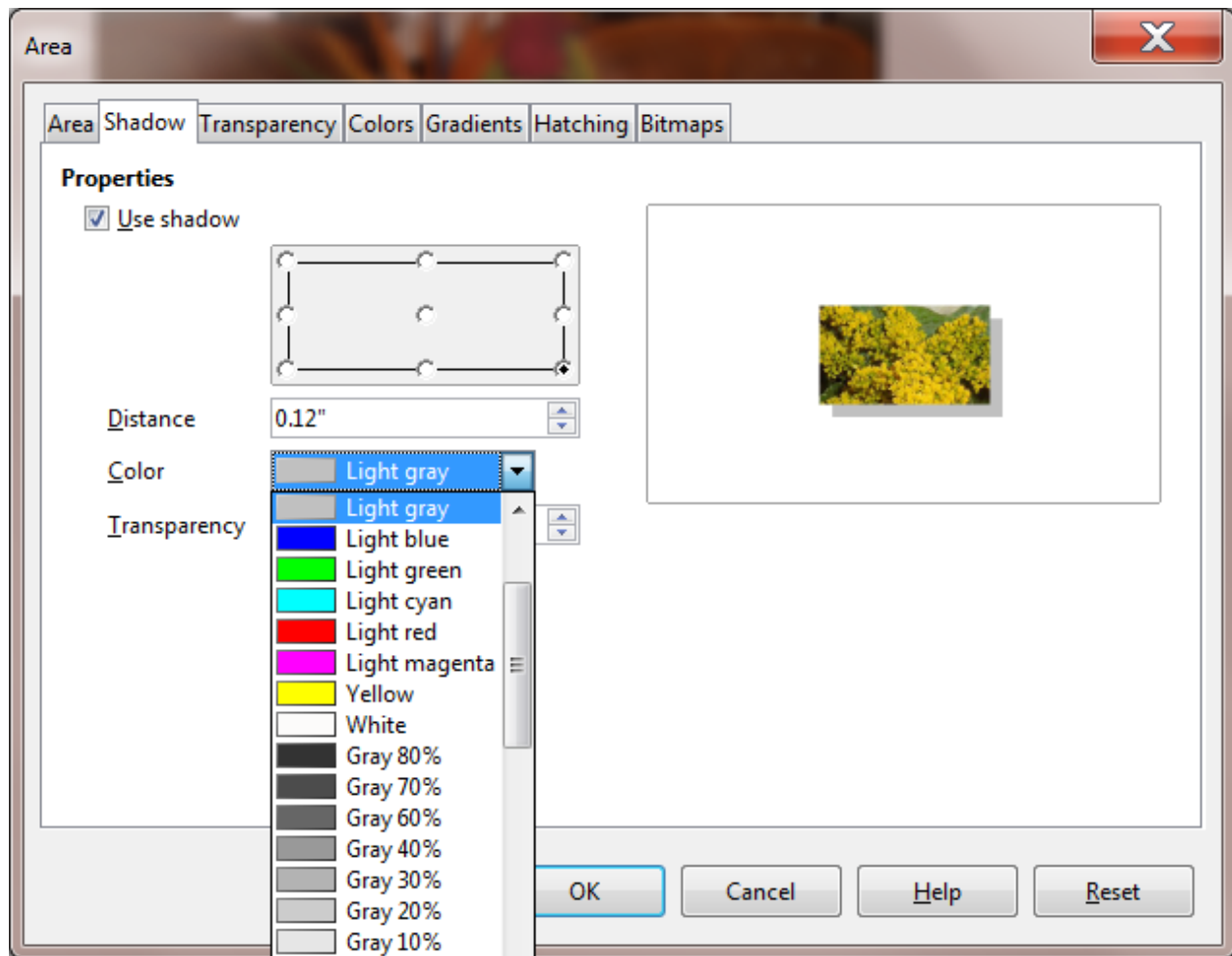


Fig. 3.33 The Shadow tab in the Area dialog box

The final version of the Bouquet image should look like Fig. 3.34.

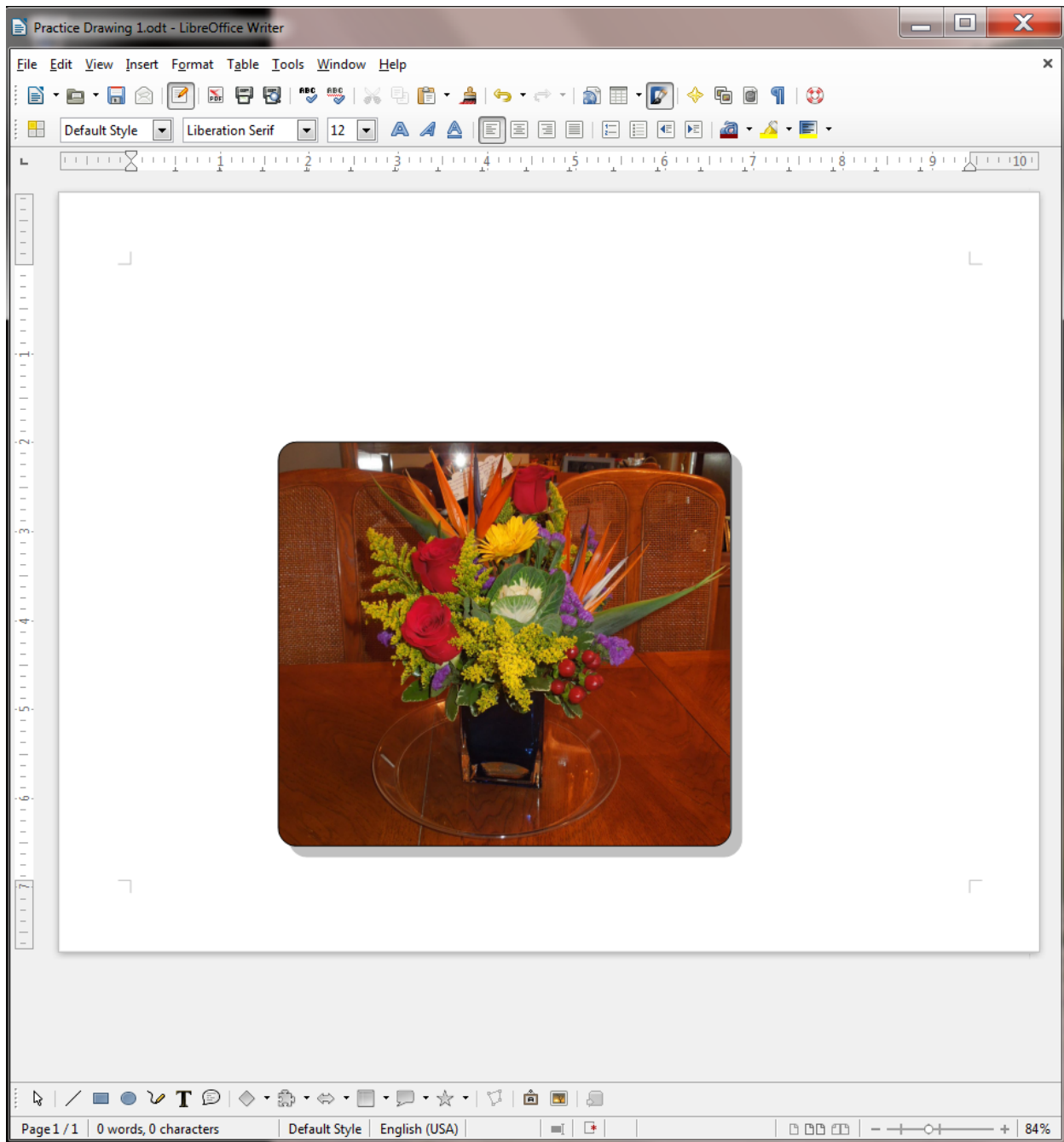


Fig. 3.34 Final version of the Bouquet picture

Save the file (still **Practice Drawing 2**) before proceeding with the tutorial—(later in the lesson you’ll be sending it to your instructor), and **delete** the **Bouquet picture object** from the page

3D Effects

All that remains in this section is to try out the various 3-D Effect tools. These are located in the *3D-Settings toolbar* which is accessed from the *View > Toolbars* menu.

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder**

Drawing Documents, name the file **Practice Drawing 3**, and hit **Save**

In the **Drawing toolbar > Symbol Shapes** draw a **Puzzle** symbol about 3" square on the page

Select any **border color** for the Puzzle **shape** and any **gradient** for the **fill**, then in the **View menu > Toolbars menu** select **3D-Settings** to bring up the **3D-Settings toolbar** (Fig. 3.35 on the next page)

In the **3D-Settings toolbar**, click on the **Extrusion On/Off** tool to **turn on Extrusion**

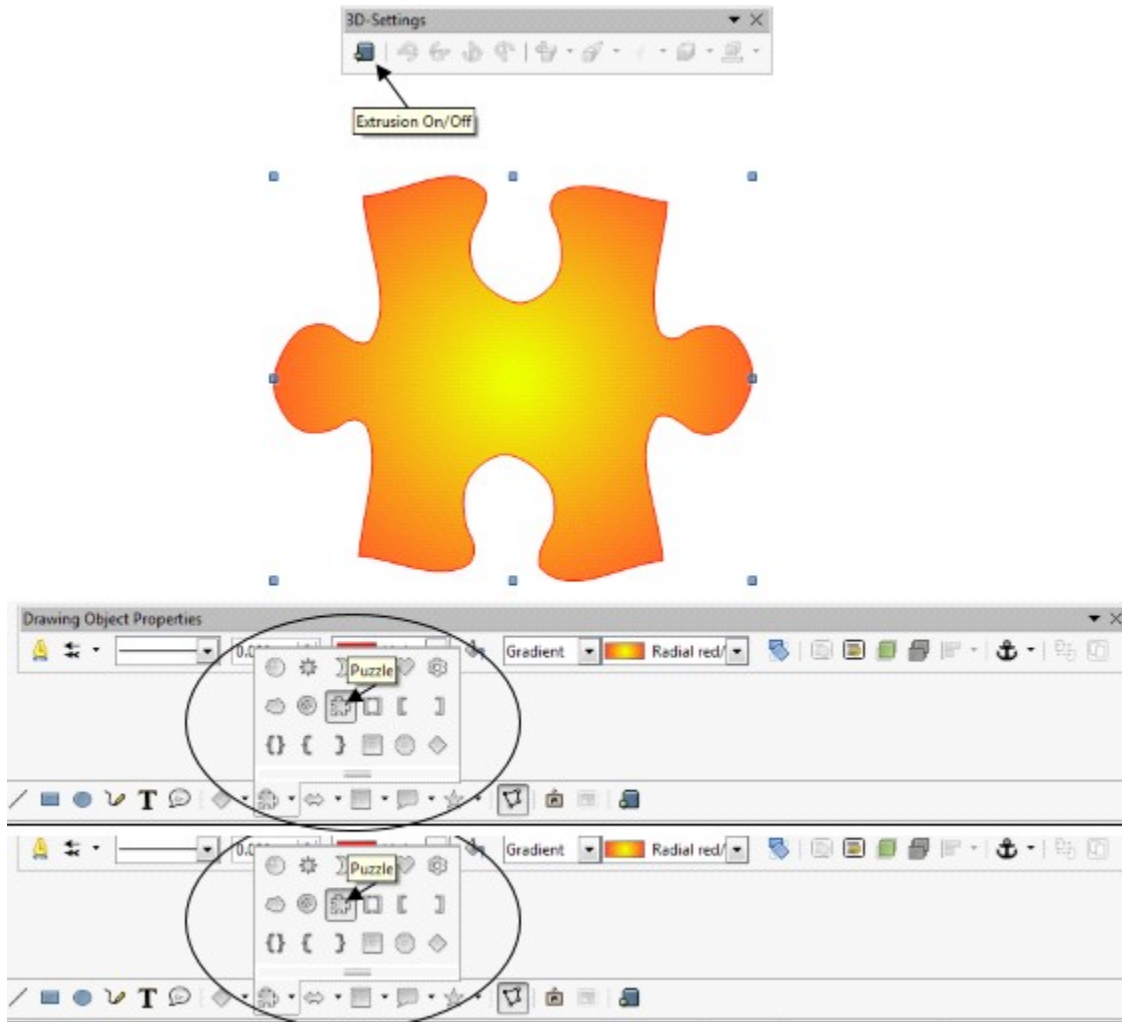


Fig. 3.35 Draw a Puzzle shape on the page

Extrusion is just another word for the process of making a shaped object, such as a rod or a tube—or a puzzle shape—by forcing a material into a mold. On the computer, all this molding and modeling work is digital and is done using mathematics.

Notice the 3d-Settings toolbar now comes to life with the various 3D (digital extrusion) tools now available for you to use on the selected object—the Puzzle shape—which has also been transformed into a basic 3D image (Fig. 3.36).

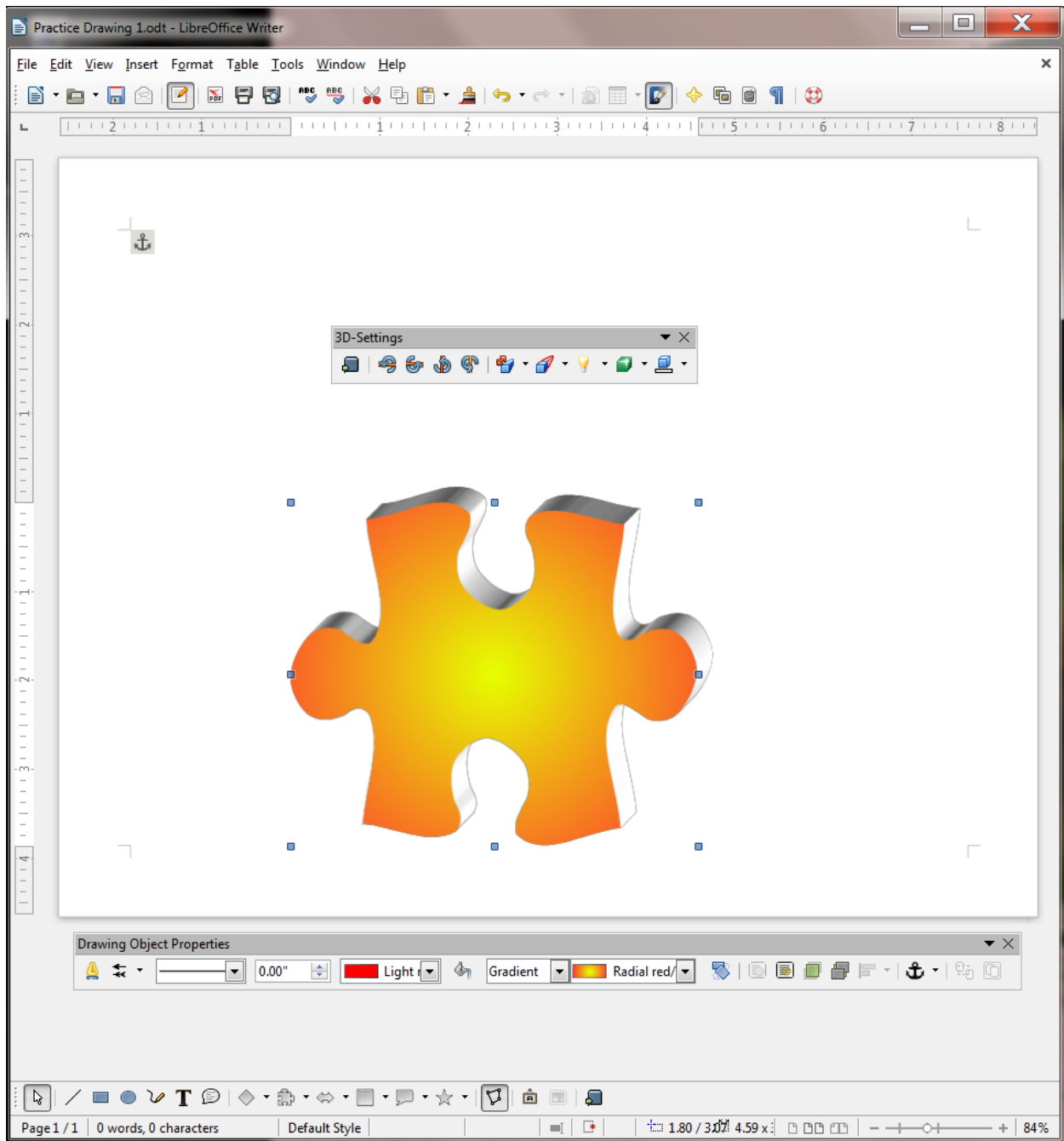


Fig. 3.36 The 3D-Settings toolbar (annotated)

Notice, too, the tools for tilting the image in various directions; tools for adjusting the depth or direction of the 3D modeling; and the tools for controlling the light source on the image, the surface texture, and color.

Your turn; with the **Puzzle shape selected**, take a few minutes now to try out **each of the various 3D-settings tools** to see how they work and to see what effect they have on the object

Very simple, very effective, very impressive. Actually, if you were aware of the math that is necessary to create these 3-D effects, you'd be very impressed indeed!

Save the file (still **Practice Drawing 3**) before proceeding with the tutorial, then **delete** the **3D Puzzle** object

The more artistic you are, the more skillfully you will be able to apply these effects. But even if you don't think you are artistic, you'll be surprised what you can come up with.

3.6 GROUPING, ordering, and aligning objects

You've probably noticed that when you put one shape, or drawing object, on top of another, it stays there, overlapping the other shape, as with the ellipse and rectangle shapes in the previous exercises.

With the Drawing Tools, every object you create is always a separate entity from the other objects on the page, even if they overlap. However, you can *group* objects together if you want, as we'll see in a moment. When you group them, they effectively become one object for as long as they are grouped. But you also can *ungroup* them whenever you please. This is because all the drawing objects are like pieces of a jigsaw puzzle or a deck of cards. You can group the jigsaw pieces by fitting them together, or you can group the cards in a deck by gathering them into a pack of cards—or you can ungroup them by scattering them to the winds. Let's see how this works in *LibreOffice*.

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder**

Drawing Documents, name the file **Practice Drawing 4**, and hit **Save**

You are going to draw seven different shapes, one on top of the other, each with a different border color and fill color or gradient. You'll end up with something like Fig. 3.37.

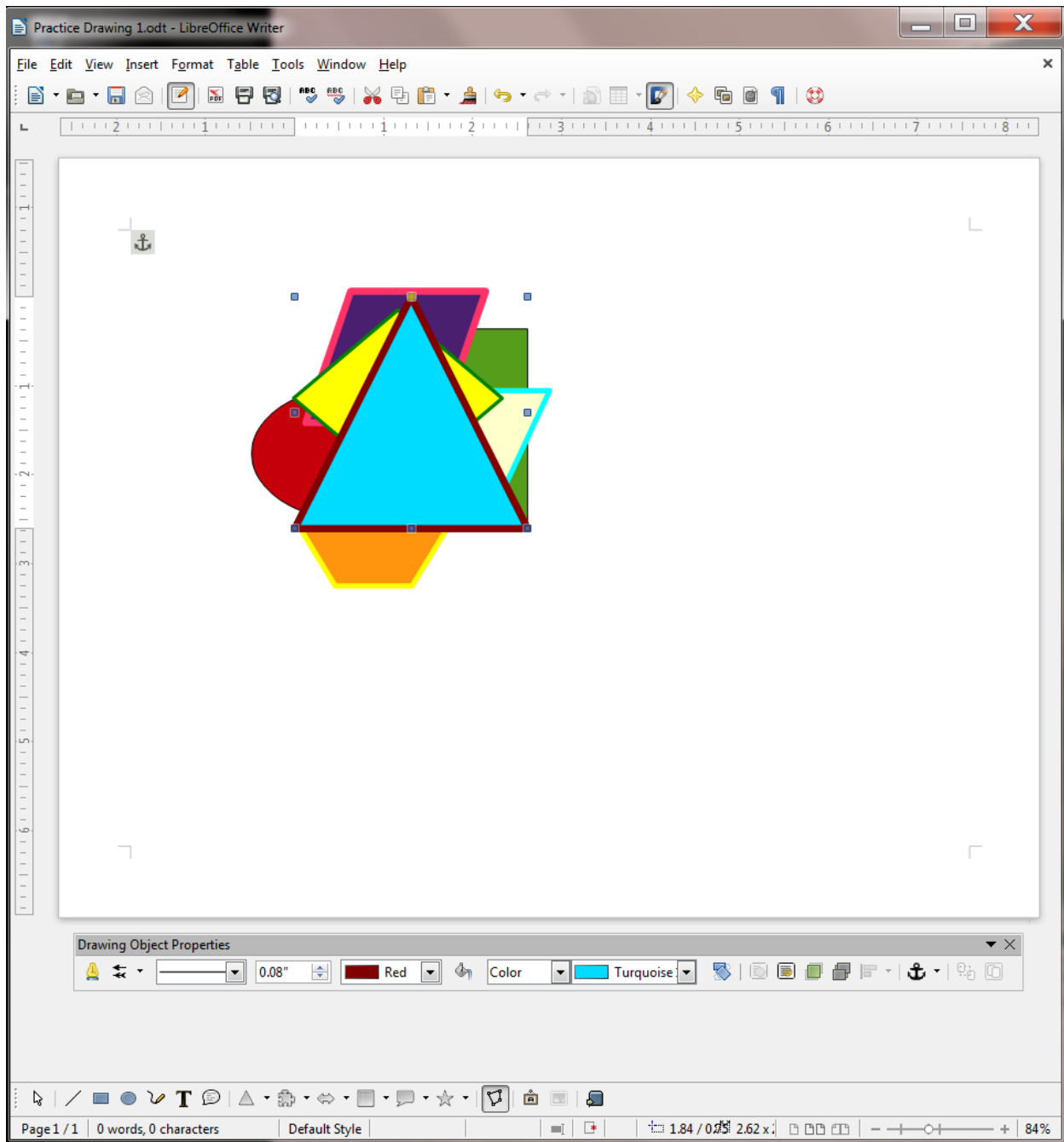


Fig 3.37 Shapes layered on top of one another

In the **Drawing toolbar** click on the **ellipse tool**, draw an **ellipse** (no more than **about 2” in diameter**) on the page and fill it with a **basic color** of your choice

Next, in the **Drawing toolbar** click on the **rectangle tool**, draw a rectangle (no more than **about 2” square**) on the page so that it **overlaps** the ellipse and fill it with a **basic color** of your choice

Now, in the **Drawing toolbar** click on the **hexagon tool**, draw a hexagon (no more than **about 1” on any side**) on the page so that it overlaps the ellipse and/or the rectangle, but **doesn’t actually hide** either the **ellipse** or the **rectangle**—make sure you can still see at least a piece of **all three shapes** and fill the hexagon with a **basic color** of your choice

Now use the **Line Width** tool to increase the thickness (**weight**) of the hexagon's border to at least **0.06"**, and use the **Line Color tool** to select a **different color** for the border

Repeat the same steps to draw and fill (using colors or gradients) both the Border and the Fill area of a **parallelogram**^[1], **trapezoid**, **diamond**, and **triangle** (again making sure none of the objects actually hides any of the others completely—you should be able to see a piece of all seven (7) shapes when you're done, as illustrated in Fig. 3.37 on the previous page)

So now you should have on your page (screen) seven different shapes with seven different fill colors and various other effects. The reason you need to be able to see at least a piece of each shape is to make it easier for you to do the next exercise.

Save the contents of the page (**Practice Drawing 4**)

****Grouping drawing objects ****

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder**

Drawing Documents, name the file **Practice Drawing 5**, and hit **Save**

Right now, all the objects are separate—ungrouped. Let's group them into three groups.

First, click anywhere **off all the shapes** so that none of them is selected

Now use the mouse, and hold the **Shift** key down, and click on the **ellipse** shape and the **rectangle** shape

Now, **right click** on the selected shapes (the ellipse and the rectangle should both have handles around them) and, in the **context menu** that pops up, select the **Group > Group** option (Fig. 3.38)

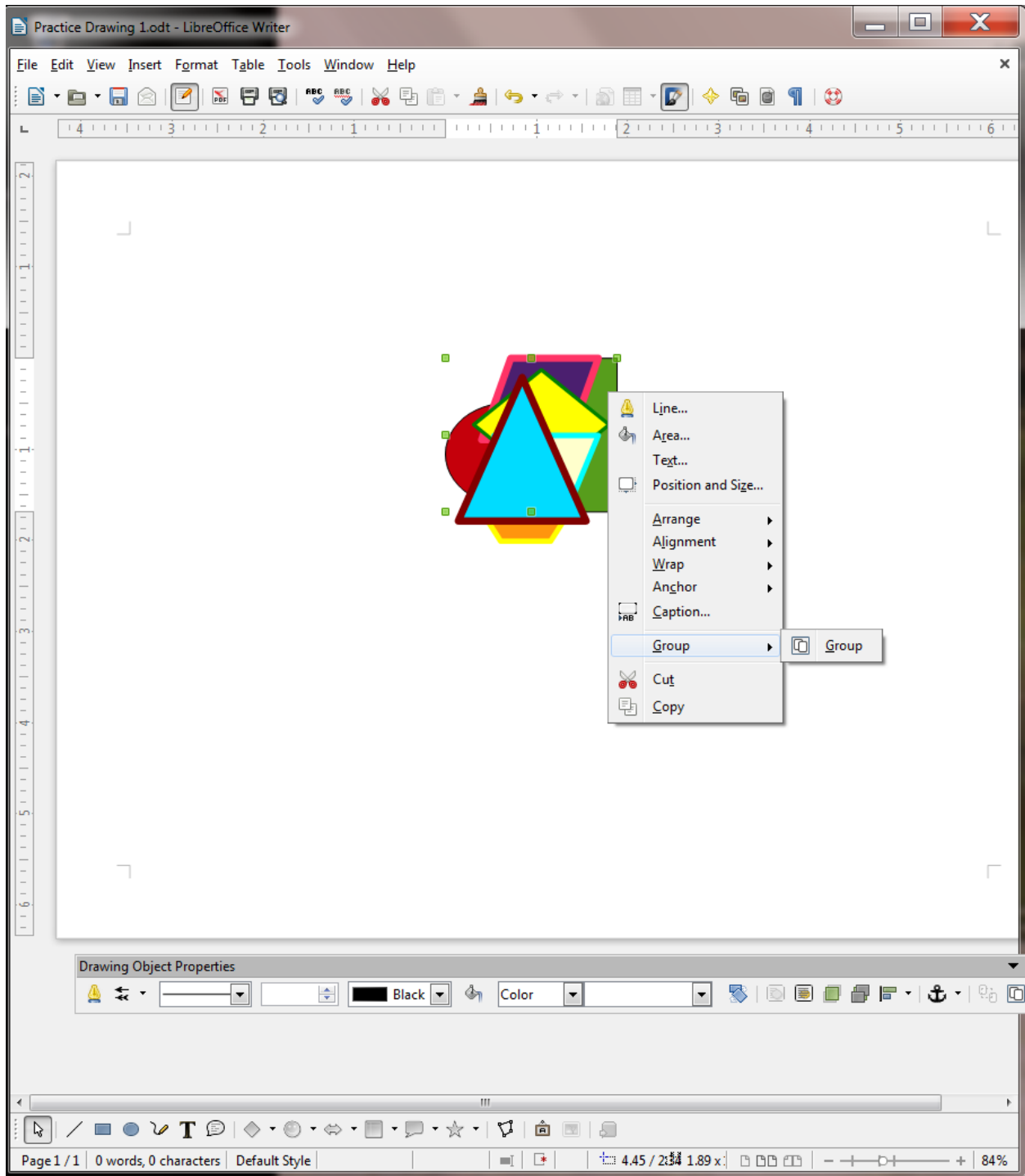


Fig. 3.38 Grouping objects together

Check your drawings now and notice that the ellipse and rectangle shapes have just one common set of handles. Now you can treat them as one object and move them around on the screen as one object, independently of the other objects.

Grab the **rectangle shape** with the mouse and slide it over to the **right edge** of the page—notice that the ellipse goes right along with it because they are now grouped together

Complete the following steps to create groups of the other objects.

Again, click anywhere **off all the shapes** so that none of them is selected

Using the mouse, and holding the **Shift** key down, click on the **trapezoid** shape and the **Triangle** shape, **right click** on the selected shapes and, in the context menu select the **Group > Group** option

Next, slide the **trapezoid and triangle shapes** up towards the **top center** of the page and click anywhere **off all the shapes** so that none of them is selected

Using the mouse, and holding the **Shift** key down, click on the remaining 3 independent shapes: the **hexagon** shape, the **parallelogram** shape, and the **diamond** shape, **right click** on the selected shapes and, in the context menu select the **Group > Group** option

Slide this final group of shapes down towards the **left center** of the page

Your page should look something like Fig. 3.39 when you're done.

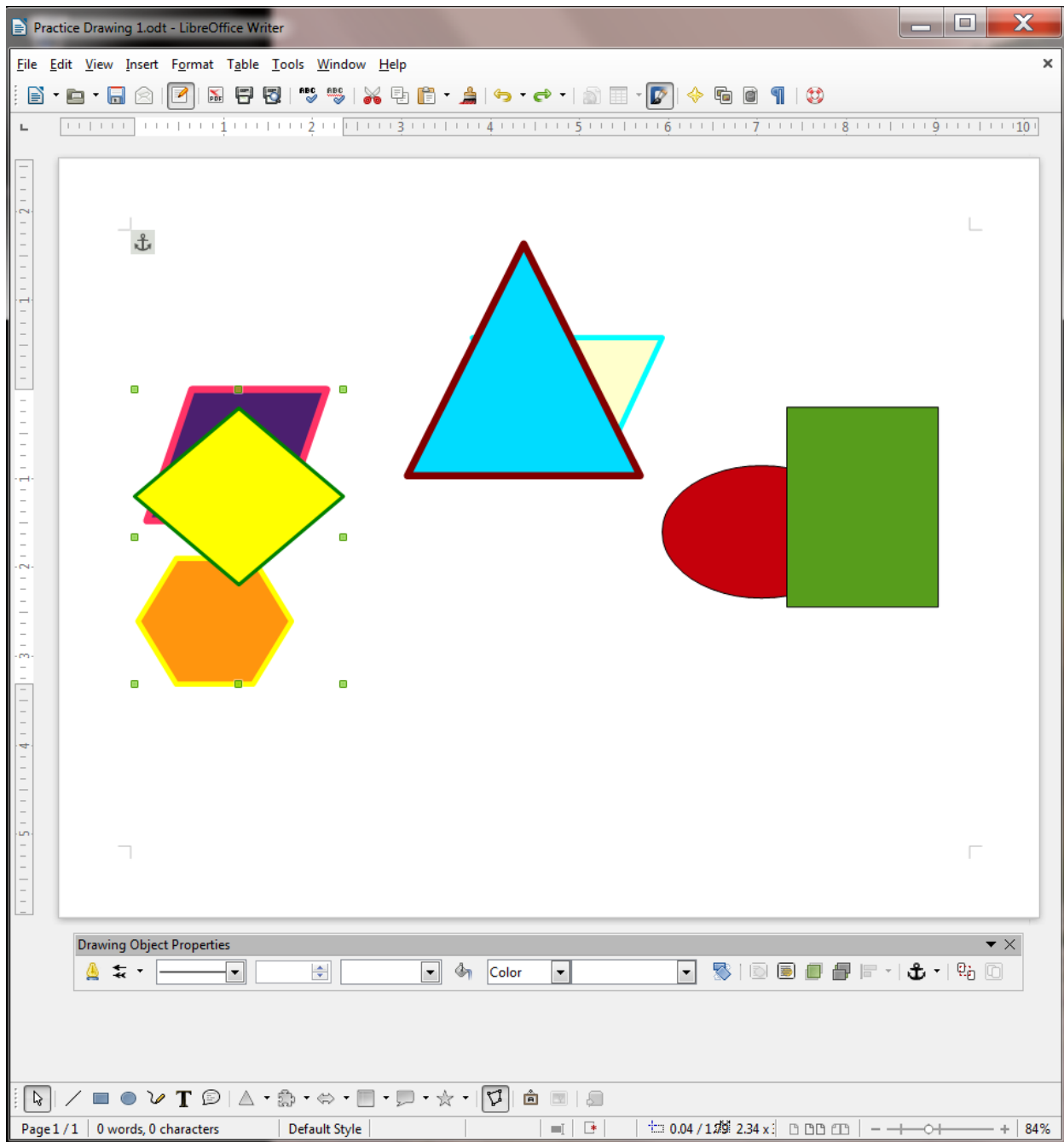


Fig. 3.39 Three separate groups of shapes

Check your drawings, click on **each group in turn**, and **slide them around** on the page

Notice that each group now has just one set of handles and that they move as a group. You can even rotate them as a group.

Try this now by clicking on any of the three groups, click in the **Drawing Object Properties toolbar** on the **Rotate tool**, and **rotate** the grouped shapes any way you want

This is often very useful when you create a complicated drawing using several objects, like lines and shapes, and you want to move them around a few items at a time, or all together or rotate them as one object or as several specific objects, and so on. Just group them all together, and Bob's your uncle! You'll have another chance to practice this

when you do the Skill Consolidation exercises at the end of the lesson.

Resizing objects

This is easy.

Click on any of **the shapes** to select a group and grab hold of one of the corner handles and drag in to make the group smaller

Do the same thing to reduce the size of the other two groups, then drag the ellipse and rectangle group to the **top right corner** of the page, the trapezoid and triangle to the **lower center**, and the hexagon, diamond and parallelogram to the **top left corner**

Your drawing should now look something like Fig. 3.40.

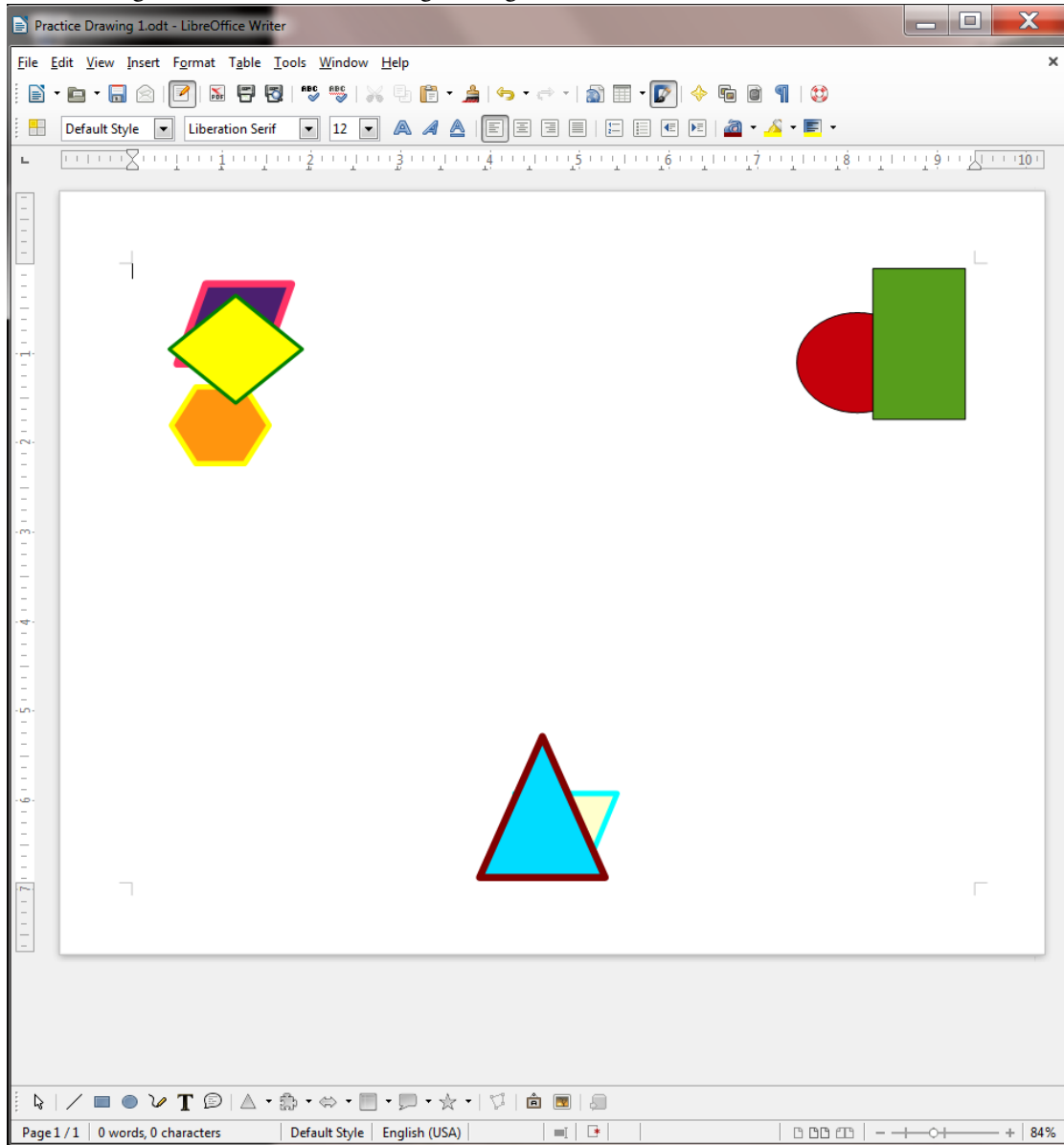


Fig. 3.40 Resized grouped sets of objects

Save the contents of the page (**Practice Drawing 5**)

Ungrouping objects

This is easy, too.

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder**

Drawing Documents, name the file **Practice Drawing 6**, and hit **Save**

First, click anywhere **off all the shapes** so that none of them is selected

Click on the **ellipse-rectangle** shape, right click on it and, from the context menu, select **Grouping > Ungroup**

Look at the ellipse and rectangle shapes now and notice that all the handles for each shape have reappeared.

Now click anywhere **off the ellipse-rectangle shapes** so that neither of them is selected, then click on **just the ellipse shape** and notice that it is now independent of the rectangle shape

Move the **ellipse** shape away from the **rectangle** shape so there is **no longer any overlap**

Repeat this to **ungroup all** the other objects—be sure to ungroup them all for the sake of the following exercises, then move each of the shapes away from each other so there is **no longer any overlap anywhere**—you should now have 7 separate shapes spread out on the page

Ordering the drawing objects

The order of the shapes right now should still be the same as the order in which you created them. So the rectangle is in the back, the ellipse on top of the rectangle, and so forth. Think of the objects as layered one on top of the other—even if they aren't actually touching. But because you've moved them all around, they may no longer all be touching each other. So let's slide them all back on top of each other in the middle of the page so you can see how the ordering function works.

Rearrange all the shapes so they are **overlapping** each other again in the center of the page (something like in Fig. 3.41)

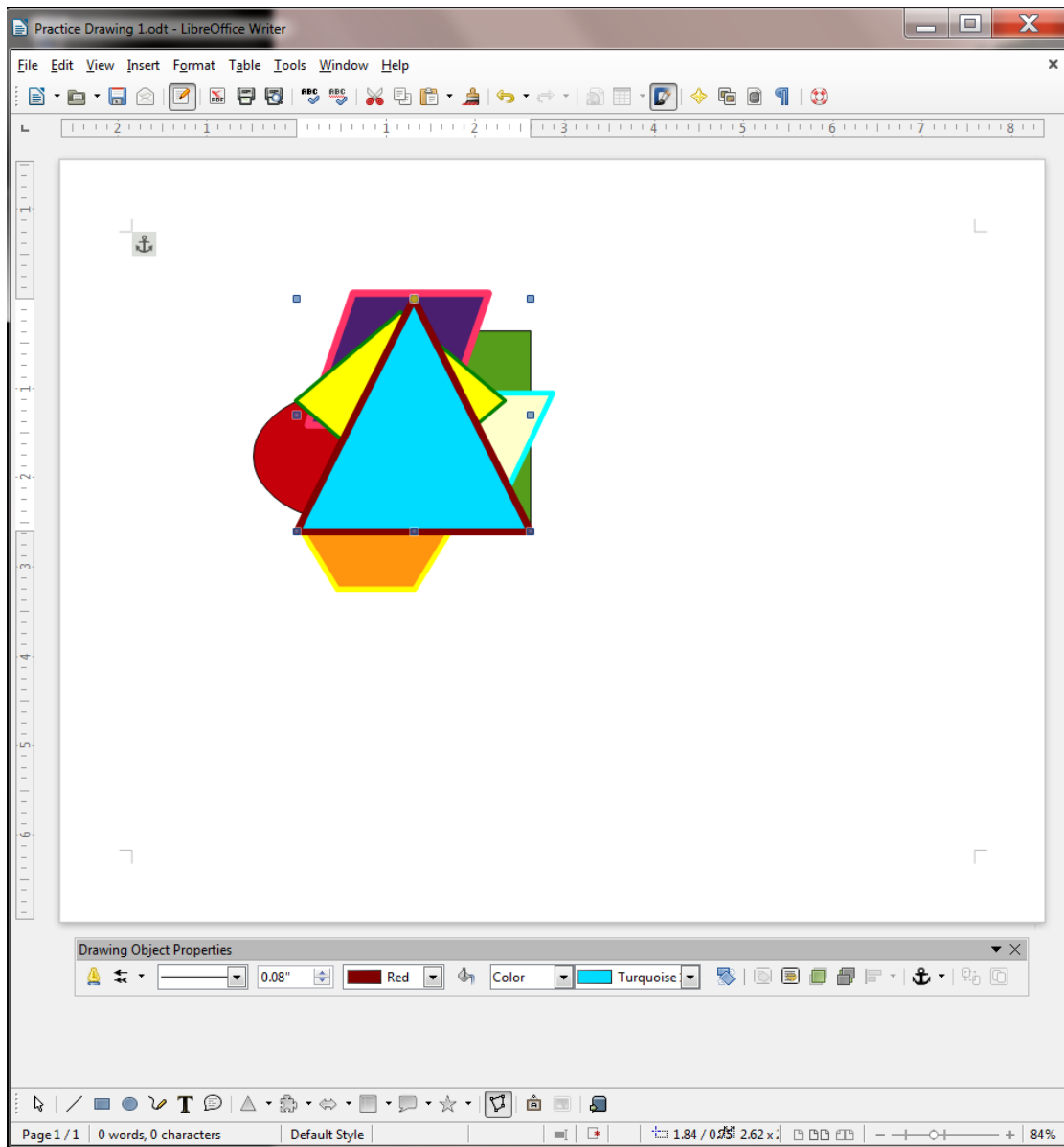


Fig. 3.41 Drawing objects layered on top of each other

Notice how they are all still layered in the order that you originally created them, so the first shape you created (the ellipse) is still on the bottom and the last shape you created (in Fig. 3.38 it's the triangle) is still on top.

You can move (re-order) objects backward or forward in the layers. Time to try this out; then you'll see how it works.

Click to select the **top** shape first (the triangle), **right click** on it, then from the **context menu** select **Arrange > Send Backward**

This drops the top shape back behind the next shape down in the pile of shapes (or deck, if you think of the shapes as a deck of cards). The trapezoid should now be on top.

Select the new **top** shape again, **right click** on it, then from the **context menu** select **Arrange > Send to Back**

Now the top shape (the trapezoid) is moved all the way to the bottom of the deck. You can bring objects forward or send them back, either one layer at a time, or all the way forward or all the way back in one go.

Try this now with **several** of the objects, using **each one of the Order options** till you get the hang of it, then **Save** the file (**Practice Drawing 6**) when you're ready to move on

Aligning Drawing objects

No doubt your page now looks like a work of abstract art! One last task remains in this section of the tutorial. You need to take a moment to check out the *LibreOffice* Align tools, which make it easy for you to *Align* an object or a set of objects (shapes) in the space that contains them. To practice this you can use the set of 7 shapes you were working with in the previous exercise.

At the **left hand end** of the **Drawing toolbar**, click on the **Select** tool, then use the mouse pointer to **drag** from **outside the top left** of the 7 shapes **down across** all the shapes to the **bottom right**

You should now see a single set of handles around the 7 shapes as a whole.

Using the mouse pointer again, grab any of the **handles** and **drag** to make the **set of shapes** as big as you can to **fill the page**

When you're done "stretching" the shapes, your page might look something like Fig. 3.42.

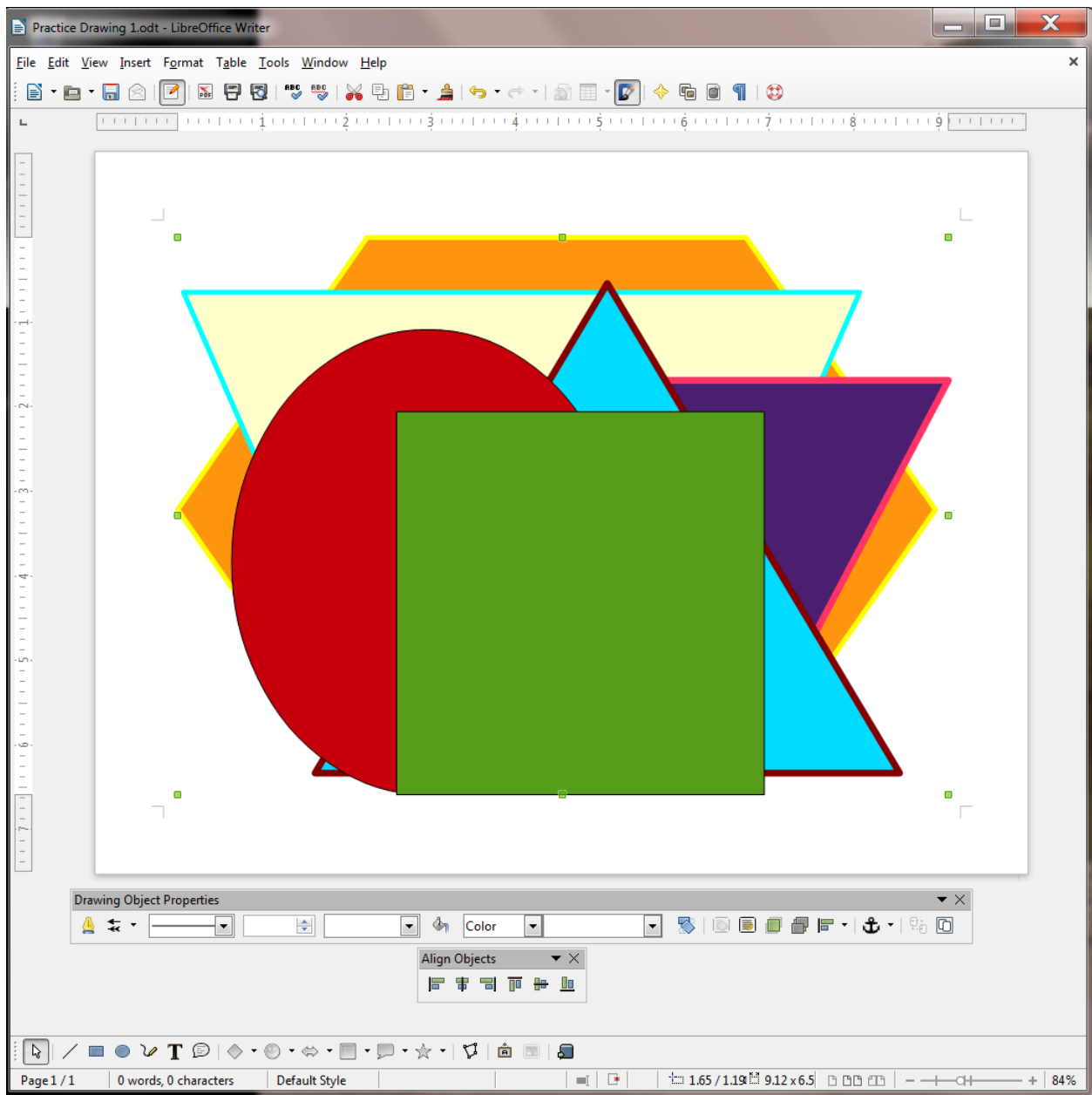


Fig. 3.42 The 7 shapes stretched to fill the page

In the **View menu > Toolbars menu**, click to select the **Align Objects toolbar** (Fig. 3.43)

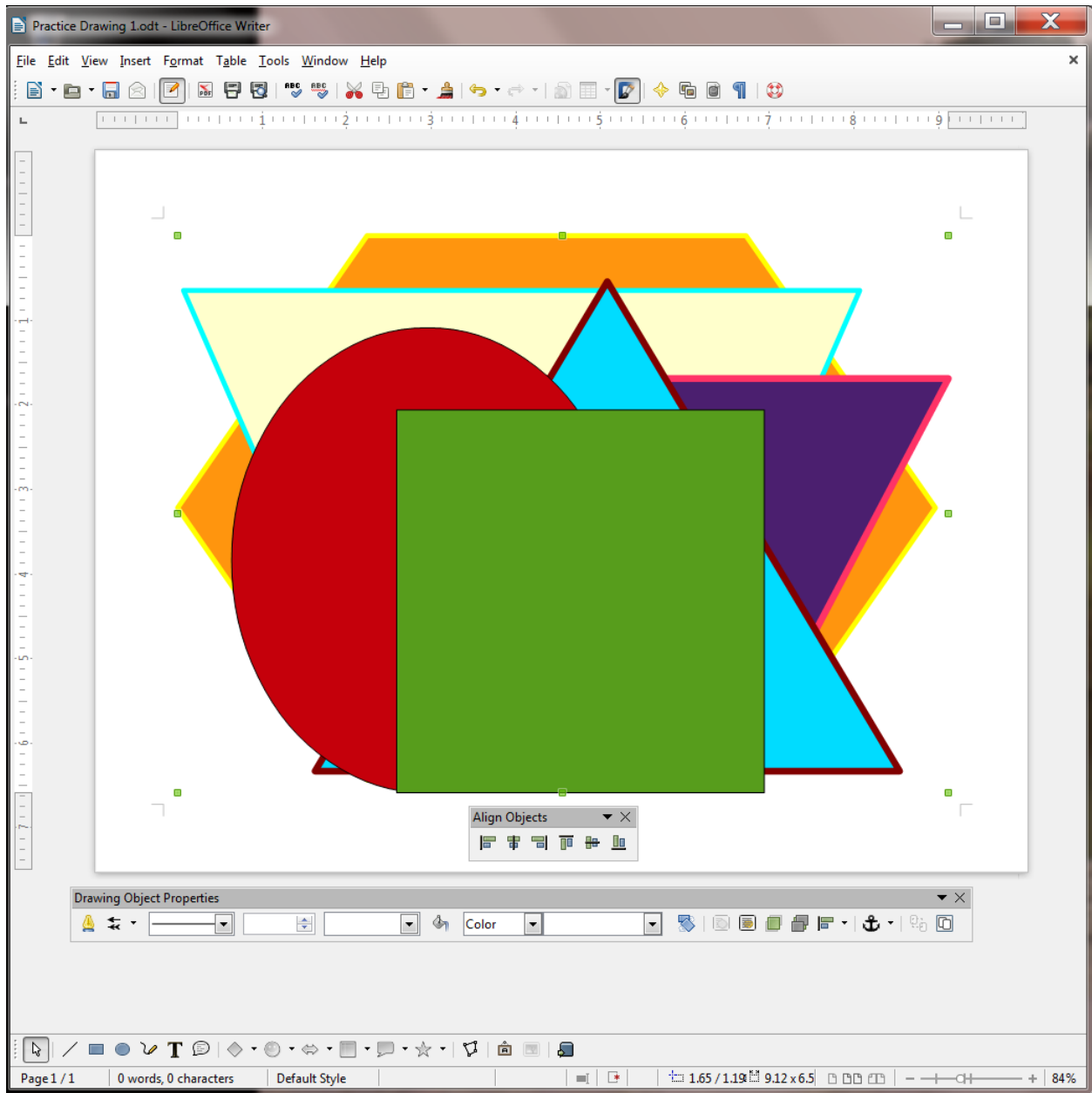


Fig. 3.43 The Align Objects toolbar

Now, with all the shapes still selected, click on **each of the tools** in the **Align Objects** toolbar and watch as the shapes are all aligned, *in relation to the set of shapes as a whole*, **to the left, horizontally centered, to the right, to the top, vertically centered, and to the bottom**

Save the file (**Practice Drawing 6**) when you're ready to move on, then clear **all the shapes** off the page

3.7 Using the Textbox tool and *Fontwork*

Using the Textbox tool

It will be easiest to start over with a new *Writer* document for this part of the tutorial.

In the **File** menu select **Close** to close **Practice Drawing 6**, then in the **File** menu select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 7**, and hit **Save**

In the **Drawing toolbar** click on the **Text tool**, then drag with the mouse pointer to create a **textbox** on the page (Fig. 3.44)

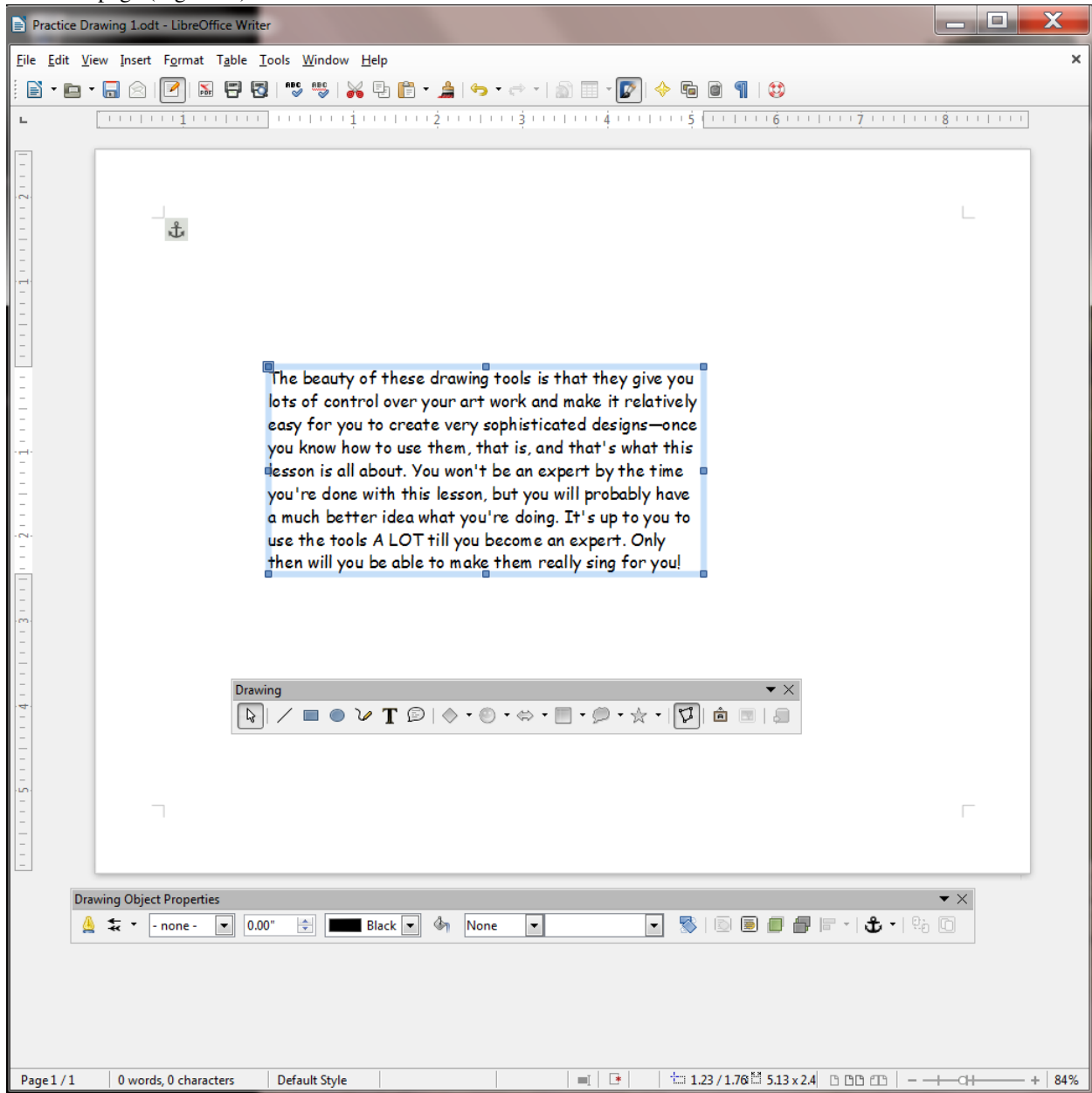


Fig. 3.44 The Textbox tool in the Drawing toolbar

Type (or copy and paste) into the text box **the following text**:

The beauty of these drawing tools is that they give you lots of control over your art work and make it relatively easy for you to create very sophisticated designs—once you know how to use them, that is, and that's what this lesson is all about. You won't be an expert by the time you're done with this lesson, but you will probably have a much better idea what you're doing. It's up to you to use the tools A LOT till you become an expert. Only then will you be able to make them really sing for you!

Play with the **handles**, **stretch** the **Text box** up and down and from side to side and notice that you can make the Text Box any shape you want to fit the contents you have put inside it

Now, with the **tip** of the mouse pointer anywhere on the outside border (**but NOT on one of the handles**)

hold down the **left mouse button** and **drag** the **text box** to the right or left or up or down—you decide where its final position will be on the page

Save your work (Practice Drawing 7)

Everyone needs to know how to do handle layout skills such as this, where you have a piece of writing in a text box and where you need to lay it out on a page. You will undoubtedly be putting together handouts, or maybe you'll produce a magazine or, even better, you will supervise others producing a magazine under your direction.

For example, the text box is a useful tool for explaining the contents of diagrams, as illustrated in Fig. 3.45.

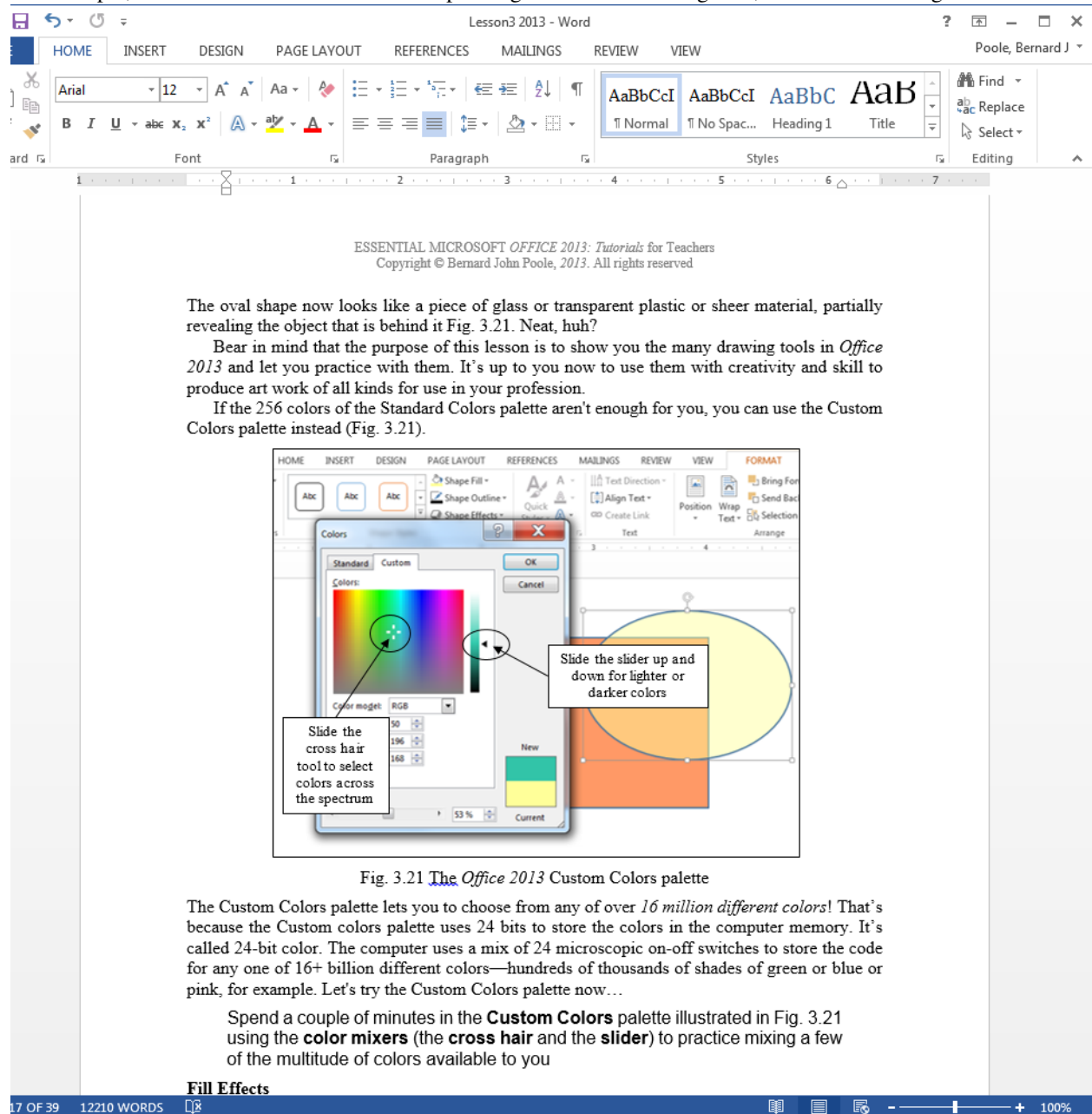


Fig. 3.45 Using text boxes to explain components of a handout or illustration

Using the *Fontwork* tool

Fontwork is a set of graphic fonts that add a touch of flair or pizzazz to your text. The best way to see what this involves

is to try it for yourself.

Click to put the cursor at the **beginning** of the text in the **Text Box** (before the words **The beauty of these drawing tools...**), hit **Enter twice** to move the text **down two lines**, then click at the **top left** just inside the text box to put the cursor there

In the **View menu > Toolbars menu**, click on **Fontwork** to bring up the **Fontwork toolbar**, then in the **Fontwork toolbar** click on the **Fontwork Gallery icon** (see Fig. 3.46)

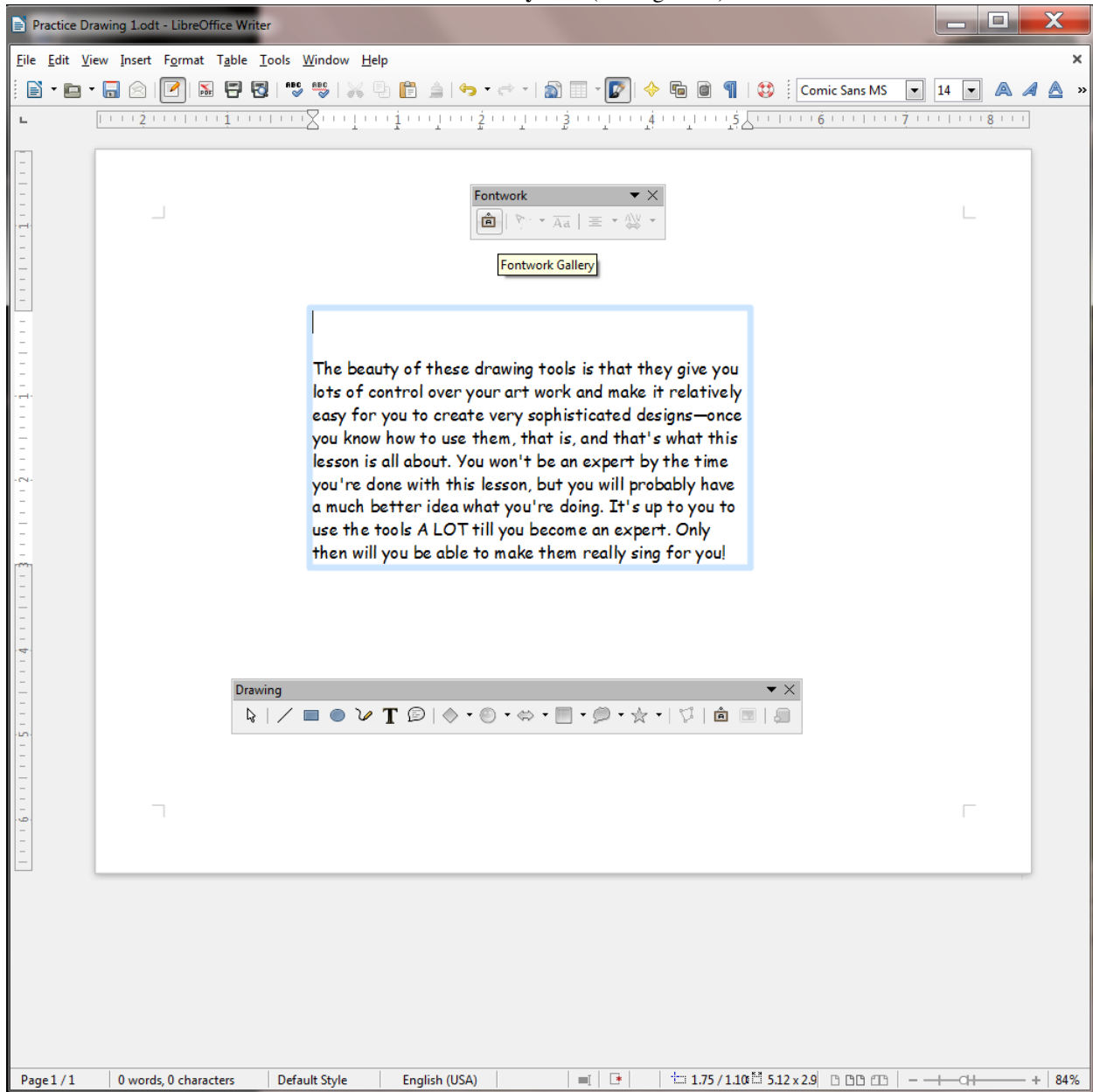


Fig. 3.46 The Fontwork toolbar

This brings up the Fontwork Gallery from which you can choose whichever style of font graphics appeals to you.

Take a look at the various **Fontwork styles** in the Fontwork Gallery, then select one that you like by **double clicking** on it (you can easily change it later if you change your mind)

The *Fontwork* you selected pops up on the screen.

Double click on the Fontwork image and you'll see the boldface word **Fontwork** in the middle of the fontwork design (Fig. 3.47)

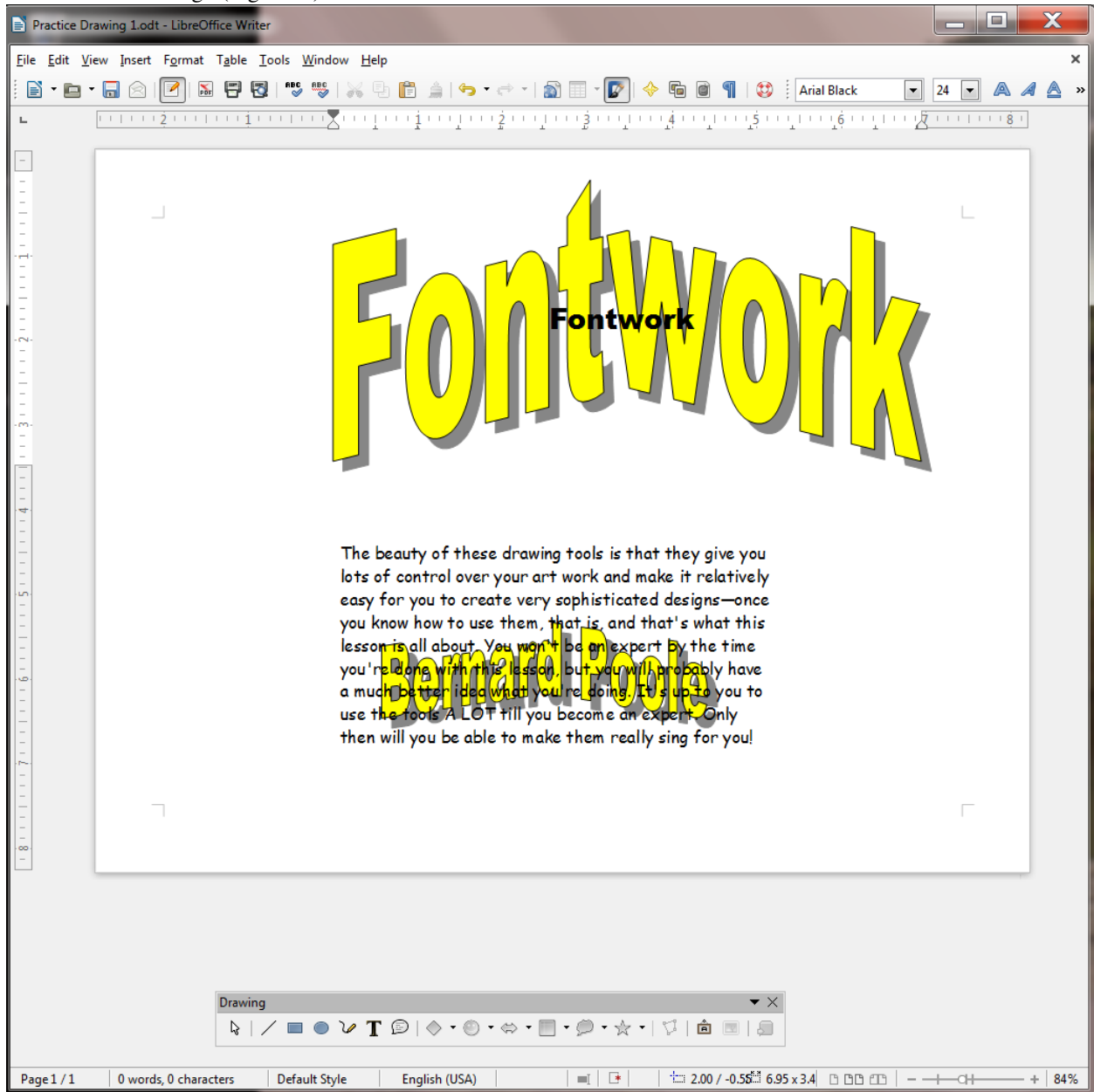


Fig. 3.47 Fontwork design before processing

Use the **backspace key** to remove the boldface word **Fontwork** from the middle of the design and in its place type your **First and Last name**, then click **anywhere on the page** and your name will become the text for the Fontwork design

Click on **your name** and you'll see **handles** appear around the edges of the Fontwork design

Now you can use the Fontwork toolbar to make changes to the Fontwork design of your name.

Try out some of the tools in the Fontwork toolbar now to see what effect they have on the design of your name and when you see something that looks good to you, grab any of the handles and reduce the size of the Fontwork text till it can fit inside the space you made for it in the textbox on the page

With the **tip** of the mouse pointer, click on the **edge** of the box, hold down the **left** mouse button, and drag your name so that it's **centered** in the box over the paragraph of text

Fig. 3.48 shows how your name might look when you are done.

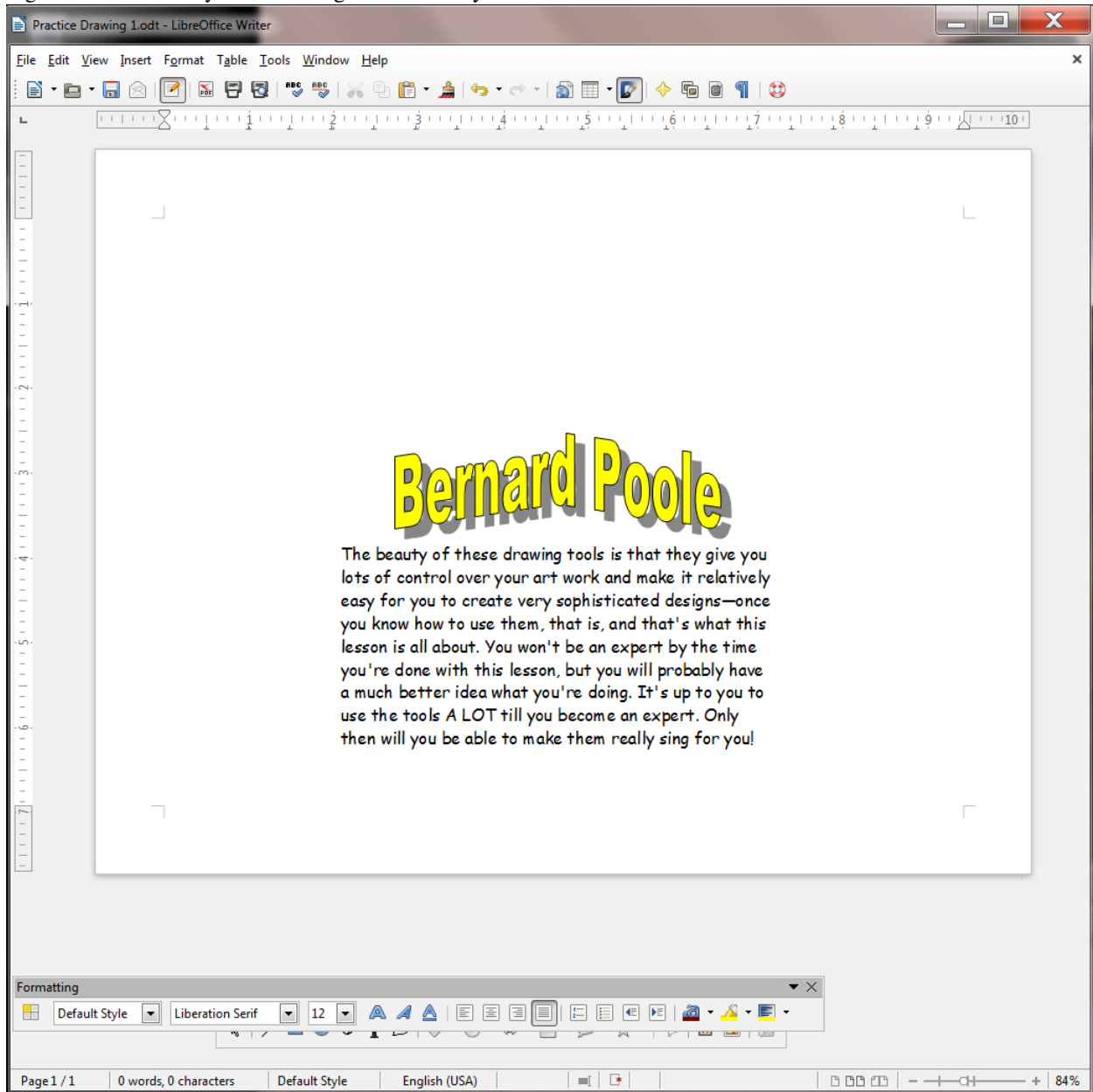


Fig. 3.48 Fontwork example

Using the Fontwork tools, and with very little effort on your part, you can create class handouts, banners, certificates, and other visual materials which can be eye-catching, tasteful, and, above all, instructive.

There are a couple of other things you need to learn about the Fontwork tools.

Click again on the **Fontwork** of **your name**, then right click on your name and, from the context menu, select the **Area...** tool

In the **Area dialog box**, click to select any **Fill color** for your name, try out some **shadow effects** and **gradients**

Have fun with it; see what you can come up with. Enjoy!

Save the final version of this exercise (**Practice Drawing 7**)

SKILL CONSOLIDATION

Complete as many exercises as you can so as to reinforce what you have learned in Lesson 3.

1. Make a list of at least 10 handouts or other documents that are relevant to the school environment for the creation of which you would use the drawing tools.
2. Team up with a group of your classmates and use the *Writer* drawing tools to create at least 5 of the documents from the list you drew up in Exercise 1. Save them on disk.
3. Open a new blank page and in Page Setup select **Landscape** orientation. Complete the following tasks:
 - Start a new page and draw a perfect square, fill it with color, and make the line color the same as the fill color.
 - Draw a perfect circle, fill it with a different color from the square, and make the line color the same as the fill color.
 - Move the circle on top of the square and adjust the size of the circle so it fits exactly inside the square where the border of the circle touches the border of the square at four points, north, south, east, and west.
 - Group the circle and the square, then rotate the grouped object 45 degrees, so that the shape resembles a diamond.
 - Use the AutoShape of an Octagon to draw an octagon large enough to completely cover the diamond, fill it with a different color from either the square or the circle, and make the line color the same as the fill color.
 - Move the Octagon shape to the back. Select all the objects and center them on the page. Group the objects.
 - Use Word Art to write the following title for the drawing: inside a Square inside an Octagon. Save the drawing with the name **Geometric Shapes**.
4. Open a new blank page and in Page Setup select **Landscape** orientation. Draw a picture of a house (yours if you want), including the following items (with colors and effects of your choosing):
 - Draw the house itself with at least two windows and a front door and a separate roof (you'll need to use the freeform drawing tool for the angled roof so that you can fill it with color and a pattern). The roof must have shingles, the walls must be of brick or siding (unless you want to draw a log cabin!).
 - A front lawn with shrubs and flowers here and there
 - At least two trees
 - The sky with a couple of clouds scudding by...
 - Save the drawing with the name **House**.
5. Open a new blank page and in Page Setup select **Landscape** orientation. Draw a picture of a technology-ready classroom. Use clip art, if you want, for the objects in the classroom, including the items in the list that follows (with colors and effects of your choosing). Arrange the desks and so forth according to your own concept of the ideal classroom. Save the drawing with the name **House**.
 - Desks for 20 students
 - At least 6 computer workstations (position them so the teacher can easily see the screens)
 - A desk for the teacher
 - A separate computer workstation for the teacher
 - A reading center
 - Any other items you would want to include in your ideal classroom.

6. Use the AutoShapes menu to draw at least ten (10) Basic Shapes and use an associated Callout to name each of them. Fit everything on one side of an 8 ½” by 11” page. Use either Portrait or Landscape orientation. Color the shapes, fonts and callouts with Fill Colors, Font Colors, and Line Colors.

7. Open a new blank page and in Page Setup select **Landscape** orientation. Then complete the following tasks:

- In the top left corner of the page, draw a self-portrait as best you can, using colors and so forth
- Add a callout that looks like it’s coming from your mind (see figure below)
- Select all the parts of your drawing and group them together as one object
- Copy the object, then duplicate it 8 times as illustrated in the figure below
- In the callouts, add the text of any story you like
- Save the strip cartoon with the name **Strip Cartoon**

[^1]: Slide your mouse pointer over the shapes in the **Drawing toolbar** and the system will tell you which is a parallelogram or trapezoid, etc.

3.4 Lesson 4 Introduction to The *Calc* Spreadsheet

4 Introduction to the *CALC* spreadsheet

Preparing a Home Inventory spreadsheet
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LEARNING OUTCOMES

This tutorial will help you understand what a spreadsheet is and where a spreadsheet might come in useful for class-room management. Specifically you will learn about the following topics.

- Helpful hints for understanding the basic concepts of a spreadsheet, including:
 - cells, rows and columns
 - cell coordinates
 - entering data into a spreadsheet cell
- Setting up labels, including:
 - setting column widths
 - aligning data in cells
 - entering column and row labels
- Creating and copying formulas
- Making changes in a spreadsheet
 - inserting rows and columns
 - deleting rows and columns
- Producing a printed copy of the contents of a spreadsheet document
- Saving a backup copy of your work
- Appreciating the power of spreadsheet templates

4.1 GETTING STARTED

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to **Before we begin**, on the next page. If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 4.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to take to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by double clicking on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 4.1).

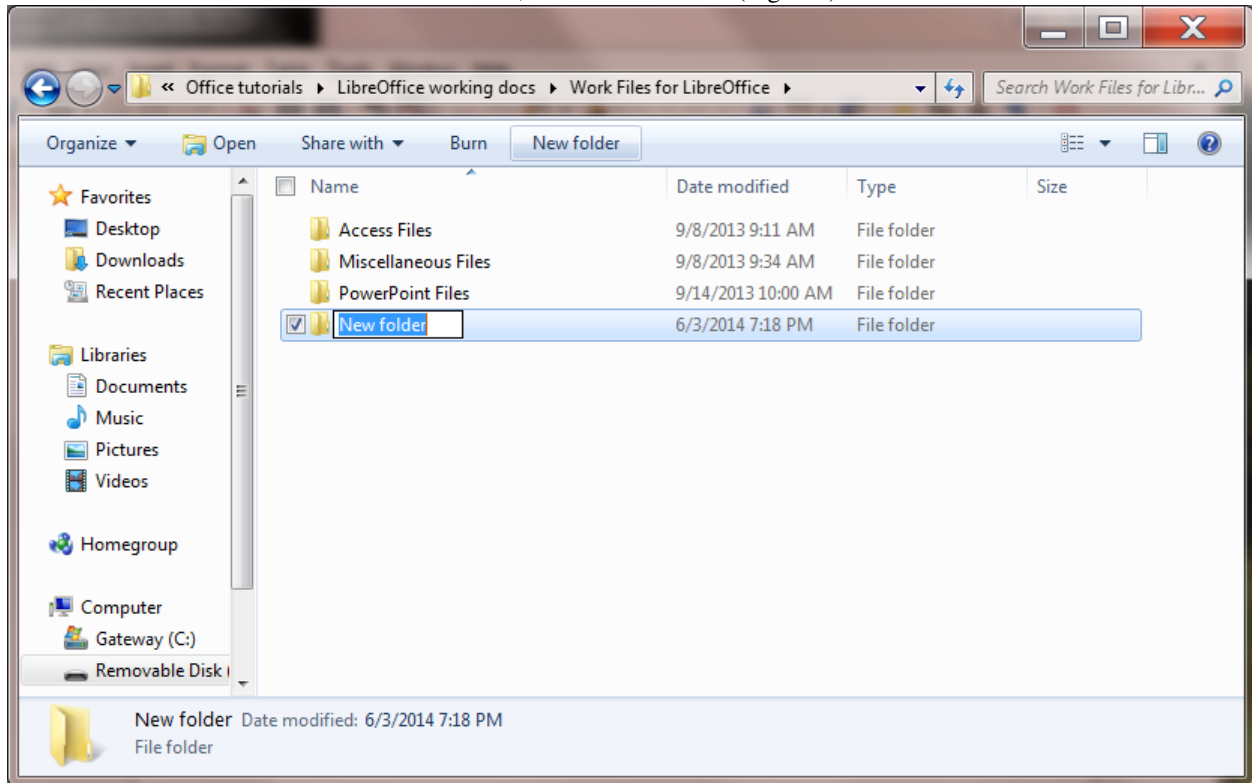


Fig. 4.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 4.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

Before we begin

For this lesson it will be good to have a separate folder inside your Data Files folder for the spreadsheets you're going to create.

When you are ready, go to **Start > My Computer > Your USB drive > Work Files for LibreOffice folder > Data Files folder**, and create a new folder called **Spreadsheet Documents**

Some background about spreadsheets

Fig. 4.1 illustrates a typical spreadsheet for keeping track of an inventory of items in your home.

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Fig. 4.1 Typical spreadsheet for a Home Inventory

As illustrated in Fig. 4.1, a spreadsheet is a grid divided into rows that run across the spreadsheet from left to right, and columns that run from top to bottom of the spreadsheet. As with the Word processor, the best way to learn about the spreadsheet is to build one and work with it. So here goes.

Go to **Start > All Programs** and open **Microsoft Office Calc**

You should now see on your screen a new *Calc* spreadsheet document titled **Untitled 1**.

Put your USB drive containing the **Work Files for LibreOffice** in the disk drive

From the **File** menu select **Save As** and navigate to **Work Files for LibreOffice > Data Files > Spreadsheet Documents**

Type **Home Inventory Template** as the name for the new spreadsheet and click on the **Save** button

You should now be looking at a screen with the name of your document (*Home Inventory Template*) at the top of a blank worksheet ready for you to insert your data.

4.2 HELPFUL HINTS WHILE USING THE SPREADSHEET

A spreadsheet is a grid divided into rows and columns

The intersection of a column and row is referred to as a cell (Fig. 4.2).

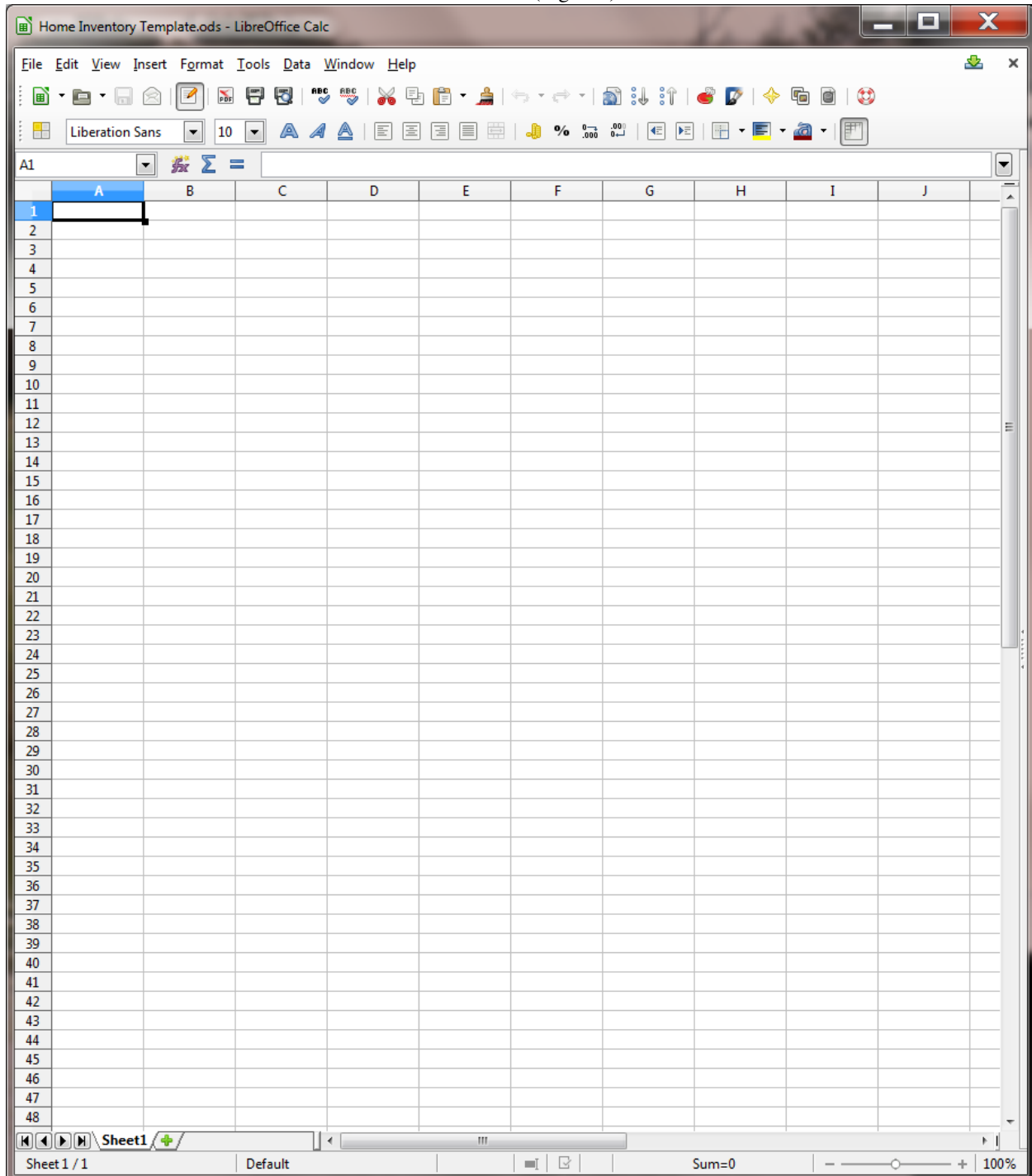


Fig. 4.2 Think of the spreadsheet as a grid divided into rows and columns

Right now, cell A1 is selected in the top left-hand corner of the spreadsheet (Fig. 4.4).

With **cell A1** selected, type the number **2015** in cell **A1** and hit **Enter** so you have some data in the spreadsheet for what follows

A cell is where information, in the form of either a label, or a number, or a formula for calculation, will be entered.

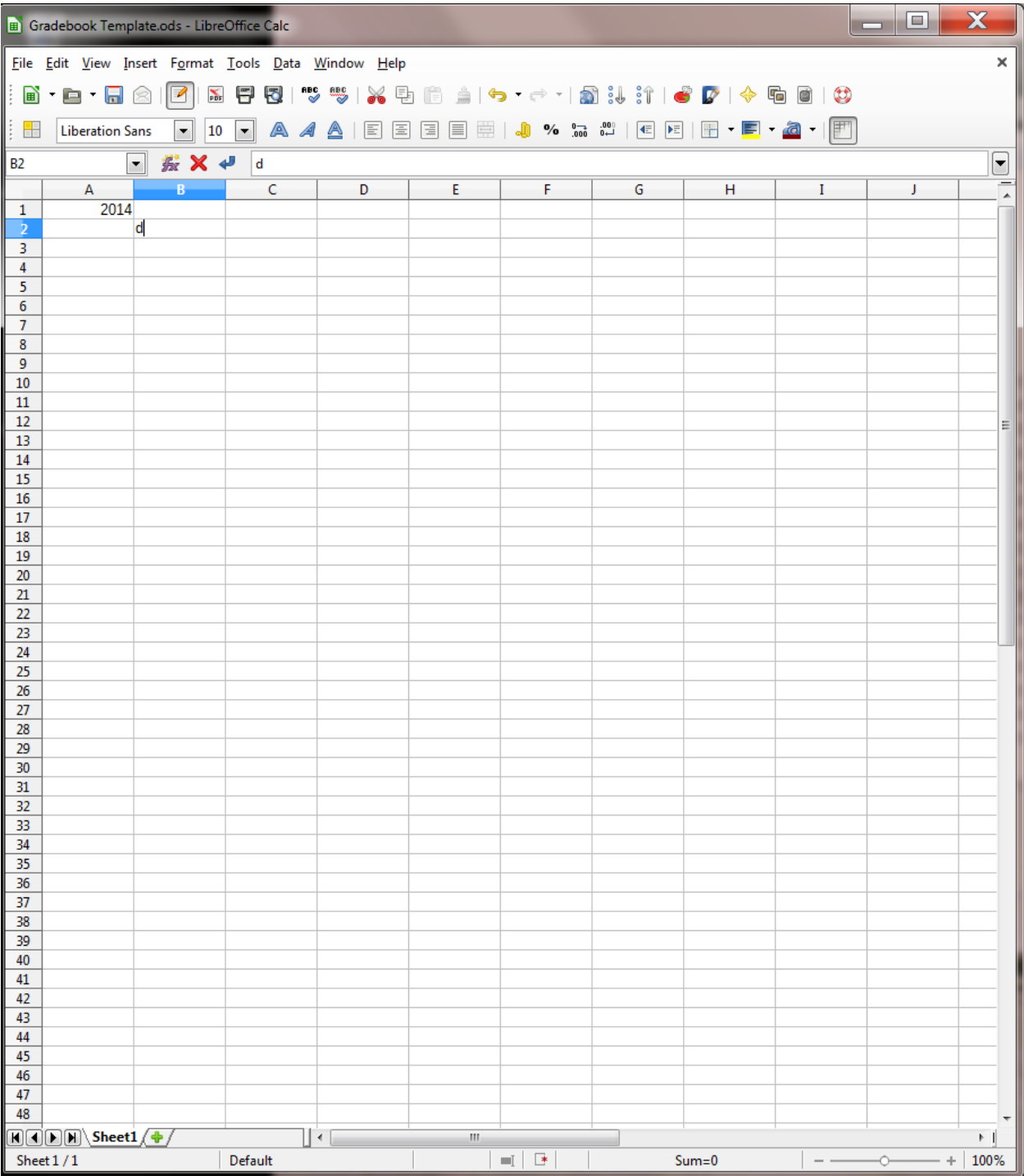
- *Labels* are where you use text (which may or may not be numbers) to describe the data in the columns and rows.
- *Numbers* are just that—numbers, as in mathematics. Numbers are what spreadsheets are all about.
- *Formulas* (or *Functions*) are mathematical expressions built into certain cells that instruct the spreadsheet to carry out calculations on specified sets of numbers in the rows and columns.

Moving around in the spreadsheet

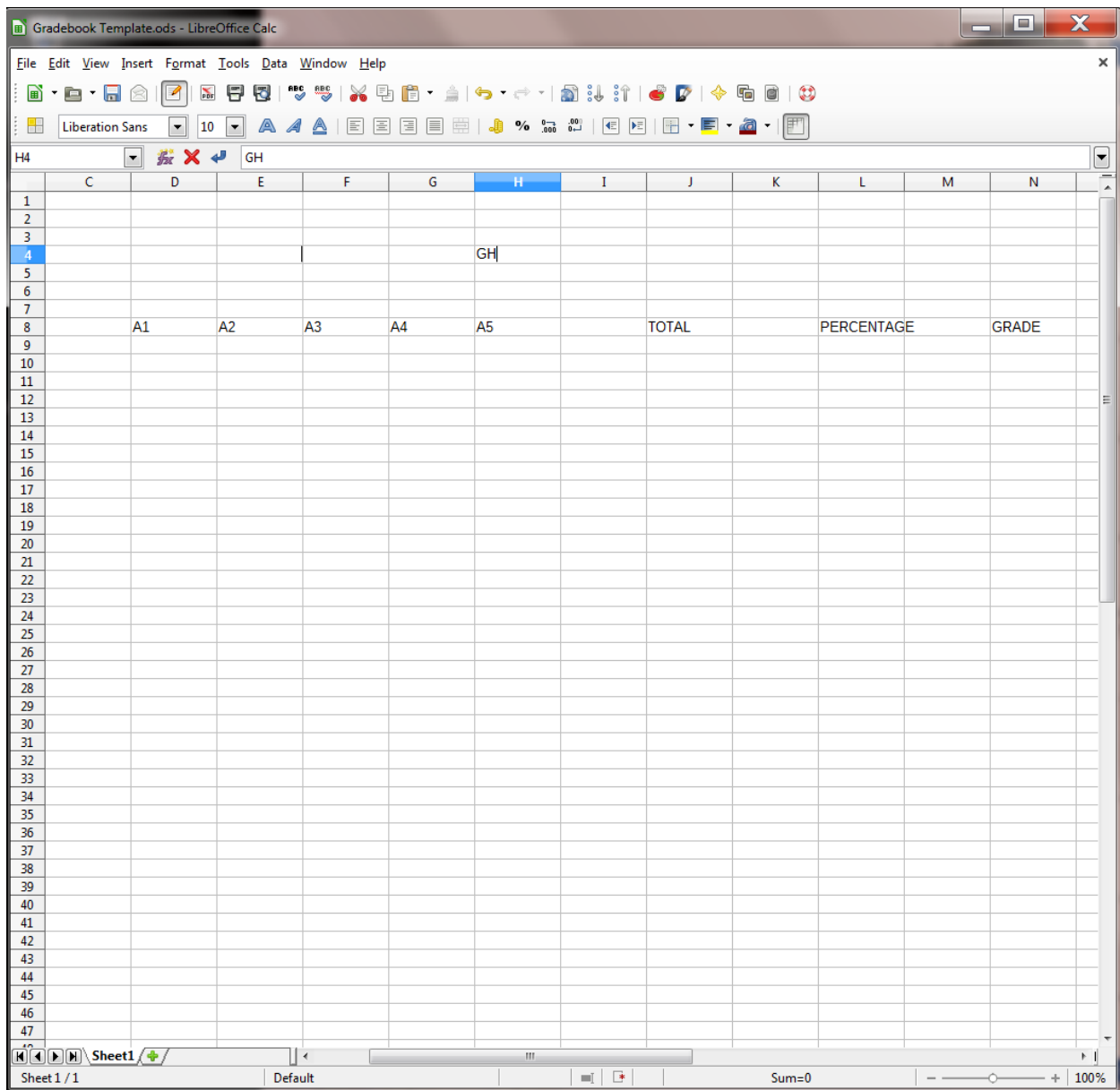
There are 1,048,576 rows and 16,384 columns in the *Calc* spreadsheet! That means there are well over 17 billion cells in which you can store data!

Usually you will use the mouse to select the cell you want to work in by clicking on the cell. Once you have entered data into a particular cell, you can use the commands in Table 4.1 to proceed to other related cells.

Key Pressed Effect **Tab** Moves selection to the right, to the next cell in the same row **Shift-Tab** Moves selection to the left, to the previous cell in the same row **Arrow keys** Move selection one cell in any direction **Shift-Enter** Moves selection up to the previous cell in the same column **Enter** Moves selection down to the next cell in the same column **Scroll bars** Scroll vertically and horizontally through the spreadsheet



button Accepts data in a cell but does *not* move to another cell **Cancel** button



Cancels data in a cell but does *not* move to another cell

Table 4.1 Cell selection commands

Try out each option now before proceeding—this will help you follow later directions

Practise by moving around the spreadsheet—after you have visited several cells, end up by clicking on cell **A1** to make it the current or active cell.

Identifying the active cell's coordinates

Look in the top left hand corner of the *Calc* screen (Fig. 4.2 on the previous page) to see which cell is the active cell you are in at any point in time.

Click on any cell now and look at the **cell's coordinates** in the **top left corner** of the spreadsheet window (see Fig. 4.2 previous page)

Notice that each cell (a location in the spreadsheet) has an *address* which begins with a *letter* to indicate the column, followed by a *number* to indicate the row. For example, G6 identifies the cell at the intersection of column G, row 6.

Click on **cell G6** now and look at the **cell's coordinates** in the **top left corner**

Selecting a range (group) of cells

Table 4.2 lists the methods for selecting a group or range of cells.

Task Method To select a **block of cells** Drag from the **first cell** to the **last cell** in the block To select an entire **row** of cells (horizontally from left to right) Click on the **number** (the **row label**) on the left edge of the spreadsheet To select an entire **column** of cells (vertically, from top to bottom) Click in the **letter(s)** of the alphabet (the **column label**) at the top of the column To select **several rows** Drag the **row numbers** on the left edge of the spreadsheet To select **several columns** Drag across the **column labels** at the top of the columns

Table 4.2 Selecting a group or range group of cells

Once again, try each of these methods for selecting groups of cells

Location of the active (selected) cell after entering data into a cell

When you type data into a cell, the data appear both in the *cell* you have selected AND in the *Entry bar* at the top of the spreadsheet. See how this works for yourself now.

Click on **cell B1** and type the number **2015**, then look at the **Entry bar** above the spreadsheet cells (Fig. 4.3)

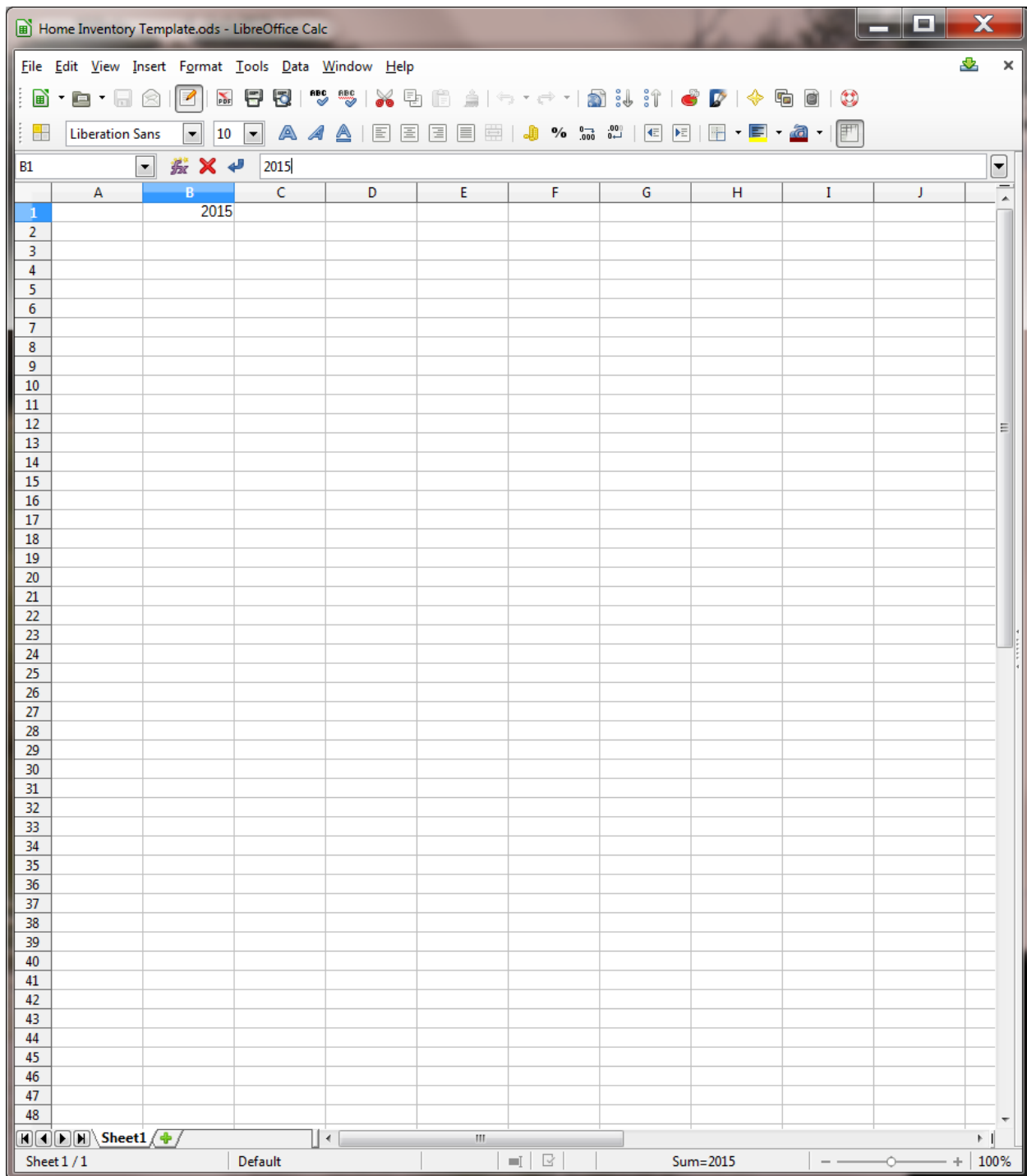


Fig. 4.3 The spreadsheet Entry bar

The data are again in both places at once, but they are not yet *permanently* accepted into the cell. The number *2015* awaits your acceptance of it into the spreadsheet. The data are displayed in the cell to give you the opportunity to:

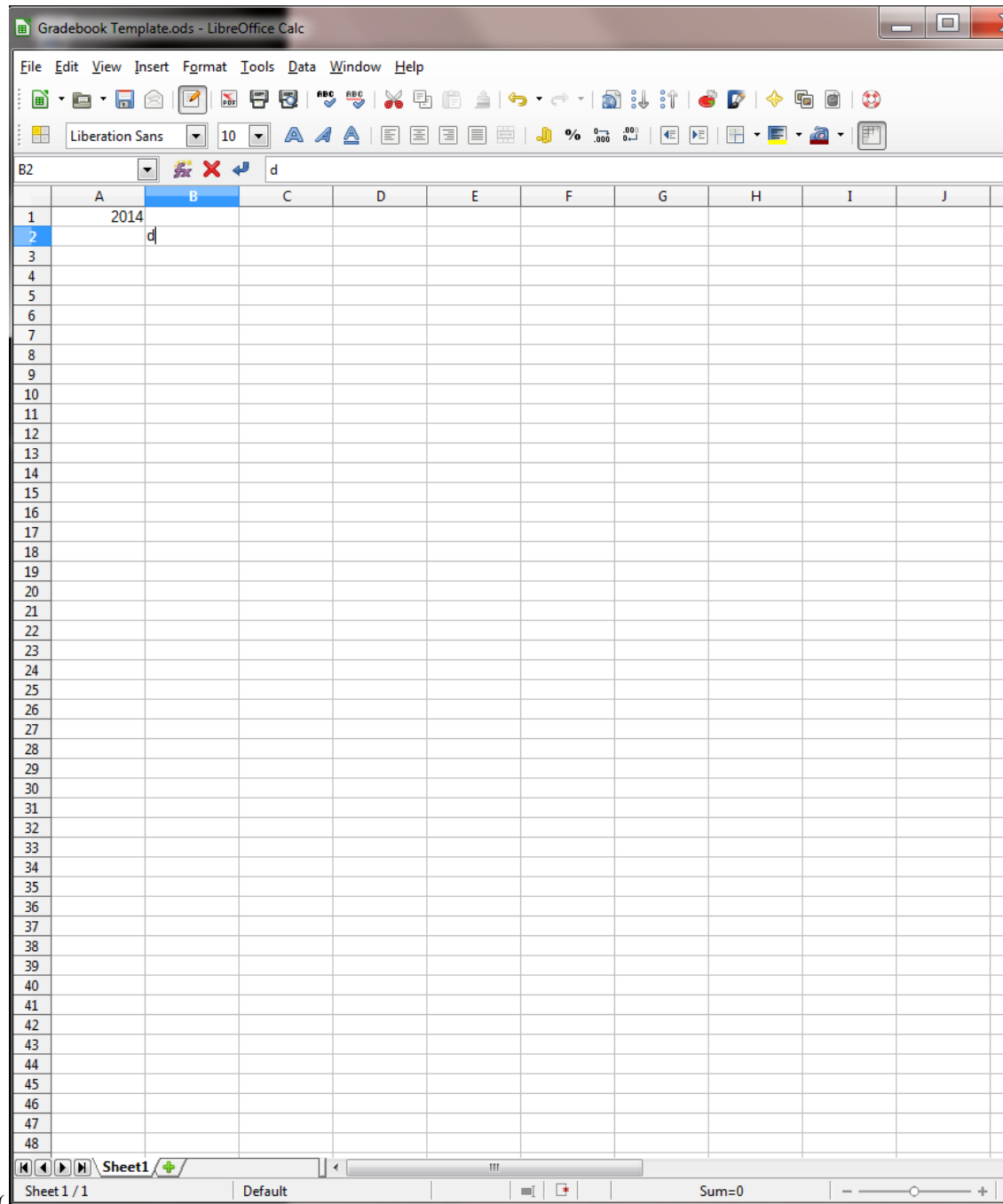
1. check that they are correct before accepting them into the active (selected) cell;
2. make up your mind whether they should be entered into the spreadsheet at all;
3. decide which cell you would like to be the active cell next after the data have been copied to the

currently active cell.

You accept the data by either

- moving to another cell in the spreadsheet (by clicking on the Enter key or Tab key on the keyboard or by using the mouse to click on some other cell);

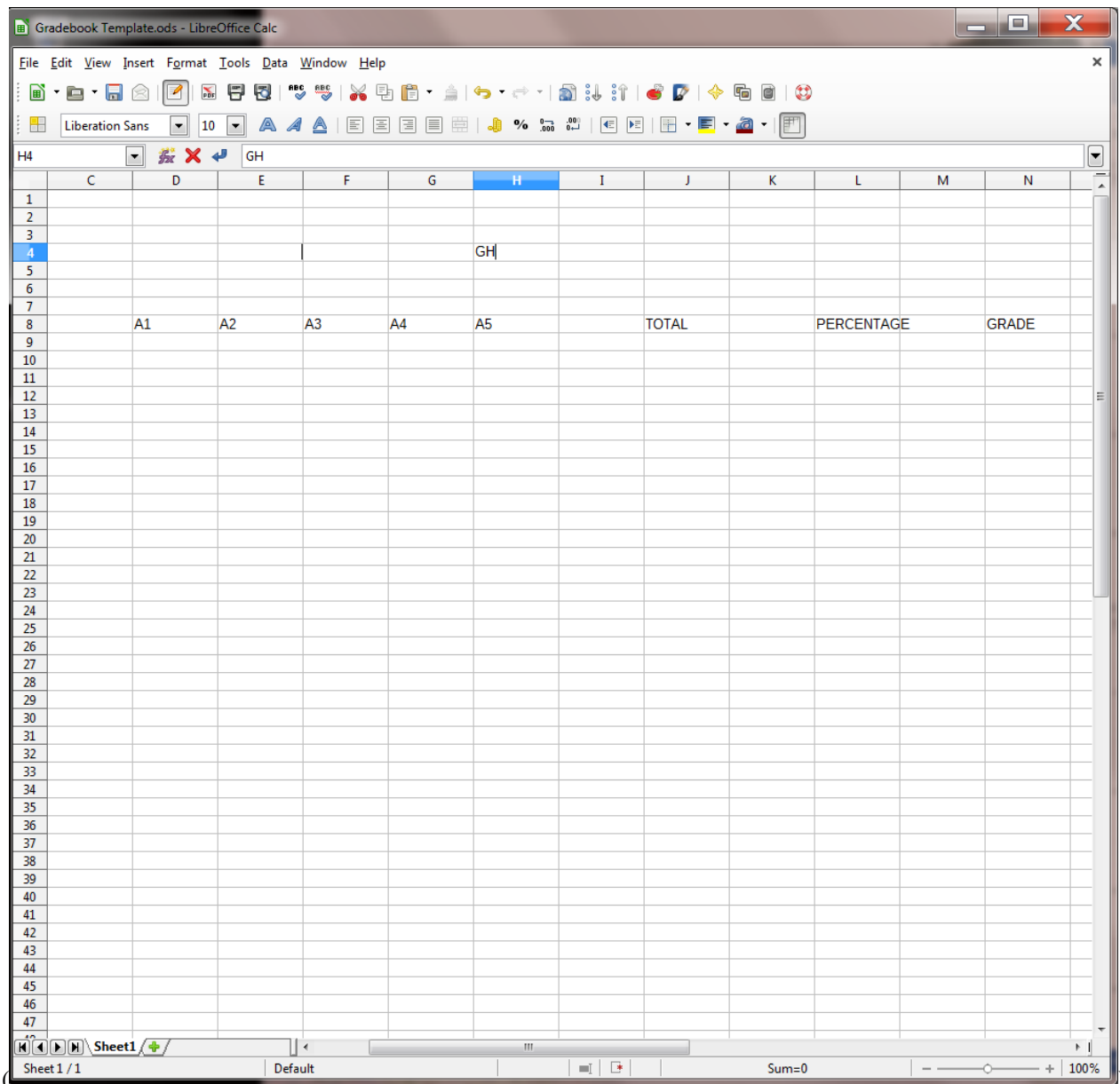
or



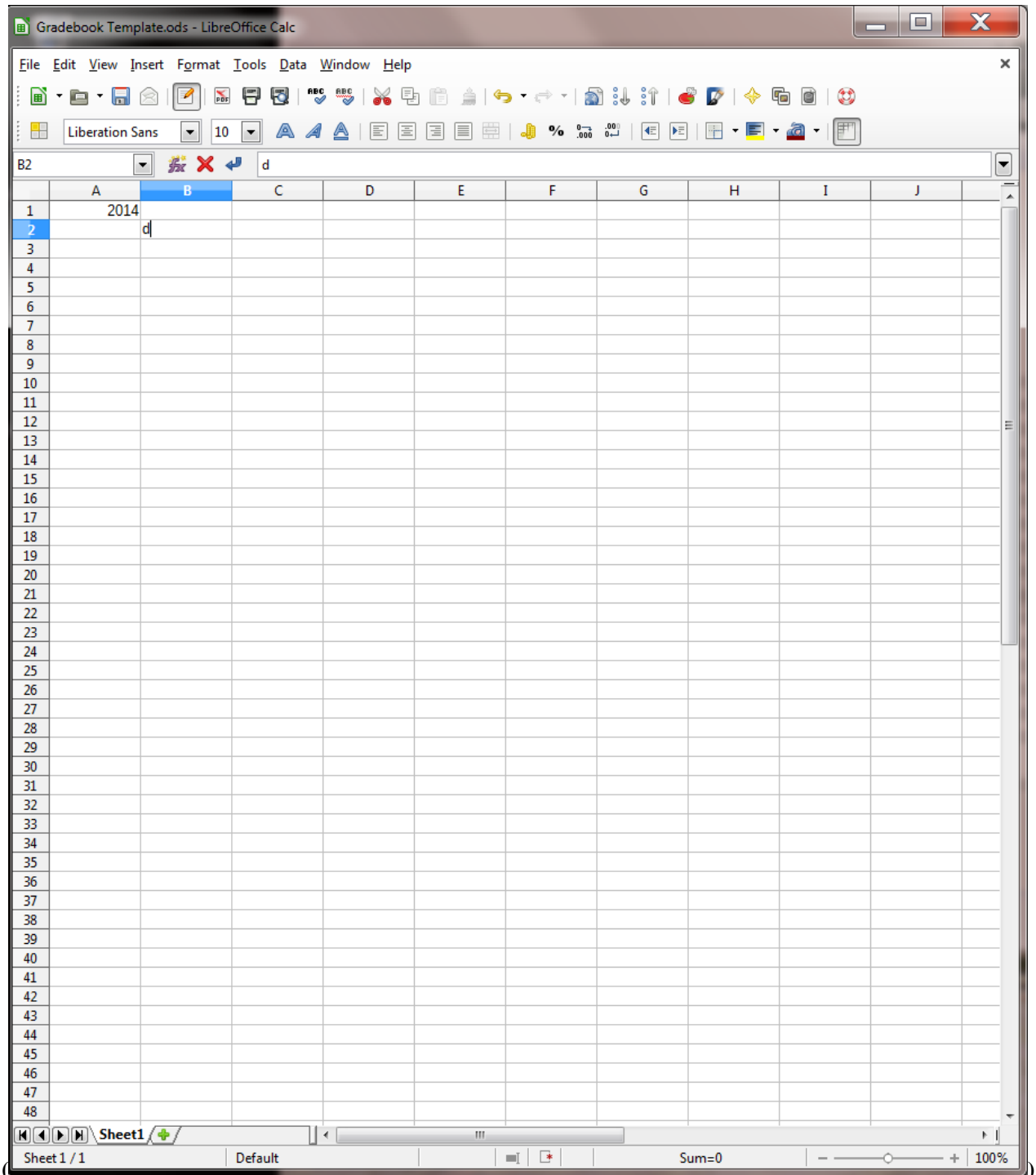
- clicking on the Accept (icon to

the left of the Entry bar.

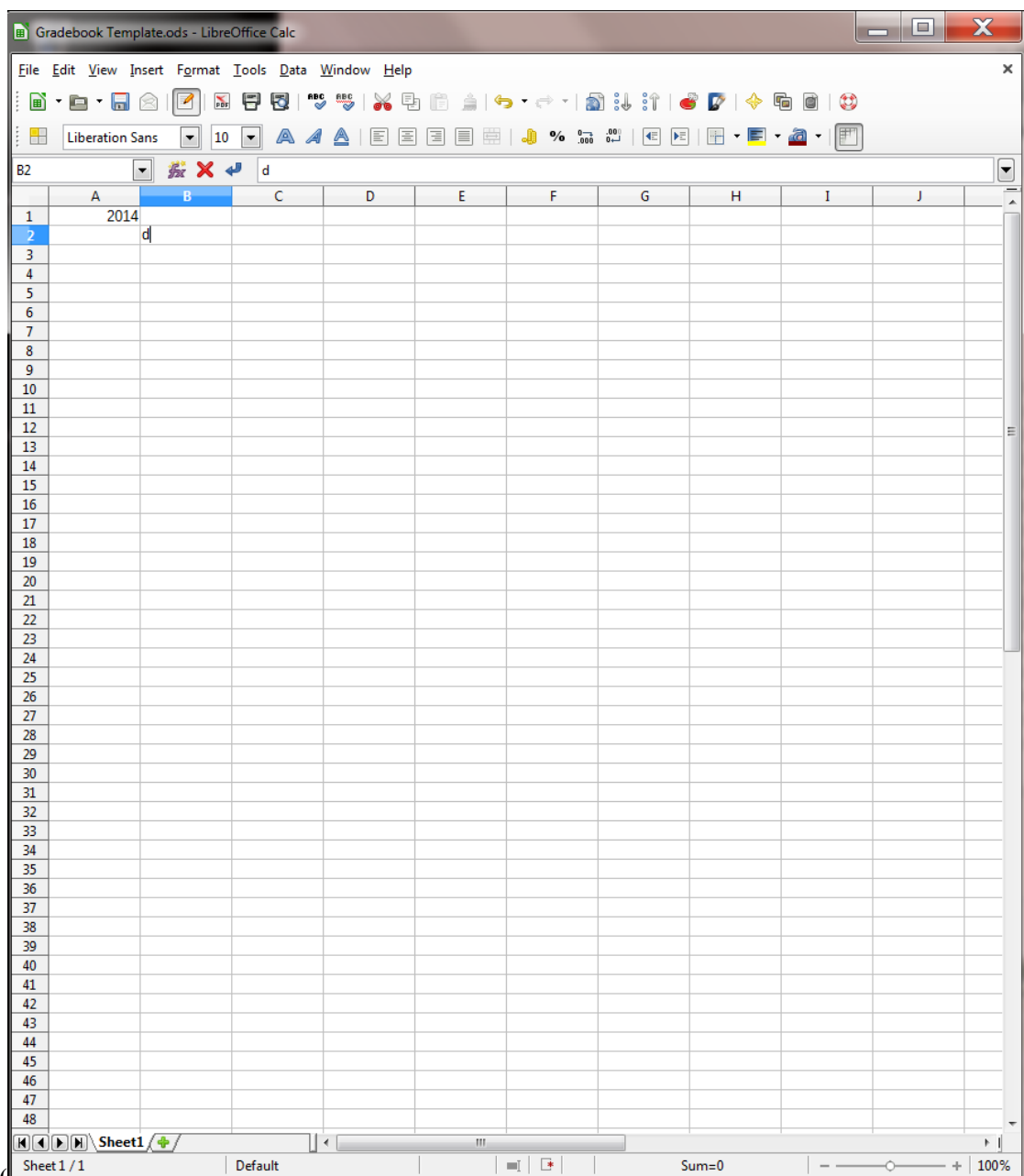
If you decide *not* to enter the data into the spreadsheet, you would click on the *Cancel* box



in the Entry bar (Fig. 4.5) and start over. If, on the other hand, the data are correct, you would click the Accept button



which also keeps the cell you are working in as the active cell.



Click the **Accept** button (now

Notice that the number *2015* in cell B1, as with the number 2015 in cell A1, is *right justified*, aligned on the right edge of the cell, which is the correct justification for *numbers* in mathematics.

Alternatively, you may want to proceed to the cell immediately to the right of the active cell into which the number you just typed will go. Or you may want to proceed to the cell just below the active cell, or the cell just above the active cell, and so on.

A short while back you practised moving around the spreadsheet using the commands listed below in Table 4.1 on page 106. This table also lists the key(s) to press to tell *Calc* which cell to go to after you accept the data you have typed into the Entry bar. It might be a good idea, if you're new to spreadsheets, to take a few minutes to check out that table again.

Practise now by making the cell in which you just typed **2015** the active cell (by clicking on it)

Then press each of the keys or key combinations in Table 4.1 (on page

1. and verify the result of the action in the spreadsheet each time

Blanking out a cell or cells in the spreadsheet

The quickest way to blank out a selected cell or cells is to hit the Del(ete) key on the keyboard. Let's try this now.

Click on the cell holding the data **2015** (cell **A1**) and hit the **Del(ete)** key

Now cell A1 is empty. The Delete key saves you having to use the mouse and menus.

Undo what you just did by pressing **Ctrl-z** (to put back **2015** in cell **A1**)

To delete the data in a group of cells you would drag across the cells to select them—they will become highlighted. Then you'd select Clear from the Edit menu or hit the Del(ete) key as before.

Practise this by dragging across Cells **A1** and **B1** and hitting the **Del(ete)** key

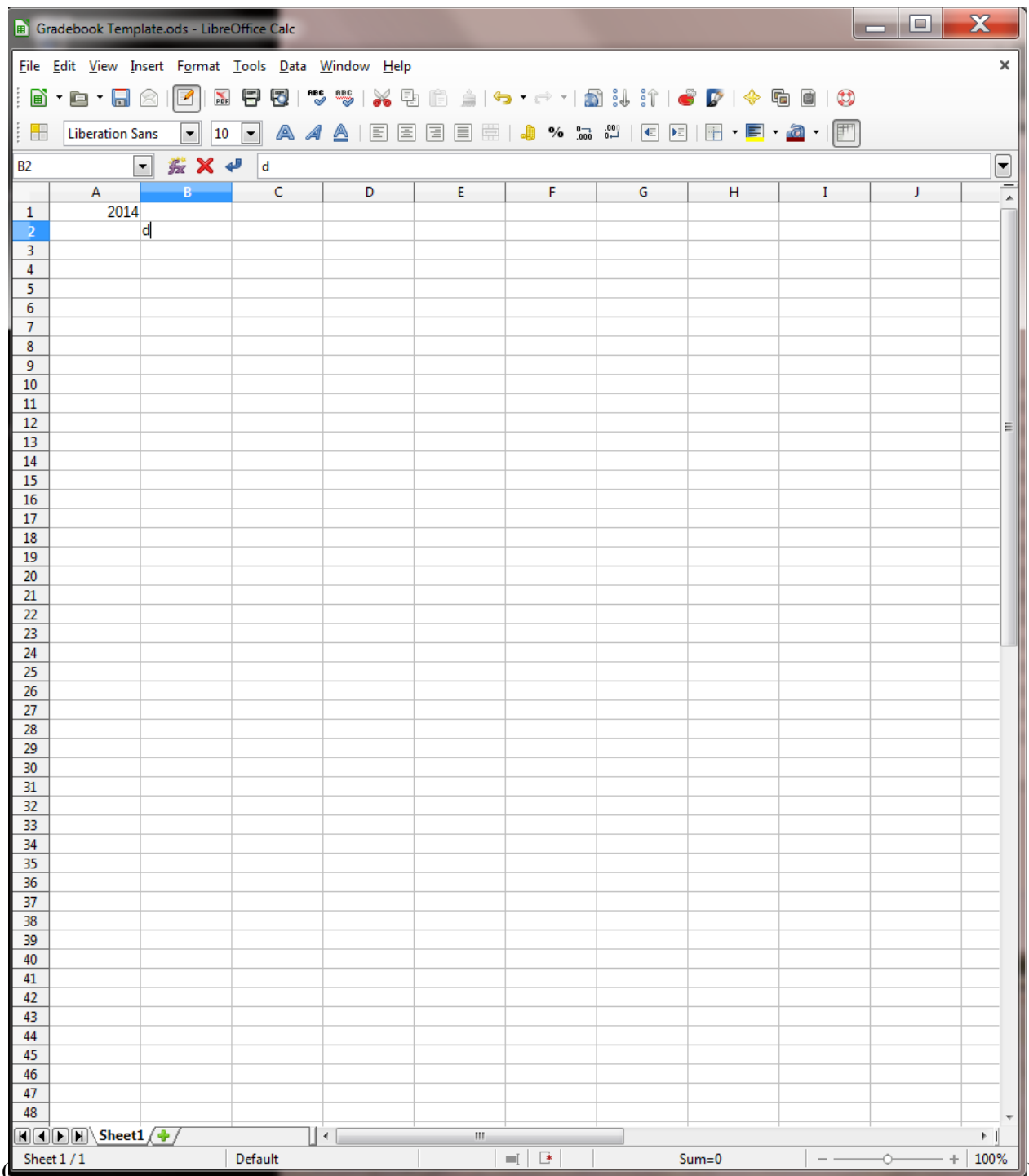
Bingo. Remember that you can undo the *Delete* operation (or any other Edit operation) by immediately pressing *Ctrl-z* on the keyboard.

Editing the data in the Entry bar

While you are typing in data in the Entry bar you can edit them as if you are using *Word*. So everything you learned in Lessons 1 and 2 will apply.

Editing data after they have been entered into a cell

If you are past the cell where you have an error and want to make a correction or change, move back to the cell in question by selecting (clicking on) it. The data in that cell will be displayed in the Entry bar at the top of the spreadsheet. Click in the Entry bar (the cursor will show where you clicked on the text) and then just go ahead and make any changes you want. Replace the old entry by clicking the Accept button



or by selecting another cell in the spreadsheet.

4.3 SETTING UP LABELS FOR YOUR HOME INVENTORY TEMPLATE

When you have completed this section, your Home Inventory Template should look like Fig. 4.4.

Home Inventory 2015 Step 2 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

Clipboard Font Alignment Number Styles Cells Editing

J57

Location	Item(s)	Purchase Price	Purchase Price Sub-Totals	Condition	Estimated Value	Estimated Value Sub-Totals	% Depreciation
Living Room	Books	GHS 300.00		Fair	GHS 150.00		50%
	Chairs	GHS 250.00		Fair	GHS 200.00		80%
	Computer	GHS 4,000.00		Excellent	GHS 1,500.00		38%
	Printer	GHS 300.00		Good	GHS 240.00		80%
	Software	GHS 240.00		Good	GHS 192.00		80%
	Living Room sub-total	GHS 5,090.00			GHS 2,282.00		45%
Kitchen	Cabinets (Contents)	GHS 2,000.00		Fair	GHS 1,400.00		70%
	Cutlery	GHS 350.00		Good	GHS 250.00		71%
	Dishes	GHS 320.00		Excellent	GHS 800.00		87%
	Glasses	GHS 250.00		Good	GHS 220.00		88%
	Pots & Pans	GHS 180.00		Fair	GHS 135.00		75%
	Kitchen sub-total	GHS 3,700.00			GHS 2,805.00		76%
Bedroom One	Bedding (sheets, etc.)	GHS 520.00		Fair	GHS 416.00		80%
	Bed	GHS 1,200.00		Good	GHS 900.00		75%
	Chair	GHS 95.00		Good	GHS 76.00		80%
	Chests and Contents	GHS 2,500.00		Fair	GHS 1,600.00		64%
	Contents in closet	GHS 1,200.00		Good	GHS 960.00		80%
	Bedroom One sub-total	GHS 5,515.00			GHS 3,952.00		72%
Bedroom Two	Bedding (sheets, etc.)	GHS 500.00		Fair	GHS 420.00		84%
	Bed	GHS 1,200.00		Good	GHS 800.00		67%
	Chair	GHS 82.00		Fair	GHS 60.00		73%
	Chests and Contents	GHS 2,500.00		Good	GHS 1,560.00		62%
	Contents in closet	GHS 900.00		Good	GHS 660.00		73%
	Bedroom Two sub-total	GHS 5,182.00			GHS 3,500.00		68%
Bathroom	Cabinet (Contents)	GHS 800.00		Good	GHS 550.00		69%
	Shampoo, etc.	GHS 150.00		Fair	GHS 90.00		60%
	Linens/Towels	GHS 350.00		Good	GHS 220.00		63%
	Chair	GHS 195.00		Good	GHS 156.00		80%
	Stool	GHS 100.00		Good	GHS 75.00		75%
	Bathroom sub-total	GHS 1,595.00			GHS 1,091.00		68%
Other	Jewelry	GHS 1,000.00		Excellent	GHS 650.00		65%
	Phone	GHS 220.00		Good	GHS 120.00		55%
	Clock	GHS 100.00		Good	GHS 75.00		75%
	Radio	GHS 80.00		Good	GHS 62.00		78%
	Pictures	GHS 120.00		Fair	GHS 85.00		71%
	Other sub-total	GHS 1,520.00			GHS 992.00		65%
	Total Purchase Price	GHS 22,602.00			Total Estimated Value	GHS 14,622.00	65%

Sheet1

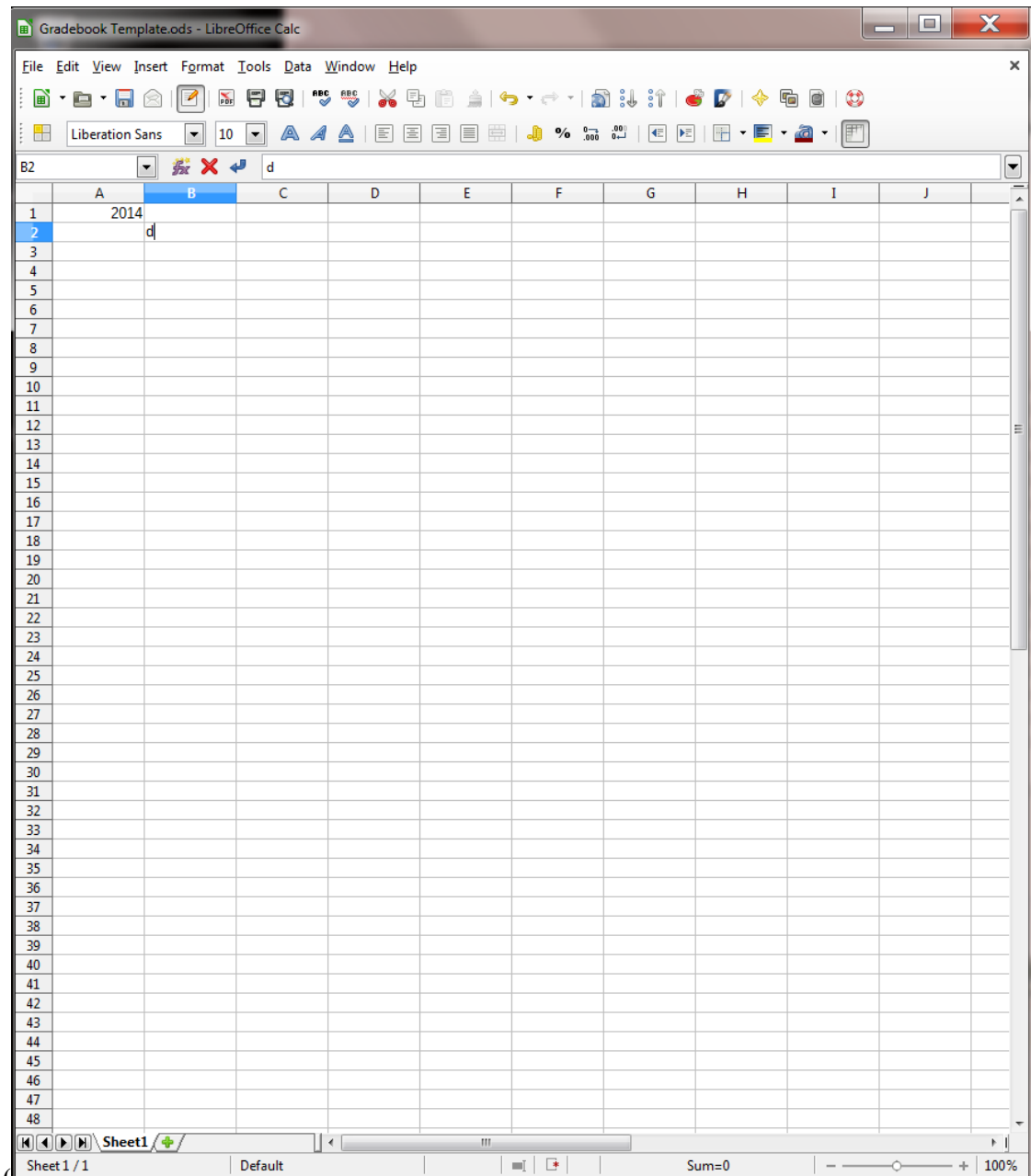
READY 60%

Fig. 4.4 Home Inventory Template

The steps that follow will help you achieve this goal. Follow them carefully.

Select cell **A1** and type **Home Inventory**

Check the data in the **Entry bar** to make sure you typed the label correctly; correct any errors



Click the **Accept** button (when you are sure all is well (or press one of the other keys—arrow keys, Enter/Enter key, Tab key—which accept data into the spreadsheet)

This is an example of a label—which is any text you use to *describe* the data that are in a spreadsheet. All the column and row headings are also labels.

Notice that the label “Personal Information” overflowed the cell in which you typed it. The cell isn’t wide enough, so you need to widen the A column to allow for the length of this and other Labels describing information you will later be entering into that column.

Make sure you have any cell in **column A** selected, then from the **Home Ribbon** select the **Cells Group** > **Format** > **Column Width**

Type the number **25** in the dialog box that pops up, then click on ****OK****

While you’re at it, click anywhere in **column B (Item(s))** and, in the **Home Ribbon** again, select the **Cells**

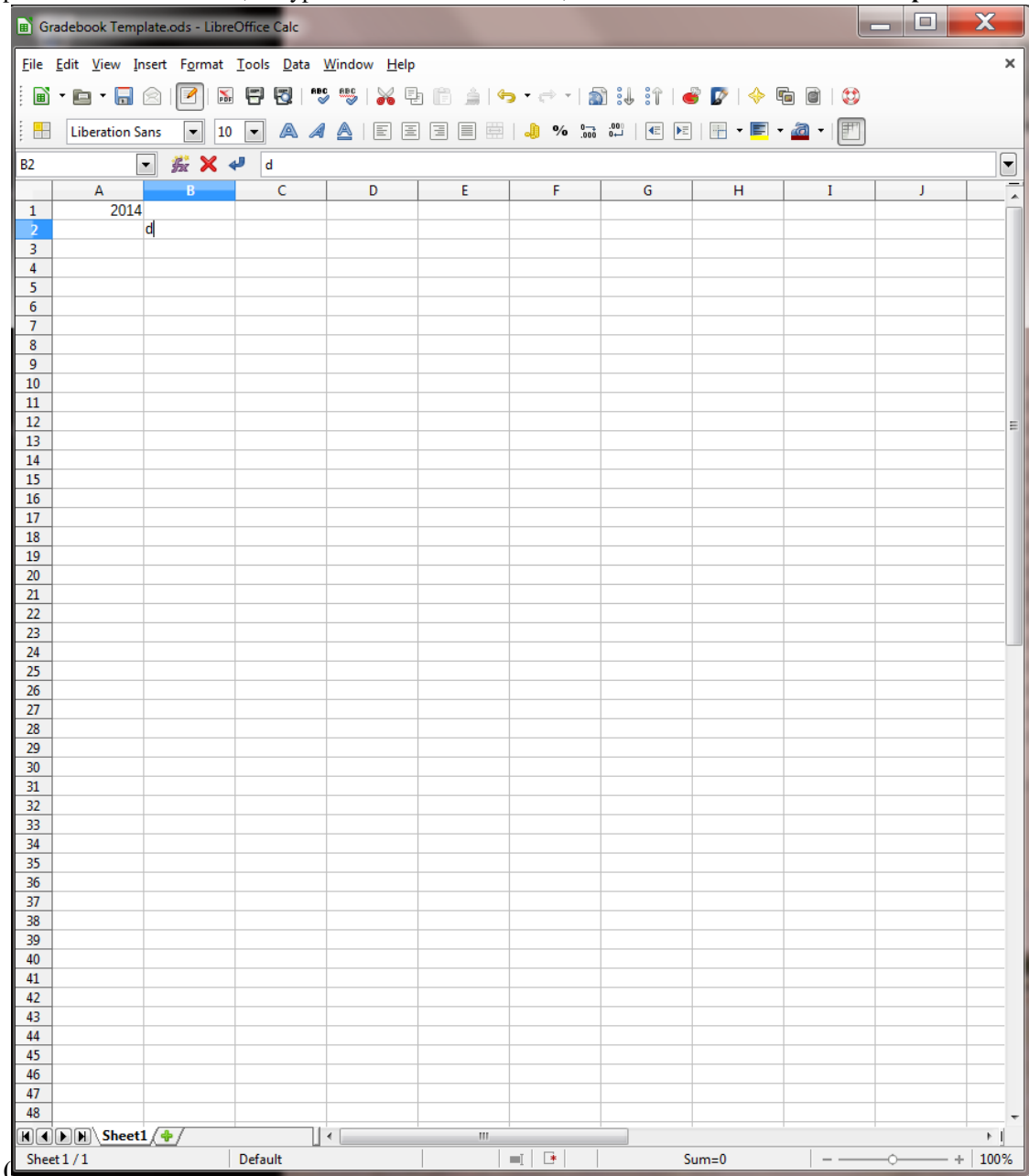
Group > Format > Column Width and adjust the width to **25**, too

Later in this section you'll practise adjusting the width of other columns.

Select cell **A3** and type the label **Personal Information:**, then press **Enter** to move the cell pointer to cell **A4**

Type the label **Name:** and press **Enter** to move the cell pointer to cell **A5**

Next type the label **Address Line 1:** and press **Enter** to move the cell pointer to cell **A6**, type the label **Address Line 2:** and press **Enter** to move the cell pointer to cell **A7**, type the label **Phone:**, then click on the **Accept** button



in the **Entry** bar

At this point you should be thinking about saving the work you have completed to this point! Since you have already named the document (*Home Inventory Template*), you can use a quick keyboard shortcut.

Press **Ctrl-s** to save your work to this point

Aligning data in spreadsheet cells

The grade book will look best if the three labels you just entered into cells A3 to A7 of the spreadsheet are *right aligned* in their respective cells. Right aligned means that the label is aligned to the right side of the cell. Unless you tell *Calc* otherwise, the system will *left align* any data that are regular text (letters of the alphabet, for example). Likewise, the system will *right align* any data that are made up of numbers. This makes sense if you look at Fig. 4.5.

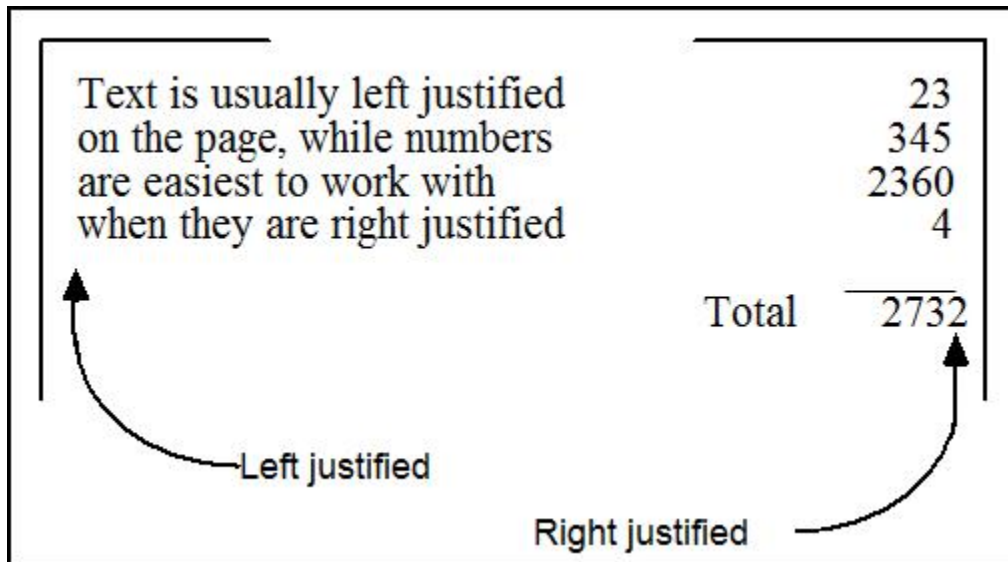


Fig. 4.5 Text is left aligned; numbers are right aligned

However, text sometimes looks best when it is right aligned in the cell. This is the case with the labels about your Personal Information that you just entered into cells A4 to A7. Here is how you *right align* the text in these cells.

Position the spreadsheet cursor on cell **A4**

Hold down the mouse button and drag down to cell **A7**, so that **all four cells** are selected (cell **A4** will still be selected even though it is not highlighted—it has the heavier border which also indicates selection in the spreadsheet)

In the **Home Ribbon > Paragraph Group** click on the **Right Alignment** button

This will right align the cells that you have selected (A4 to A7). Check this on the screen before you go on.

Press **Ctrl-s** to save your work so far (this is a good habit to get into!)

Entering the column and row labels

Now you are going to enter the labels for each of the columns that eventually will contain the data about your personal possessions (your home inventory). But notice again that the columns are too narrow for the text you'll need to type in these columns. So let's begin by widening all the columns from C to H. For now, we'll make them all a width of 22 (if necessary we can adjust them again later). You widened columns on the previous page, so this should be easy for you.

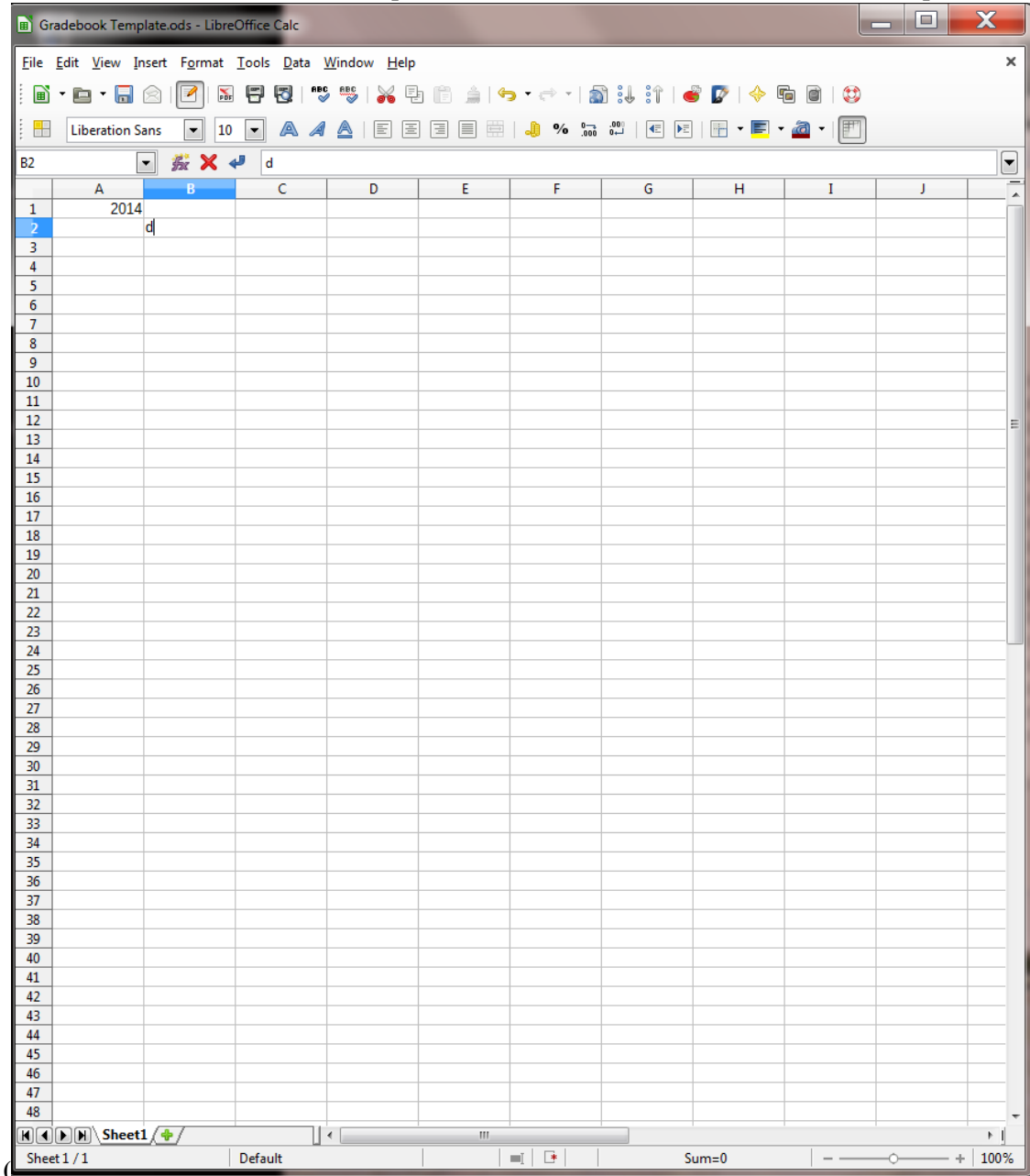
Use the mouse to click anywhere in **Column C**, then **hold down** the **Shift key**, and **keep it down** as you click anywhere in **Column H**, so the cells from **C to H** are selected

Go to **Home > Cells > Format > Column Width** and, in the dialog box that pops up, enter **22** for the width of all the cells from column **C** to column **H**

Now select cell **D9** and enter the label **Purchase Price**, check that you have typed the label correctly, then press the **Tab** key three times to move to cell **G9** and type the label **Estimated Value**

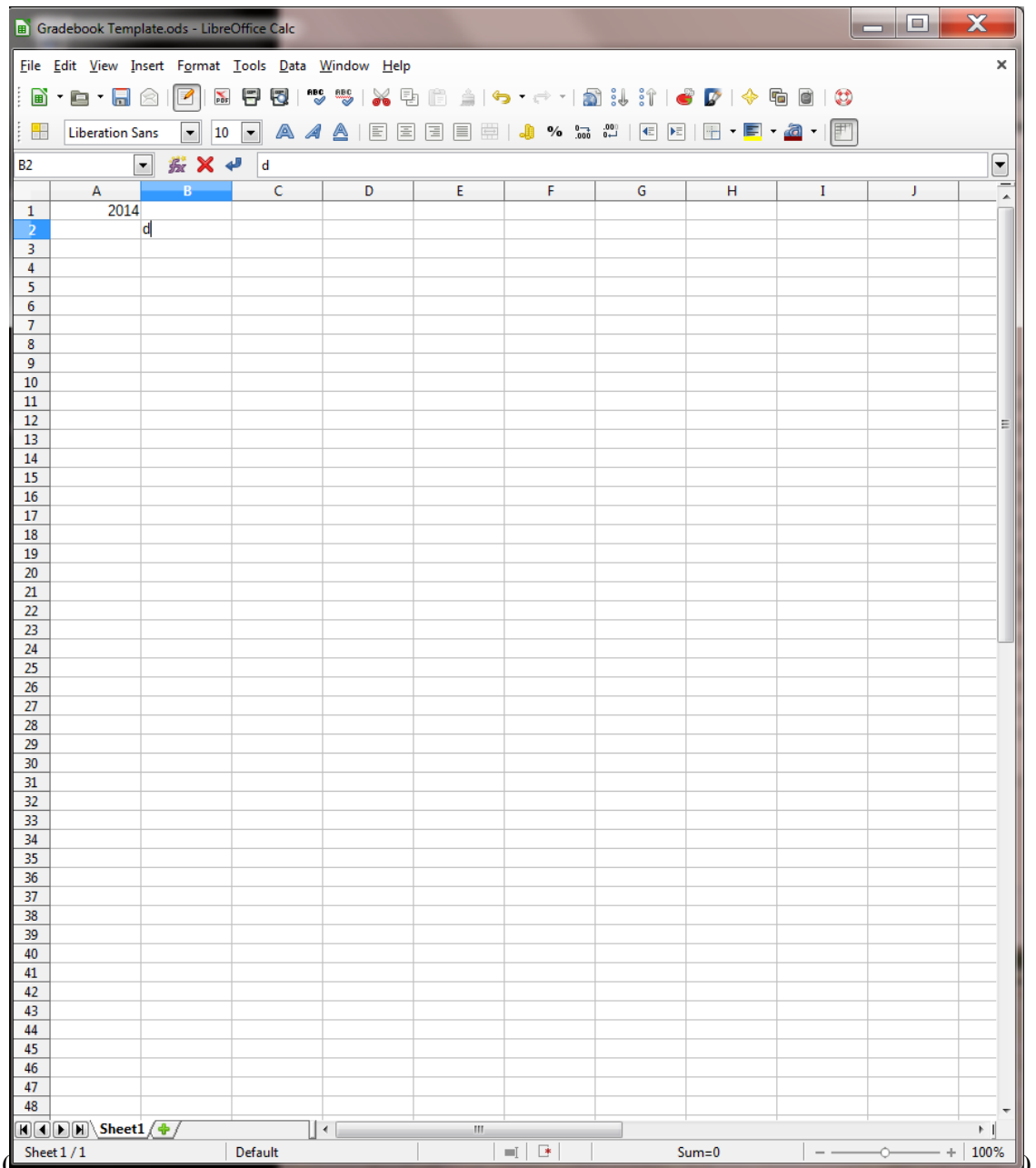
Next select cell **A10** and enter the label **Location**, check that you have typed the label correctly, then press the **Tab** key to move to the next cell across **to the right** and type the label **Item(s)**

Do the same thing **six (6)** more times, using the labels **Purchase Price** (in cell **C10**), **Price Totals** (in cell **D10**), **Condition** (in cell **E10**), **Estimated Value** (in cell **F10**), **Est. Value Totals** (in cell **G10**), and **% Depreciation** (in cell **H10**), then click the **Accept** button



Now, before we move on, you need to type in the label in Cell C8 (see Fig. 4.4 on page 109), which simply explains the meaning of the currency symbols used in the spreadsheet.

Select cell **C8**, type **Purchase Information (all values are in GHS-Ghanaian Cedi)**, then click the **Ac-**



cept button (and press **Ctrl-s** again to save your work so far

Changing the alignment of the column labels

It would be a good idea at this point to change the alignment of the column labels in cells A10 to H10 so that they are all *center* aligned.

Position the mouse over cell **A10**, hold down the mouse button, and drag across to cell **H10** before letting go of the mouse button

All the column labels in Row 10 should now be highlighted.

In the **Home Ribbon > Alignment Group** click on the **Center Alignment** icon

Adjusting the width of columns

You'll recall that in *Calc* the labels (text in general) are aligned on the left of the column, while numbers are always

aligned on the right (check Fig. 4.7 above if you're still confused about this).

You can simultaneously change the widths of several *adjacent* columns (columns that are next to each other), provided you want them all to be the same width. There are a couple of ways to do this. Let's try both ways and you decide which is easiest for you.

First use the mouse pointer to drag across the **column headers** from **column C** to **column H** (Fig. 4.6)

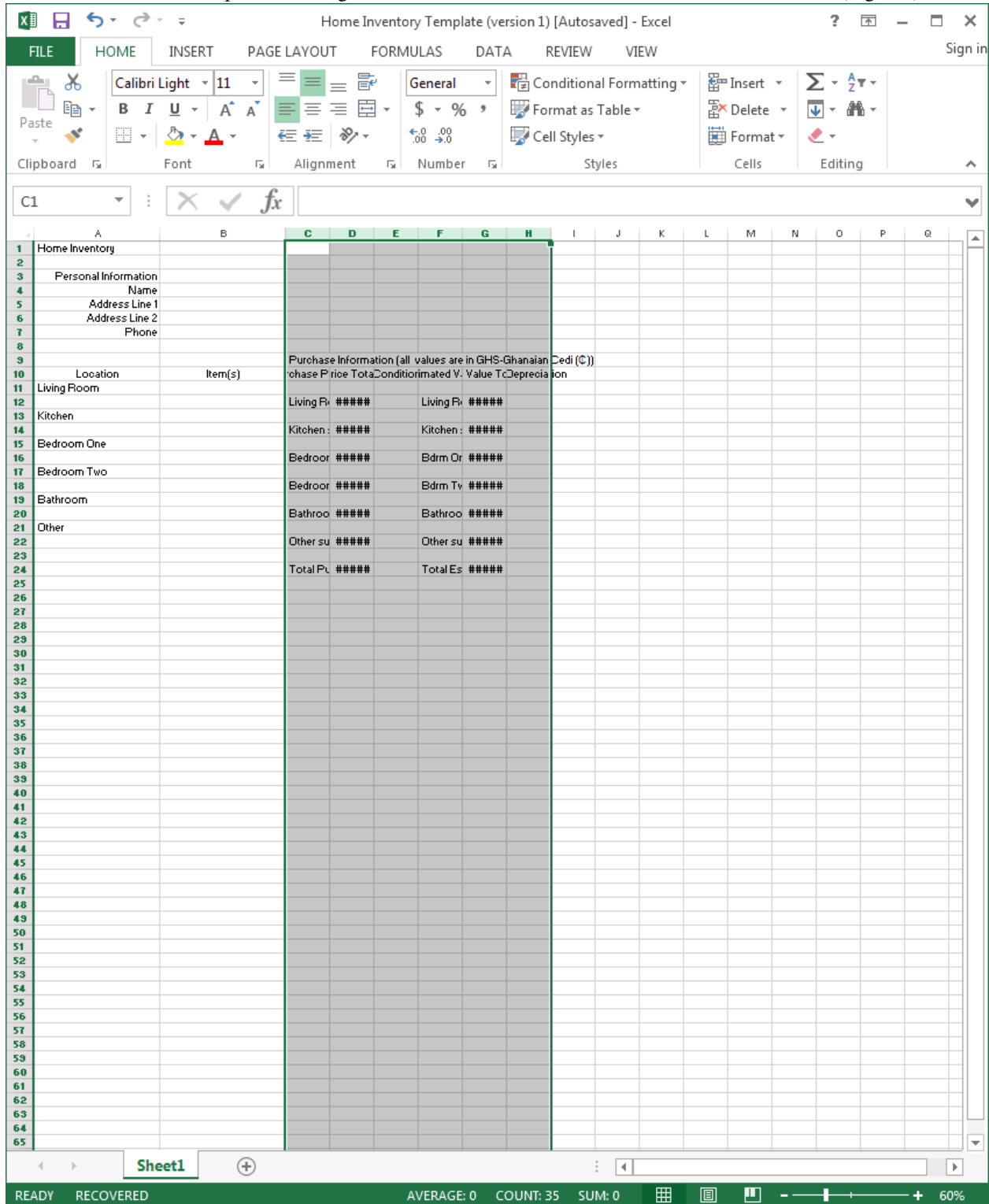


Fig. 4.6 Selecting a set of columns

From the **Home Ribbon > Cells Group** select **Format > Column Width...** (or simply **right click** on the **column header** and, in the **context menu** select **Column Width...**)

This will bring up the Column Width dialog box (Fig. 4.7).



Fig. 4.7 Column Width dialog box

Type **8.43** in the **Column width:** dialog box and click on **OK**, then click anywhere to de-select the columns

All the selected columns (C to H) are now a column width of 8.43. Simple.

Before you go on, you need to **restore** the column widths to **22**, so hit **Ctrl-z (Undo)** to restore the columns to their previous widths

Another way to adjust the width of an adjacent set of columns is by first selecting (highlighting) the set of columns, as you did for columns C thru H just now, and then, with the cursor positioned between any two column headers, drag to the left or the right, as illustrated in Fig. 4.8.

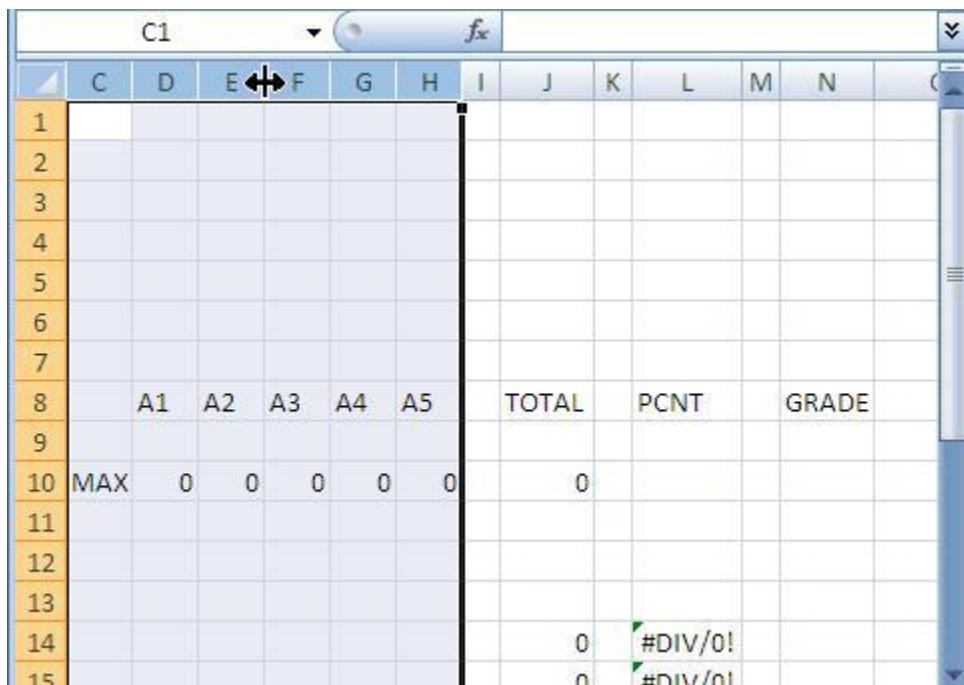


Fig. 4.8 Adjusting column width by dragging

Try this for yourself now by selecting (dragging across) **all 6** of the columns from **Column C to Column H**, and widening or narrowing them as much or as little as you want

Do this a couple more times, widening or narrowing the column width of a few *adjacent* columns

(columns next to each other), each time hitting **Ctrl-z** afterwards to restore the columns to their previous width, and, before you try again, click anywhere on the spreadsheet to remove any highlighted areas

Notice each time how each of the selected columns is the same width as the others after you've dragged to adjust just one of the columns.

You also can simultaneously change the width of several, *non-adjacent* columns, again provided you want them all to be the same width. You do this by clicking on the column header of the first column you want to change, then you would hold down the *Ctrl* key while clicking on the Column Header of the other columns you want to adjust to the same width. Then, with the mouse pointer positioned on the *right edge* of any the selected columns so the pointer becomes a *crosshair* (Fig. 4.8 above), you would drag to the left or the right. Try this for yourself now.

Click on any column header (say column C), then hold down the **Ctrl** key while you click on any **three** other column headers (E, G, and H, for example) to select them, and then position the mouse pointer on the **right edge** of any selected column and widen or narrow them as much or as little as you want

Click anywhere to **de-select** the columns, then hit **Ctrl-z** to undo your work

Do this a couple more times, selecting a column, then holding down the **Ctrl** key while select a few other non-adjacent columns (columns that are **NOT** next to each other), and **dragging** the **right edge** of any **one** of the columns to widen or narrow the column width

Let's now change specific column widths so that the Home Inventory Template ends up looking like the example illustrated in Fig. 4.4 on page 109. You're going to start by changing the width of columns C, E and F so that they are as wide as necessary for the data (descriptive text) that will go in them.

Position the mouse pointer on the column header "C" at the top of the column, hold down the **Ctrl** key, *and keep it down*, while you click to select the column header for column E and column F (Fig. 4.9)

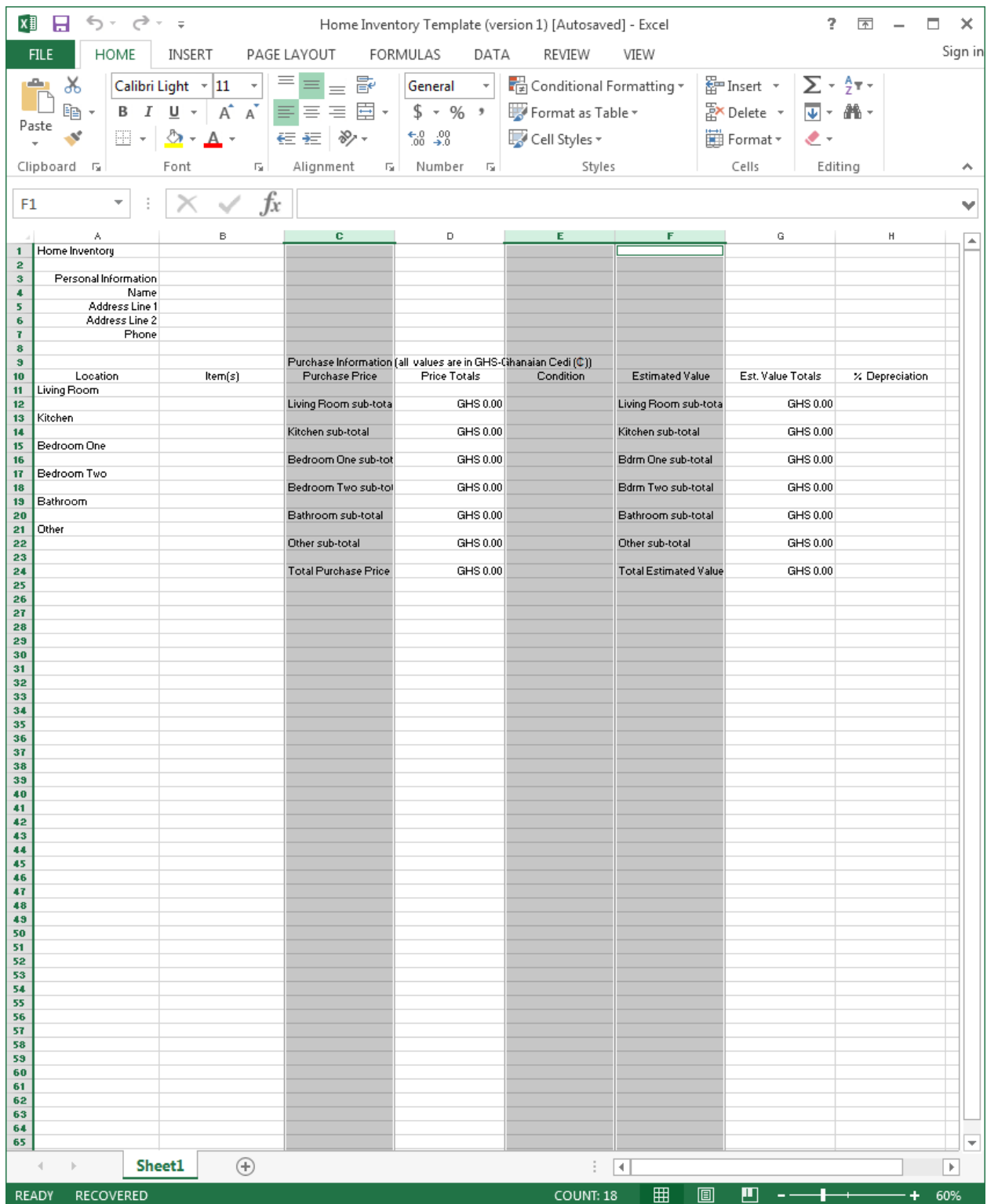


Fig. 4.9 Selecting a non-adjacent set of columns in the spreadsheet

When you have columns C, E and F selected, **let go of the Ctrl key and let go of the mouse button**

All three columns (C, E and F) should now be highlighted.

From the **Home Ribbon > Cells Group** select **Format > Column Width...** (or simply **right click on**

the **column header** and, in the **context menu** select **Column Width...**)

This will bring up the Column Width dialog box.

Type **25** for the **column width**, and click on **OK**, then click anywhere to **de-select** the columns

Another way to change Column Widths is to drag with the mouse. Let's try this.

Position the mouse pointer in the column headers **between column G and column H** so the pointer becomes a **crosshair**

Now drag left or right and notice the **small box** that appears, telling you the exact column width (Fig. 4.10); end up with the width of **Column B** at about **18**

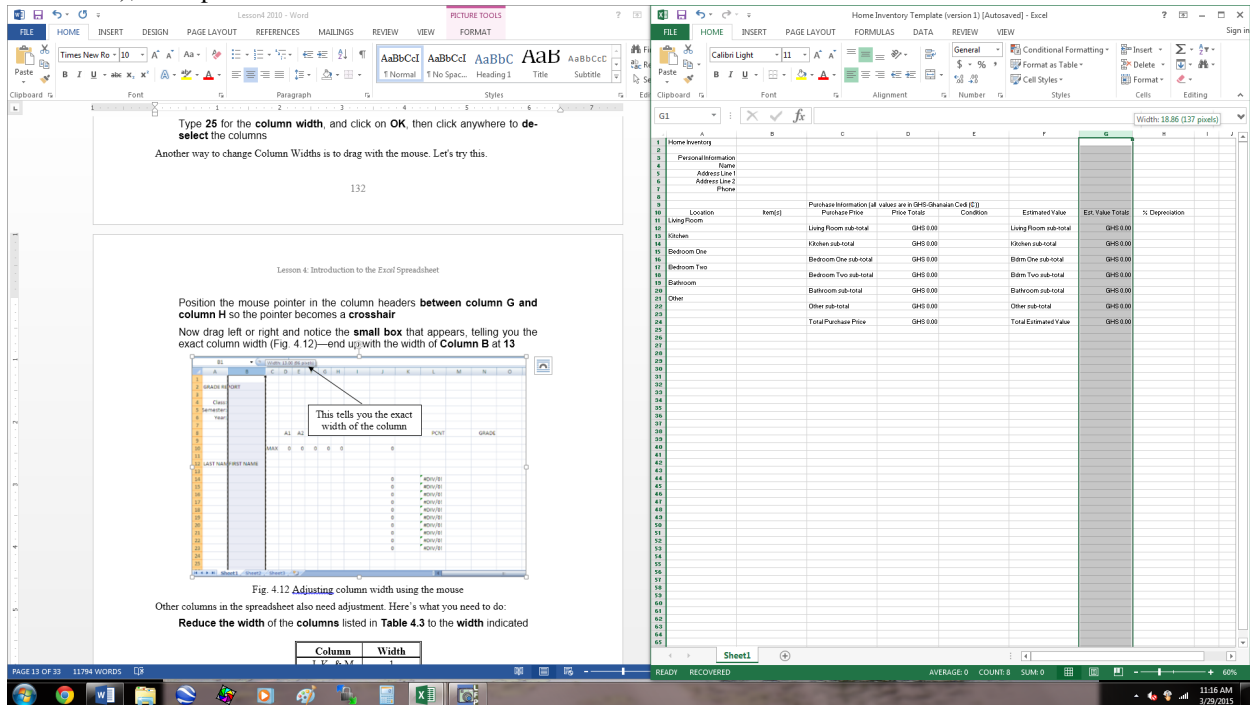


Fig. 4.10 Adjusting column width using the mouse

Three columns in the spreadsheet (columns D, G and H) still need adjustment.

Position the mouse pointer on the column header “D” at the top of the column, hold down the **Ctrl** key, and keep it down, while you click to select the column header for column G and column H, then from the **Home Ribbon > Cells Group** select **Format**

Column Width... and increase the column width to **18**

By now you must feel like you have a pretty good idea about various ways to change column widths, but before you move on you need to return the width of Columns C to H to 22.

Click on the **column header** for **Column C**, then hold down the **Shift** Key as you click on the **column header** for **Column H**, then from the **Home Ribbon > Cells Group** select **Format**

Column Width... and, in the **Column Width dialog box** enter the value **22**

This will bring up the Column Width dialog box.

Type **25** for the **column width**, and click on **OK**, then click anywhere to **de-select** the columns

Press **Ctrl-s** again to save your work (**Home Inventory Template**) when you have completed this exercise

4.4 COMPLETING YOUR HOME INVENTORY SPREADSHEET

Changing the name of the template document

The Home Inventory Template is safely saved on your disk. Now you can start to use it to build a specific Home Inventory spreadsheet.

As you can see, the template is still on the computer screen after you have saved a copy of it on your disk. Next you are going to fill it out with actual rooms, along with the contents of each of the rooms in your home.

Thus, the template will no longer be a template; it will become the Home Inventory for a real home. Therefore, the first thing you must do is Save the spreadsheet with a *different* file name, so that you will not lose the template you have just created.

It is always a good idea to do this straight away because you might forget to do it later.

Up until now you have been working with the document you originally called “Home Inventory Template.” Let’s say the year is 2015. A good document name for this spreadsheet would be *Home Inventory 2015*.

From the **File** menu select **Save As...**

In the **Save As** dialog box navigate to the **Work Files for LibreOffice folder > Data Files folder > Spreadsheets folder**, type the file name **Home Inventory 2015**, then click on **Save**

The new document name will appear at the top of the *Calc* spreadsheet window.

Entering data (labels and contents) for each of the rooms in your home

When you have completed this section, your Home Inventory spreadsheet will look like that illustrated in Fig. 4.11 on the next page. Refer back to this Figure frequently as you work your way through the sections that follow.

Start by adding the year to the spreadsheet title in cell A1.

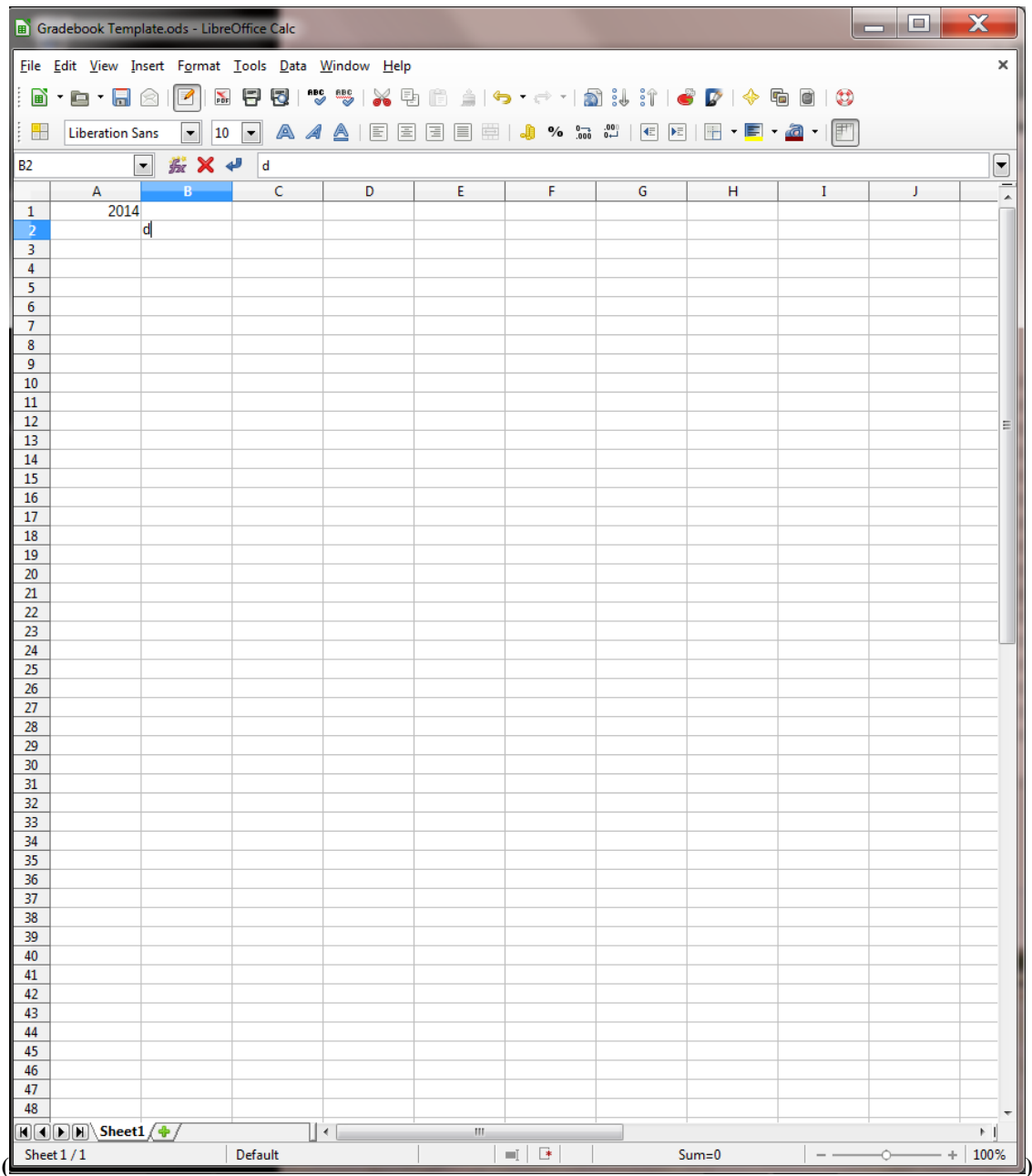
Click on cell **A1** and, in the **data entry bar** add **2015** at the end of **Home Inventory** (see cell A1 in the figure above)

You should next fill in the specific Personal Information for your new Home Inventory.

In cell **B4** type **your name**, hit the **Enter** key to move the selected cell to **B5**, and type the **first line of your home address** (make one up if you wish)

Hit **Enter** again to move the selected cell to **B6**, and type the **second line of your address** (the town or village you live in, for example, along with the Ghana State)

Hit **Enter** again to move the selected cell to **B7**, then type a **phone number** (make one up if you want), and click on **Accept**



Location	Item(s)	Purchase Price	Sub-Totals	Condition	Estimated Value	Sub-Totals	% Depreciation
Living Room	Books	GHS 300.00		Fair	GHS 150.00		50%
	Chairs	GHS 250.00		Fair	GHS 200.00		80%
	Computer	GHS 4,000.00		Excellent	GHS 1,500.00		38%
	Printer	GHS 300.00		Good	GHS 240.00		80%
	Software	GHS 240.00		Good	GHS 192.00		80%
	Living Room sub-total	GHS 5,090.00			GHS 2,282.00		45%
Kitchen	Cabinets (Contents)	GHS 2,000.00		Fair	GHS 1,400.00		70%
	Cutlery	GHS 350.00		Good	GHS 250.00		71%
	Dishes	GHS 920.00		Excellent	GHS 800.00		87%
	Glasses	GHS 250.00		Good	GHS 220.00		88%
	Pots & Pans	GHS 180.00		Fair	GHS 135.00		75%
	Kitchen sub-total	GHS 3,700.00			GHS 2,805.00		76%
Bedroom One	Bedding (sheets, etc.)	GHS 520.00		Fair	GHS 416.00		80%
	Bed	GHS 1,200.00		Good	GHS 900.00		75%
	Chair	GHS 95.00		Good	GHS 76.00		80%
	Chests and Contents	GHS 2,500.00		Fair	GHS 1,600.00		64%
	Contents in closet	GHS 1,200.00		Good	GHS 960.00		80%
	Bedroom One sub-total	GHS 5,515.00			GHS 3,952.00		72%
Bedroom Two	Bedding (sheets, etc.)	GHS 500.00		Fair	GHS 420.00		84%
	Bed	GHS 1,200.00		Good	GHS 800.00		67%
	Chair	GHS 82.00		Fair	GHS 60.00		73%
	Chests and Contents	GHS 2,500.00		Good	GHS 1,560.00		62%
	Contents in closet	GHS 300.00		Good	GHS 240.00		73%
	Bedroom Two sub-total	GHS 5,182.00			GHS 3,500.00		68%
Bathroom	Cabinet (Contents)	GHS 800.00		Good	GHS 550.00		69%
	Shampoo, etc.	GHS 150.00		Fair	GHS 90.00		60%
	Linens/Towels	GHS 350.00		Good	GHS 220.00		63%
	Chair	GHS 195.00		Good	GHS 156.00		80%
	Stool	GHS 100.00		Good	GHS 75.00		75%
	Bathroom sub-total	GHS 1,595.00			GHS 1,091.00		68%
Other	Jewelry	GHS 1,000.00		Excellent	GHS 650.00		65%
	Phone	GHS 220.00		Good	GHS 120.00		55%
	Clock	GHS 100.00		Good	GHS 75.00		75%
	Radio	GHS 80.00		Good	GHS 62.00		78%
	Pictures	GHS 120.00		Fair	GHS 85.00		71%
	Other sub-total	GHS 1,520.00			GHS 992.00		65%
	Total Purchase Price	GHS 22,602.00			Total Estimated Value	GHS 14,622.00	65%

Fig. 4.11 The Completed Home Inventory 2015 spreadsheet

Entering the names of each of the rooms in your home

Now select cell **A11** (this is where the name of the first room will go), and type **Living Room**

Hit the **Enter** key **6** times to move to cell **A18**

Type **Kitchen**, hit **Enter**, move to cell **A25**, and type **Bedroom One** Repeat these steps for cells **A32** (type **Bedroom Two**), **A39** (type **Bathroom**), and **A46** (type **Other**)

Notice how the room names are all lined up on the *left* of the column (text is normally left aligned).

Entering the names of the items in each room

Your next step will be to enter specific items that you might have in each room, along with the purchase price and current estimated value of each item. Check back to Fig. 4.11 above if you have any doubt about what to do. Bookmark this page, if necessary.

On the next page is a list of the kind of objects you might find in the rooms of your home. This will help you to come up with ideas for items to include in your Home Inventory:

In the living room	In the kitchen	In the bedrooms	In the bathroom
Books	Cabinets (Contents)	Bedding (sheets, etc.)	Cabinet (Contents)
Chairs	Cutlery	Bed	Shampoo, etc.
Computer	Dishes	Books	Linens/Towels
Printer	Glasses	Chests and Contents	Chair
Software	Pots & Pans	Contents in closet	Stool
Desk	Fridge	Desk	
Lamps	Stove	Chair	Other
Fan	Kitchen stool	Dressers and contents	Jewelry
Tables	Table(s)	Lamps	Phone
TV	Cooking Utensils	Fan	Clock
Furniture	Iron	Rugs	Radio
Fridge			Pictures
Rugs			Curtains

Click in cell **B11** and type the name of an item (furniture, chairs, rugs, TV, etc.) you might have in your **living room**

Hit **enter** to go to cell **B12** and enter another living room item—and continue until you have entered **any 5** living room items, then hit **Ctrl-s** to save your work

Now click in the cell in **Column B** that is next to the **Kitchen label** in **Column A** (cell **B18**) and type the name of an item (Stove, Dishes, etc.) you might have in your **kitchen**, hit **enter** to go to the **next cell down**, and enter another kitchen item—and continue until you have entered **any 5** kitchen items

Now click in the cell in **Column B** that is next to the **Bedroom One label** in **Column A** (cell **B25**) and type the name of an item (Stove, Dishes, etc.) you might have in your **kitchen**, hit **enter** to go to the **next cell down**, and enter another kitchen item—and continue until you have entered **any 5** items you might find in your bedroom

Do the same for **Bedroom Two** (starting in cell **B32**), the **Bathroom** (starting in cell **B39**), and **Other** (starting in cell **B46**), then hit **Ctrl-s** to save your work

Next, as you can see if you look at Fig. 4.11 on page 115 above, you need to enter a *label* for a Sub-total for the Purchase Price and Estimated Value of each of the items in each of the rooms. Let's do the Purchase Price Sub-total labels first.

Click in cell **C16** and type **Living Room Sub-total**

Click in cell **C23** and type **Kitchen Sub-total**

Click in cell **C30** and type **Bedroom One Sub-total**

Click in cell **C37** and type **Bedroom Two Sub-total**

Click in cell **C44** and type **Bathroom Sub-total**

Click in cell **C51** and type **Other Sub-total**

Do the same in **Column F** for the various **Estimated Value Sub-total labels** (in cells **F16**, **F23**, **F30**, **F37**, **F44**, and **F51**)

You need a couple more labels, one for the sum total of all the purchase prices, and another for the sum total of all the estimated values.

Click in cell **C53** and enter the label **Total Purchase Price**, then click in **Cell F53** and enter the label **Total Estimated Value**

Check all these labels against those illustrated in Fig. 4.11 on page 115 and, assuming all is well, **Save** your all your hard work (**Ctrl-s**)

Entering the Purchase Prices and Estimated Values

Now you need to come up with a *Purchase Price* for each of the items in your inventory. But before you do that, it'll be a good idea to define the format for the cells that will contain currency (monetary) data.

Here are the steps to do this.

Click on cell **C11**, then in the **Home Ribbon > Cells Group > Format** menu select **Format Cells** (the last item in the menu)

This will bring up the Format Cells dialog box (Fig. 4.14).

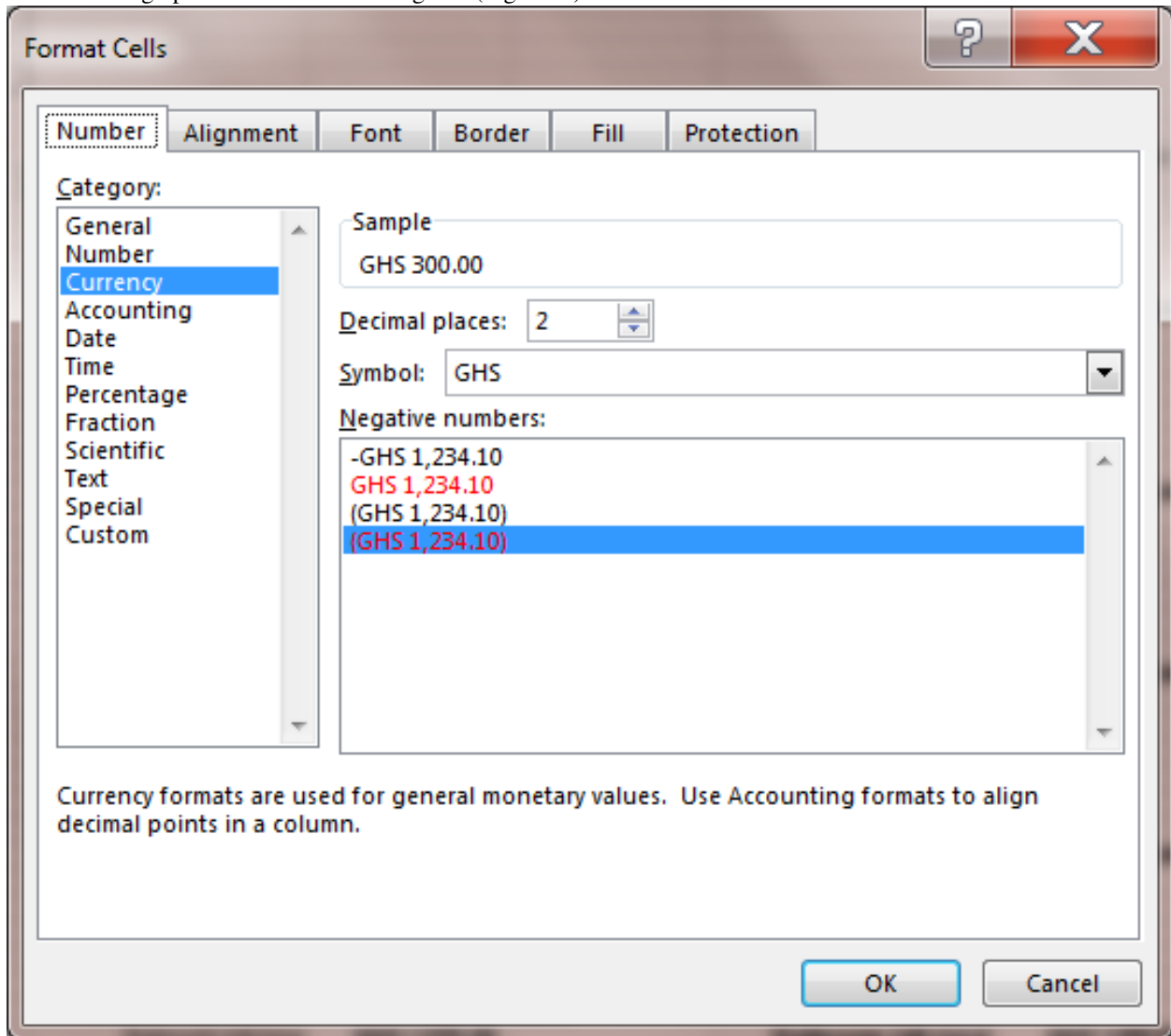


Fig. 4.14 The Format Cells dialog box

In the **Format Cells dialog box**, click on the **Number tab** (Fig. 4.14 above) and, in the **Category menu** select **Currency**

Leave the default **Decimal places** at **2**, then click on the **down arrow** at the end of the **Symbol** box and **scroll in the menu all the way down** to the option **GHS** (it's quite a way down, so keep going till you find it), then click on **OK**

Now with **cell C11** still selected, use the mouse pointer to grab hold of the **cell's Fill handle** (the mouse pointer becomes a bold "+" sign) and drag the Fill handle down to **cell C15** (Fig. 4.15 on the next page)

to copy the contents of cell C11 to all 5 cells from C11 to C15

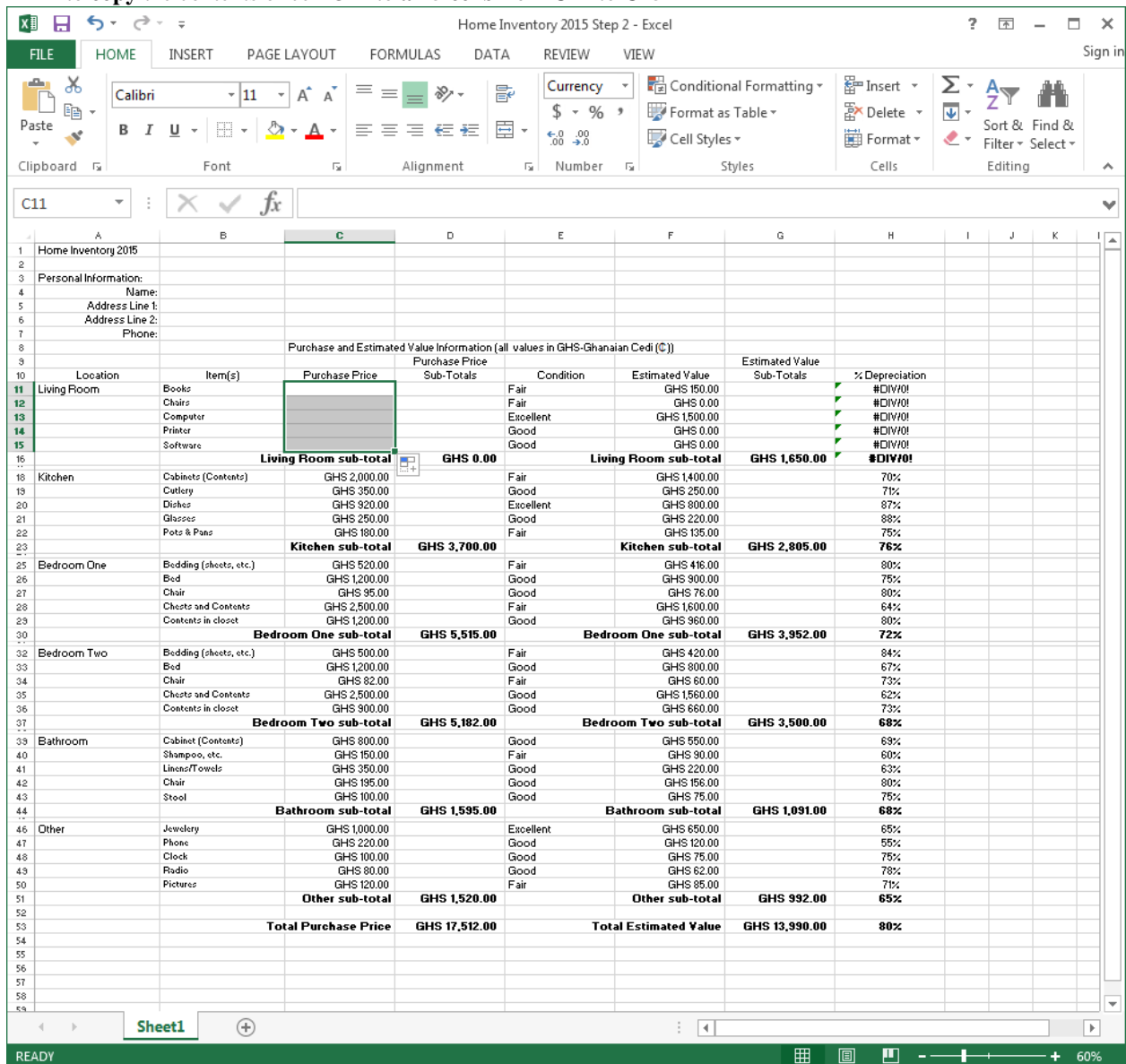


Fig. 4.15 Using the cell's Fill handle to copy the contents of a cell to other adjacent cells

While you have this set of 5 GHS formatted cells selected, you can copy them to the clipboard and then simply paste them into the several other cells in the Home Inventory spreadsheet where you will soon be entering currency amounts. Here are the steps to do this. Follow these next directions carefully so you don't make a mistake!

Hold down the **Ctrl** key—**AND KEEP IT DOWN!**—as you click on each of the following **11** cells: **C18, C25, C32, C39, C46, F11, F18, F25, F32, F39, and F46**, then hit **Ctrl-V** to **paste** the data from the clipboard to all these cells

You won't see anything in the cells—yet. But soon you'll be entering monetary amounts (the purchase prices of the contents of your home) into these cells, and they will all come up with the GHS symbol and 2 decimal places—just like that!

But first you have to set the currency format for a few other cells that will hold the Purchase Price sub-total for each room, and the various cells that will hold the Estimated Value sub-total for each room (see Fig. 4.11 on page 115).

Starting in cell **C16**, type **Living Room sub-total**, then in the **Home Ribbon > Alignment Group** click on the **Right Alignment** icon

Move to cell **C23**, type Kitchen sub-total and right align it, then do the same for cells **C30 (Bedroom One sub-total)**, **C37 (Bedroom Two sub-total)**, **C44 (Bathroom sub-total)**, and **C51 (Other sub-total)**, then save all your hard work (**Ctrl-s**)

Now you need to copy these 6 labels into the Estimated Value column.

Click on cell **C16**, then hold down the **Ctrl** key—**AND KEEP IT DOWN!**—as you click on each of the following 6 cells: **F16, F23, F30, F37, F44, and F51**, then hit **Ctrl-V** to **paste** the data from the clipboard to all these cells

Again, save all your hard work (**Ctrl-s**)

Now you have to think for yourself and come up with a Purchase Price and an Estimated (current) Value for all the items in all the rooms of your home. You can use the same values as are illustrated in Fig. 4.11 on page 115 if you want.

Starting in cell **C11**, make up a **Purchase Price** and an **Estimated Value** for each of the items in each of the rooms in your home inventory list

This is tedious work, but it's good practice and, in any case, it has to be done, right? Notice that when you *Accept* the data into each cell, the value now automatically comes up with the GHS symbol and 2 decimal places. Neat, huh?

Entering the Condition of each of the items in each room

Your next task (in the *Condition* column) is to come up with a *condition* for each of the items in your inventory.

Starting in cell **E11**, come up with a condition (either **Excellent**, **Good**, or **Fair**) for each of the items in each of the rooms in your home inventory list, then once again, save all your hard work (**Ctrl-s**)

Before we go on to the next major section of this lesson, there is one important thing you need to know about spreadsheets such as Calc. If, in any cell, you ever see ##### signs like this, DO NOT PANIC! The ##### signs are simply telling you that the column the cell is in is not wide enough to show all of the data. To fix it, all you have to do is make the column wider. You already practiced doing this (Home Ribbon > Cells Group > Format > Column Width and enter a column width wide enough to show all the data in the column).

Remember if you ever see those ##### signs in a cell, they're not a problem. They're just an alert to you that you need to make the column wider to fit the size of the data.

4.5 CREATING AND COPYING FORMULAS

Functions and Formulas are powerful tools in spreadsheets, tools that can save you hours of work.

Functions are routines that are built into the *Calc* spreadsheet—in other words, there's not much you need to do to set them up and make them work. You just need to know what the functions do, and then how to apply them when you think they will serve your purpose. But you do need to know and understand what they do.

Formulas, on the other hand, are defined by you, the user—in other words, you have to both know what you're doing *and* set everything up yourself.

Formulas will often include the spreadsheet built-in functions as part of the formula.

Both functions and formulas accomplish the same task: they tell *Calc* to do some kind of more or less complex calculation for you.

For example, in your home inventory spreadsheet you might want to calculate a *total value for the set of items in a particular room*, and the *total value for the contents of the house as a whole*. You might also want to know the *total estimated value, after time has passed, for the set of items in a particular room*, and the *total estimated value for the contents of the house as a whole*. Then you might like to know what is the *percentage value, after depreciation, of all those items in your house*—what are they worth now as a percentage of what they were worth when you originally bought, or otherwise acquired, them.

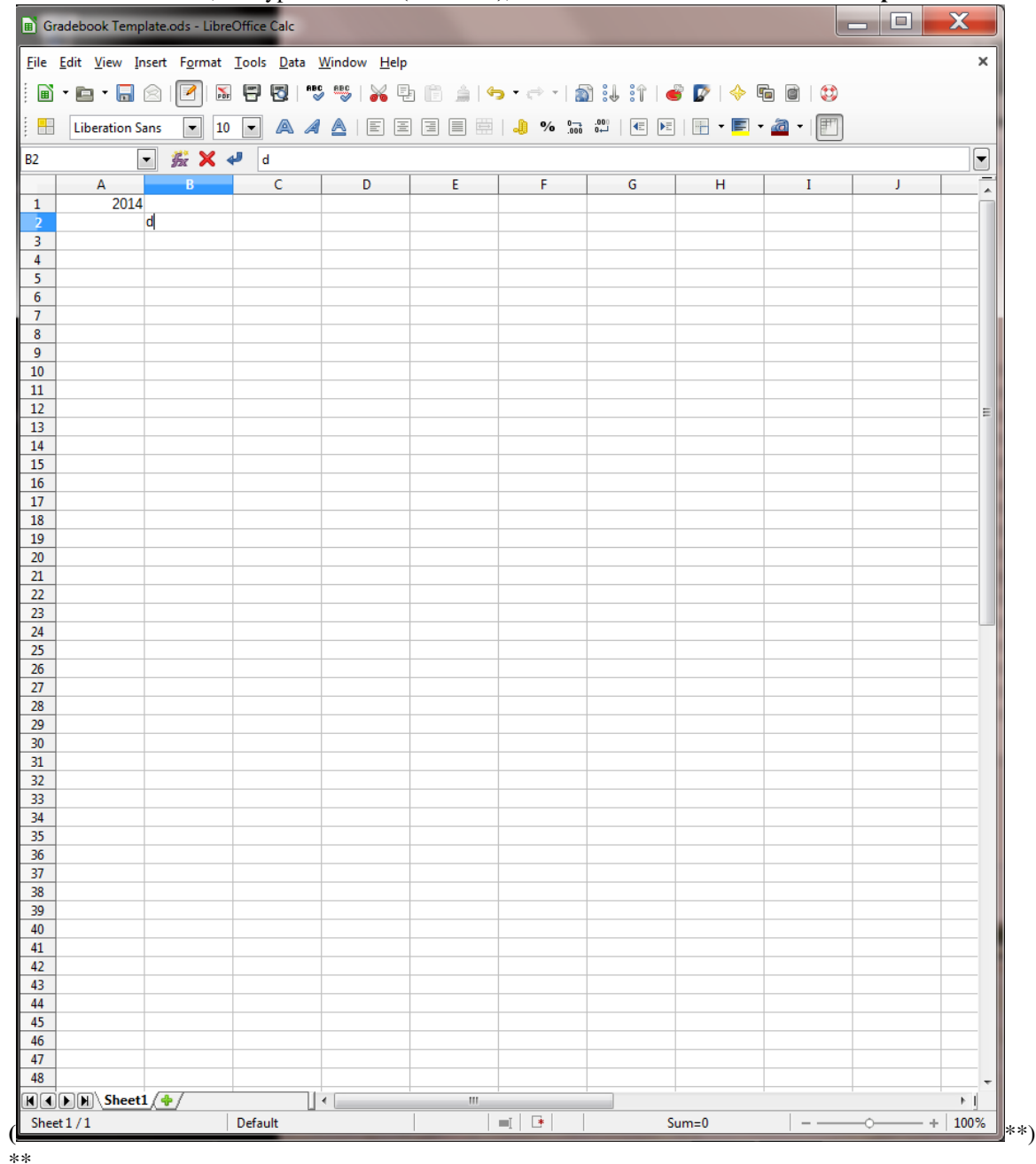
To do all this, you can program the spreadsheet to execute (carry out) a formula based on the values in the cells that contain these monetary values. You can have the spreadsheet add up the numbers in a set of cells, for example. Or you can have the spreadsheet tell you the average score in a range of cells, and so on. You can also have the system copy a formula into other cells.

Let's try a few things along these lines now.

Creating a formula

Let's enter a formula and see what it does.

Select cell **D16**, type **=SUM(C11:C15)**, then click on the **Accept** button



The “=” symbol at the beginning is a clue to *Calc* that what follows is a *function* or *formula*. So remember this:

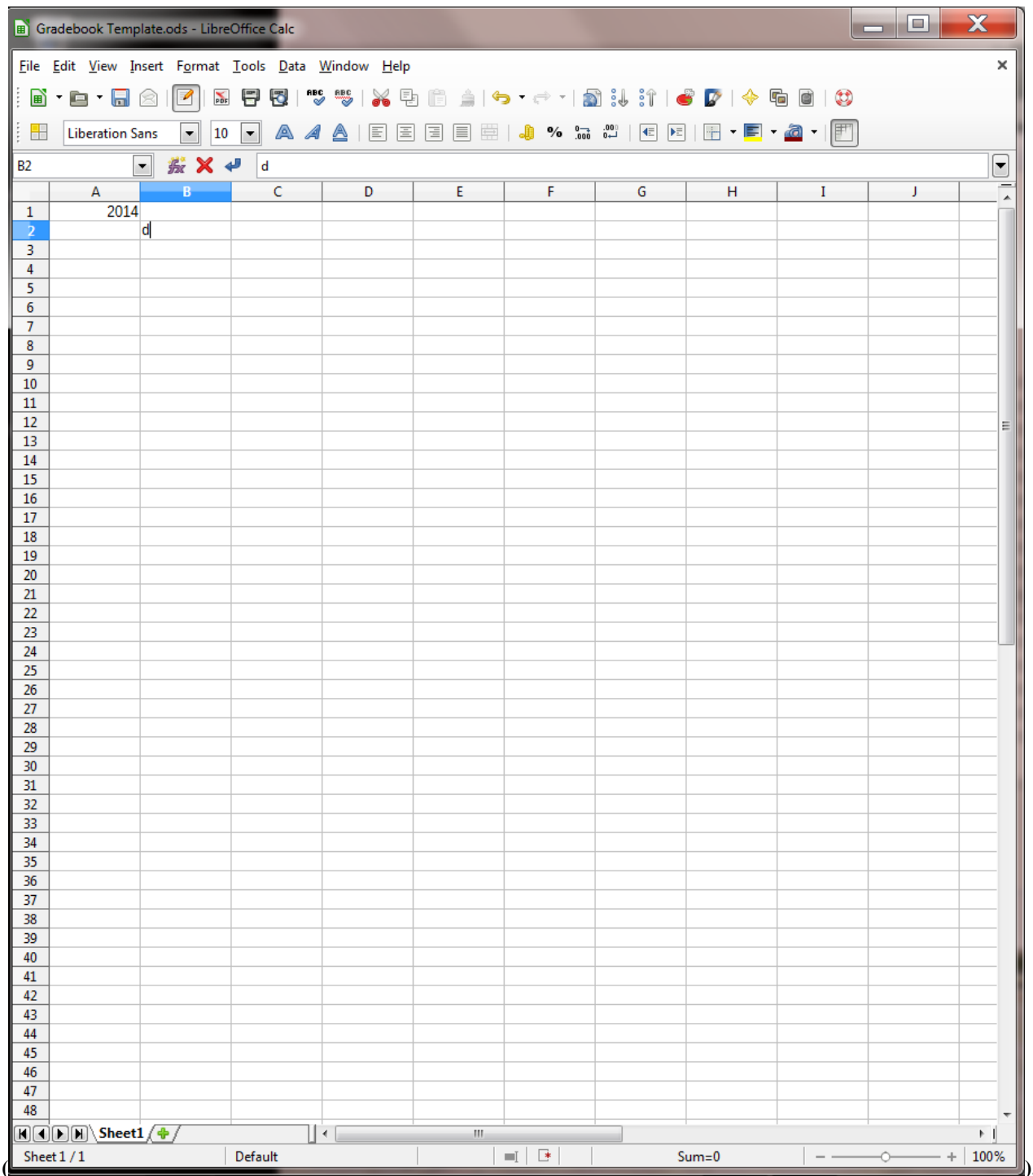
ALL SPREADSHEET FUNCTIONS AND FORMULAS BEGIN WITH THE EQUALS (=) SIGN

The formula **=SUM(C11:C15)** tells *Calc* to sum (add together) the monetary values entered in cells **C11** through **C15** and store the result in cell **D16** (cell D16 is the cell in which you want the formula to put the result of its calculation—the Total Purchase Price of the items in your living room).

If this is confusing to you, don't feel bad. Spreadsheets do mathematics—they calculate stuff. So in order to use spreadsheets effectively, you need to understand some (mostly simple) mathematics.

SUM is one of many *Calc* built-in functions. It ADDS UP or TOTALS a series of numbers to produce the required result. We'll look at other built-in functions in a moment.

If you typed in the formula correctly and clicked the Accept button



you should see that cell D16 contains the sum of the Purchase Price for all the items in your Living Room.

Press **Ctrl-s** to save your work

Copying and pasting formulas

You already did this (copying and pasting), but in case you weren't quite sure what was going on when you followed the directions, here is a description of what Copying and pasting involves. Fig. 4.16 illustrates the process.

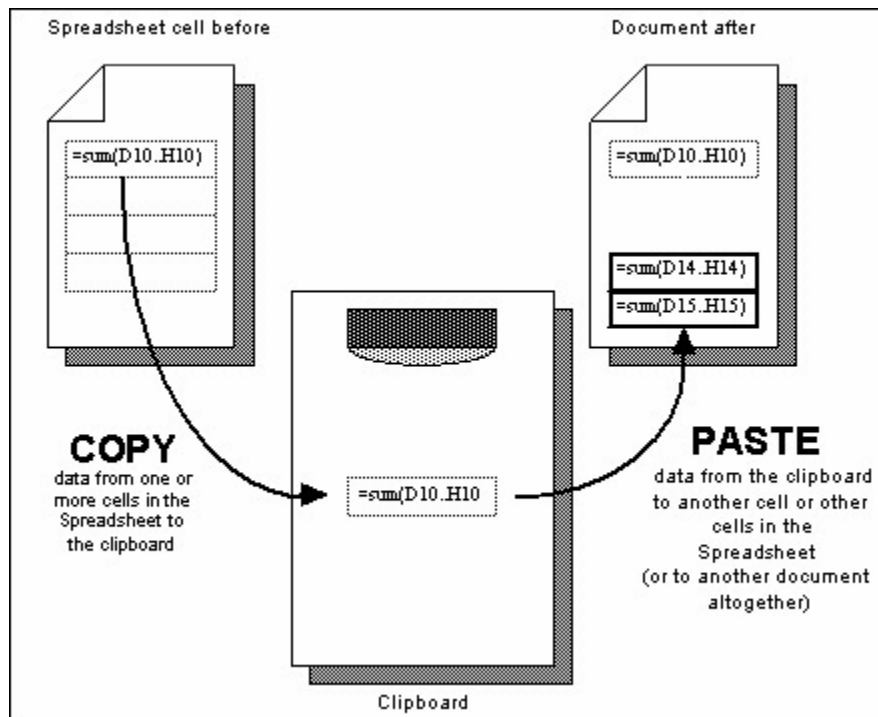


Fig. 4.16 Copying and Pasting

Now you are going to *copy* the formula from cell *D16* (the formula that added up, or summed, all the values in cells C11-C15—the Total Purchase Price for the items in the Living room of your home). Then you are going to *paste* this formula into the other 11 relevant sub-total cells in the Home Inventory spreadsheet (go to page 115 and check this out in Fig. 4.11 once again).

Copying the formula...

Click on cell **D16**, and do **Ctrl-c** to copy the contents of the cell to the clipboard

Cell D16 will now have a *blinking border* indicating that this is the cell from which the formula has been copied to the clipboard.^[1]

Pasting the formula...

You are going to paste the formula that you just copied (from cell D16) into the 11 other cells in your Home Inventory spreadsheet that have sub-totals of the values for the items in the rooms of your home.

Hold down the **Ctrl** key—**AND KEEP IT DOWN!**—as you click on each of the following **11** cells: **D23**, **D30**, **D37**, **D44**, **D51**, **G16**, **G23**, **G30**, **G37**, **G44**, and **G51**, then hit **Ctrl-v** to **paste** the data from the clipboard to all these cells

Again, save all your hard work (**Ctrl-s**)

Notice that the value in each of the sub-total cells is *correct* for the set of cells it is concerned with (related to by the formula). In other words, *Calc* **automatically** adjusts the range of cells *relative* to the set of cells being totalled.

This is called *Relative referencing*. What does Relative Referencing mean?

Relative references

You might find this a bit tricky to follow, so put on your thinking cap, OK? The system is copying the formula in cell D16 to all the other cells in the Home Inventory spreadsheet that need to calculate a sub-total for the inventory items in a room. In other words, just as the formula in D16 sums the values stored in cells C11 to C15, so the formula copied to other sub-total cells will sum the values *relative* to cells C11 to C15.

Does that make sense? If so, give yourself a pat on the back! If not, don't despair. Read it over a couple of times. The alternative to a Relative Reference, by the way, is an Absolute Reference. You will need to use an Absolute Reference in the next lesson (lesson 5). For now, let's keep it simple.

Press **Ctrl-s** again to save your work so far (are you getting into the habit of doing this?)

Setting up the % Depreciation formula

The next formula you need will go in the % Depreciation column (column H) and will calculate the percentage depreciation for each of the items in each of the rooms in your home. The formula will tell *Calc* to divide the Estimated Value of an item by the Purchase Price of that same item, thus telling us the percentage depreciation in value of that item over time.

Select cell **H11**, since this is the cell in the % Depreciation column for the first item in the **Living Room**

The formula you want to create will divide the value you entered into cell *F11* (which is the *current Estimated Value* for the first item in the *Living Room*) by the value in cell *C11* (which is the *original Purchase Price* for that item). Here's what you need to do.

Type the formula **=F11/C11** (don't forget the **"="** sign which tells *Calc* that you are about to type a formula) and press **Enter**

Hmmm... Notice, in cell H11, that when you divide one number by another the result is often a fraction. Thus the eventual percentage for each room's Percentage (%) Depreciation won't look like a percentage at all. Instead of, say, 85%, the computer will display 0.85, for example.

Setting the Cell Attribute for the % Depreciation column

It would be best to display the percentages as whole numbers (no fractions) with a % sign after them, like 85%. No doubt you are familiar with this seeing percentages this way. So you need to add this feature to the Home Inventory 2015 file.

Follow these steps to format (select attributes for) the values in the PCNT column so they will eventually look like recognizable percentages.

Make sure cell **H11** is still selected and, in the **Home Ribbon**

Number Group click on the % (Percent) symbol to change the format of the decimal number to a percentage

With cell **H11** still selected, use the mouse pointer to grab hold of the cell's **Fill handle** (the mouse pointer becomes a bold **"+"** sign) and drag the **Fill handle** all the way down to cell **H53** to **copy (Fill down)** the contents of cell **H11** to **all** of the cells in **column H**

Uh oh. You'll notice that cells H16 and H17 (that do not have any value associated with them) are coming up with error messages (#VALUE and #DIV/0!). The same is true for cells H23 and H24; H30 and H31, H37 and H38, H44 and H45, H51, H52, and H53.

Cells H17, H24, H31, H38, H45, and H52 are easy to fix because they do not have any value associated with them. You just need to *clear* those cells of the formula that has been copied there.

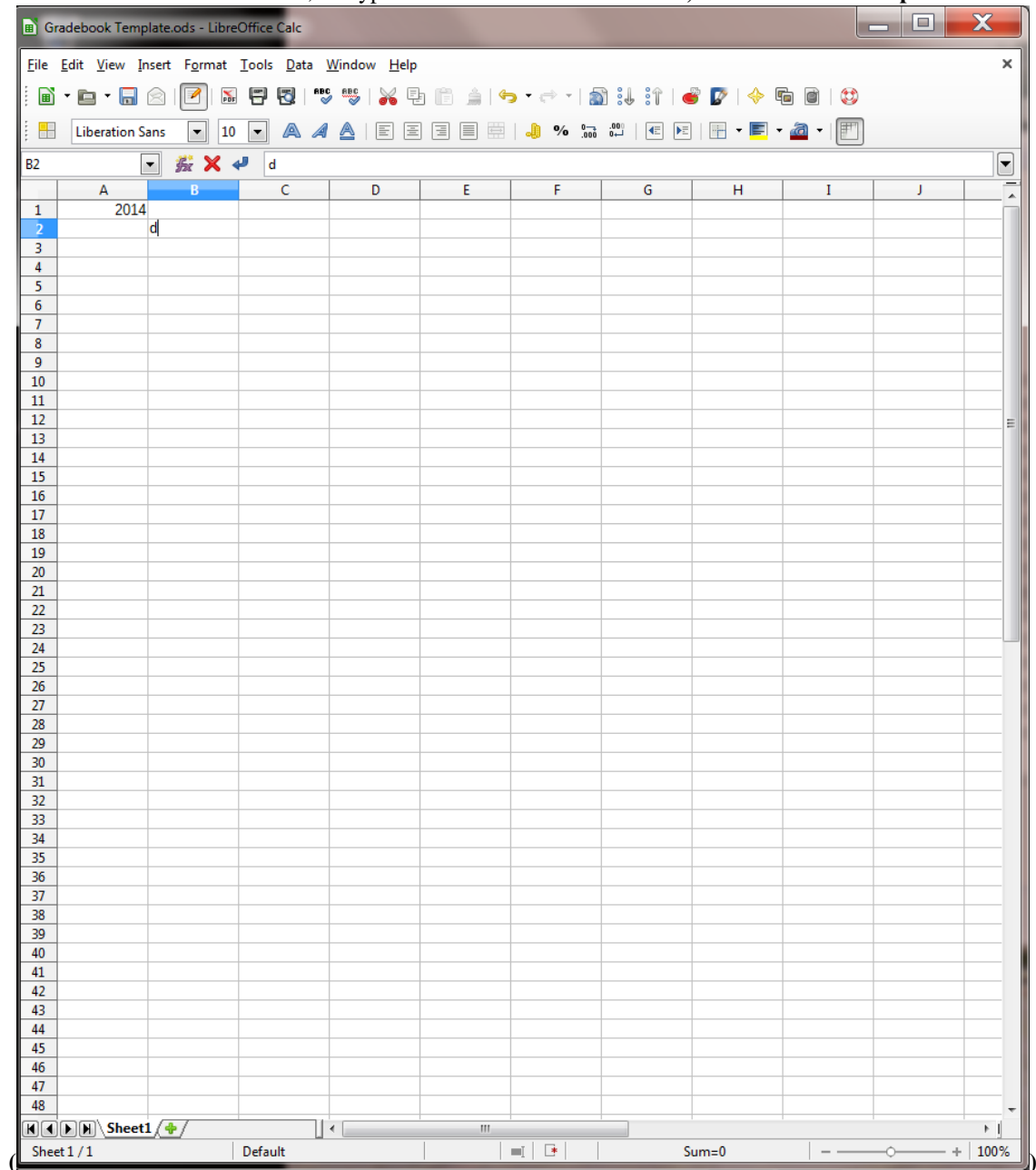
Hold down the **Ctrl** key—**AND KEEP IT DOWN!**—as you click on each of the following **6** cells: **H17**, **H24**, **H31**, **H38**, **H45**, and **H52**, then hit the **Delete** key on the keyboard to remove the error formula from these cells

Now you need to fix the problem with the cells that have the error message (#VALUE!). This message is telling you that the formula for these cells is wrong.

Click on the first of these cells (cell **H16**), then look in the **data entry bar** at the formula that is in the cell: **=F16/C16**

F16 and C16 contain *labels*, not *numbers*, so there's no way you can do any maths with them. The formula should be G16/D16 (the cells containing the Purchase Price and the Estimated Value sub-totals). Now that you know this, it's easy to fix.

With cell **H16** selected, type the formula **G16/D16**, hit the **Accept** button



then hit **Ctrl-c** to **copy** this correct formula to the **clipboard**

Now, with cell **H16** still selected, hold down the **Ctrl** key—**AND KEEP IT DOWN!**—as you click on each of the other **6** cells that need to be fixed—the cells that still contain the error message **#VALUE!**, namely **H23**, **H30**, **H37**, **H44**, **H51**, and **H53**—then hit **Ctrl-v** to paste the corrected formula in to each of these cells

Hit **Ctrl-s** to save your work

If you followed all these steps correctly, your Home Inventory spreadsheet should finally look like the one illustrated

in Fig. 4.11 on page 115. How did you do?

Checking out the formulas

It is useful to check out the formulas in the spreadsheet. Sometimes you may be getting the wrong results and you may need to examine a formula to see if there is an error. Or you may simply want to know how a particular value is computed. Like everything else, this is easy enough to do when you know how.

In the **Formulas Ribbon > Formula Auditing Group** select **Show Formulas**

This will display all the formulas in your spreadsheet (Fig. 4.17, for example, highlights the formulas used to calculate the values in Columns H, G and elsewhere in the spreadsheet).

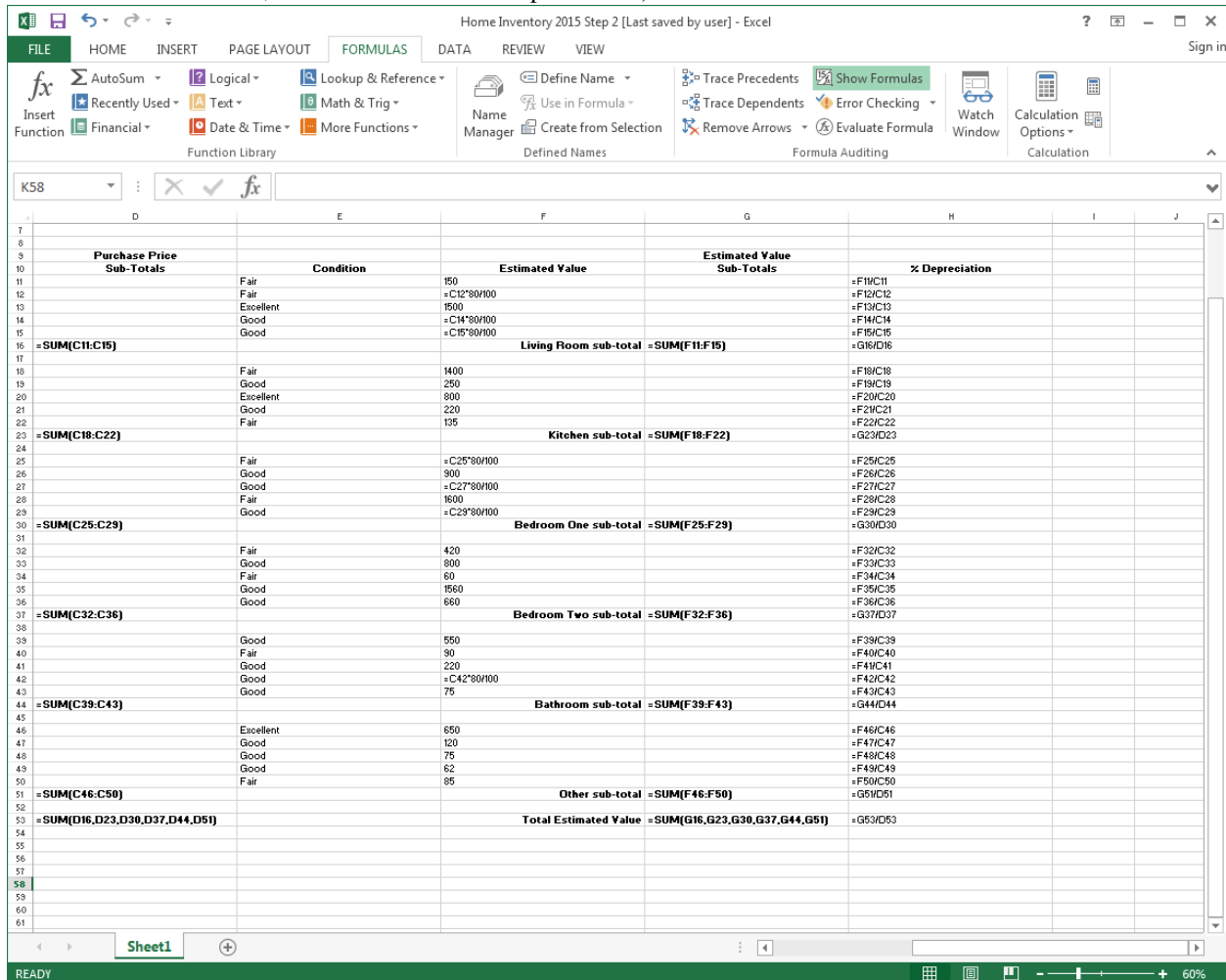


Fig. 4.17 Showing formulas in the Home Inventory spreadsheet

Scroll over if necessary to check out the formulas displayed in **the other columns of your spreadsheet**

After you have verified that the formulas are stored correctly relative to each of the appropriate cells, you should reset the display so you can see the values, not the formulas, in the cells.

In the **Formulas Ribbon > Formula Auditing Group** click on **Show Formulas** again to toggle back to showing the data in the cells

Notice that the formulas are hidden once again.

4.6 MAKING CHANGES TO YOUR HOME INVENTORY SPREADSHEET

Now that your Home Inventory is complete and saved on your disk, you can still make changes to it. Perhaps you want to add one or more items to some of the rooms in your home inventory. This can all be done with little effort on your part.

Adding an item to a room (Inserting rows)

A new item can be added to any room by inserting a row. To insert a **row** you would select the location ahead of which you want to place the new row or rows (say before **Row 16**). *Calc* inserts a new row immediately ahead of the row you have selected. Follow these steps to try this now.

Select the whole of **row 16** by clicking in the **row label** (the number **16** at the left edge of the spreadsheet—Fig. 4.18)

The screenshot shows the Microsoft Excel interface with the 'Home Inventory 2015 Step 2' spreadsheet. The 'FORMULAS' tab is active. The spreadsheet data is as follows:

Location	Item(s)	Purchase Price	Condition	Estimated Value	% Depreciation	
Living Room	Books	GHS 300.00	Fair	GHS 150.00	50%	
	Chairs	GHS 250.00	Fair	GHS 200.00	80%	
	Computer	GHS 4,000.00	Excellent	GHS 1,500.00	38%	
	Printer	GHS 300.00	Good	GHS 240.00	80%	
	Software	GHS 240.00	Good	GHS 192.00	80%	
Living Room sub-total		GHS 5,090.00		GHS 2,282.00	45%	
Kitchen	Cabinets (Contents)	GHS 2,000.00	Fair	GHS 1,400.00	70%	
	Cutlery	GHS 350.00	Good	GHS 250.00	71%	
	Dishes	GHS 320.00	Excellent	GHS 800.00	87%	
	Glasses	GHS 250.00	Good	GHS 220.00	88%	
	Pots & Pans	GHS 180.00	Fair	GHS 135.00	75%	
Kitchen sub-total		GHS 3,700.00		GHS 2,805.00	76%	
Bedroom One	Bedding (sheets, etc.)	GHS 520.00	Fair	GHS 416.00	80%	
	Bed	GHS 1,200.00	Good	GHS 900.00	75%	
	Chair	GHS 95.00	Good	GHS 76.00	80%	
	Chests and Contents	GHS 2,500.00	Fair	GHS 1,600.00	64%	
	Contents in closet	GHS 1,200.00	Good	GHS 960.00	80%	
Bedroom One sub-total		GHS 5,515.00		GHS 3,952.00	72%	
Bedroom Two	Bedding (sheets, etc.)	GHS 500.00	Fair	GHS 420.00	84%	
	Bed	GHS 1,200.00	Good	GHS 800.00	67%	
	Chair	GHS 82.00	Fair	GHS 60.00	73%	
	Chests and Contents	GHS 2,500.00	Good	GHS 1,560.00	62%	
	Contents in closet	GHS 900.00	Good	GHS 660.00	73%	
Bedroom Two sub-total		GHS 5,182.00		GHS 3,500.00	68%	
Bathroom	Cabinet (Contents)	GHS 800.00	Good	GHS 550.00	69%	
	Shampoo, etc.	GHS 150.00	Fair	GHS 90.00	60%	
	Linens/Towels	GHS 350.00	Good	GHS 220.00	63%	
	Chair	GHS 195.00	Good	GHS 156.00	80%	
	Stool	GHS 100.00	Good	GHS 75.00	75%	
Bathroom sub-total		GHS 1,595.00		GHS 1,091.00	68%	
Other	Jewellery	GHS 1,000.00	Excellent	GHS 650.00	65%	
	Phone	GHS 220.00	Good	GHS 120.00	55%	
	Clock	GHS 100.00	Good	GHS 75.00	75%	
	Radio	GHS 80.00	Good	GHS 62.00	78%	
	Pictures	GHS 120.00	Fair	GHS 85.00	71%	
Other sub-total		GHS 1,520.00		GHS 992.00	65%	
Total Purchase Price		GHS 22,602.00		Total Estimated Value	GHS 14,622.00	65%

Fig. 4.18 Selecting a row

Now, with the cursor positioned on the **number** of the row (**16**), **right click** and, in the **context menu** that pops up, select **Insert**

Immediately *Calc* inserts a new empty row. If you inserted the row in the wrong place, remember that you can undo what you just did by hitting Ctrl-z.

Now you must fill the new row with data as in the rest of the spreadsheet.

Across **row 16**, fill out another **item** for the living room, a **Purchase Price** for the item, the **Condition** of the item, and an **Estimated Value**

You will also need to update the formulas in cells D17 and G17 to include the values for the new item.

Move, first, to cell **D17** and, in the data entry bar, change the formula to **=SUM(C11:C16)**, then click on cell **G17** and, in the data entry bar, change the formula to **=SUM(F11:F16)**

You'll notice that the values in cells D54 and G54 (the grand totals for the Purchase Price and Estimated Value) have been automatically updated by *Calc*. After you have updated the formulas you should check to see that the results in the various cells make sense. Mistakes are always possible.

NEVER ASSUME THAT THE COMPUTER IS GIVING YOU THE CORRECT DATA. THE DATA ARE ONLY AS GOOD AS THE PERSON WHO ENTERED THEM—AND THAT PERSON IS HUMAN!

Inserting columns

To insert a new column, you would again select where you want to insert the column—say between columns F and G. *Calc* will insert the new column(s) to the *left* of the column you select.

Highlight **column G** by clicking in the **column header** (the letter “**G**” at the top of column G in the spreadsheet), then right click on the **Column Header** (the letter G) and, in the **context menu**, select **Insert**

Calc inserts an empty column between column F and G to allow you to enter a new set of data. The column width is set to be the same as the column next to which it is inserted. You don't need a new column in this spreadsheet, but you now know how to do it if you wanted to.

Deleting (cutting) rows and columns

If you need to delete rows or columns from a spreadsheet, you would select a row or column, or a set of rows or columns, then hit the *Del(ete)* key to delete them. No need to practise this now. Just remember where to find this section if you ever need to delete rows or columns from a spreadsheet.

The beauty of an electronic spreadsheet such as *Calc* is that, even when you add or delete rows or columns, the system automatically updates the formulas where appropriate to match the new state of the data.

Using boldface and other cosmetic tools to highlight cells

Take a look at again at Fig. 4.11 on page 115 and notice the rows in the spreadsheet that are highlighted in **boldface**. This draws attention to those cells and makes them easy to pick out from the mass of other data in the spreadsheet. Let's do that to your spreadsheet to finish the job and give the spreadsheet a more professional look.

Start with cell **A1**, click on it, then, in the **Home Ribbon > Font Group**, increase the **font size** to **20**

Next click in cell **A3** and hit **Ctrl-b** to **boldface** the phrase **Personal Information:**

Click on the **row label** of **row 9** (the number **9** at the left edge of the spreadsheet) to select the whole row, then hit **Ctrl-b** to **boldface** the data (labels) in the relevant cells in **row 9**

Now do the same for rows **10, 17, 24, 31, 38, 45, 52, and 54**

There you go. Your spreadsheet should now look very much like the one illustrated in Fig. 4.11 on page 115. Check it out.

4.7 PRINTING YOUR HOME INVENTORY

You are now going to print a “hard copy” of the Home Inventory. Printouts can be oriented in one of two possible ways: Portrait orientation (the normal look of a page) or Landscape orientation (where the page is turned on its side, like a landscape painting. Fig. 4.9 illustrates the difference between the two.

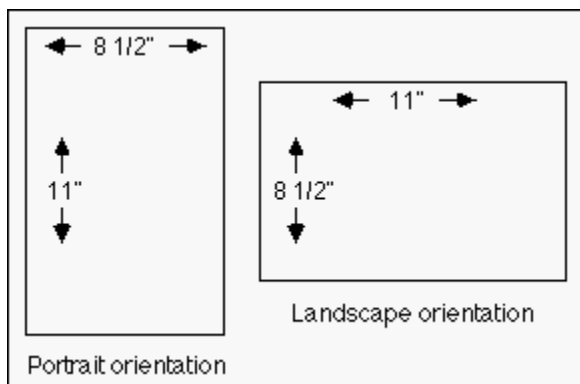


Fig. 4.19 Portrait and Landscape page orientation

Unless you decide otherwise, *Calc* will print the page in the Portrait orientation (Fig. 4.19 above).

If your Home Inventory is too wide to fit on the 8.5 inch width of standard paper, you can print the Home Inventory sideways (Landscape orientation). In fact, this is often the best orientation for a spreadsheet because of the “shape” of the data which is often set up in columns across the screen.

In the **Page Layout Ribbon > Page Setup Group**, select **Orientation**, and click on **Landscape**

In the Page Setup dialog box you can also tell *Calc* to print or not to print gridlines, row and column headings and so forth. You can thus still make changes to the appearance of your spreadsheet on the printed page. Let’s try this now.

In the **View Ribbon > Show/Hide Group**, click to remove the **check mark** in the boxes next to **Headings** (if it’s not already removed) and **Gridlines** (again, if it’s not already removed)

This is to tell *Calc* you do *not* want those headings and gridlines in the first printout.

Now, in the **File menu** select **Print** to bring up the **Print** dialog box (Fig. 4.20)

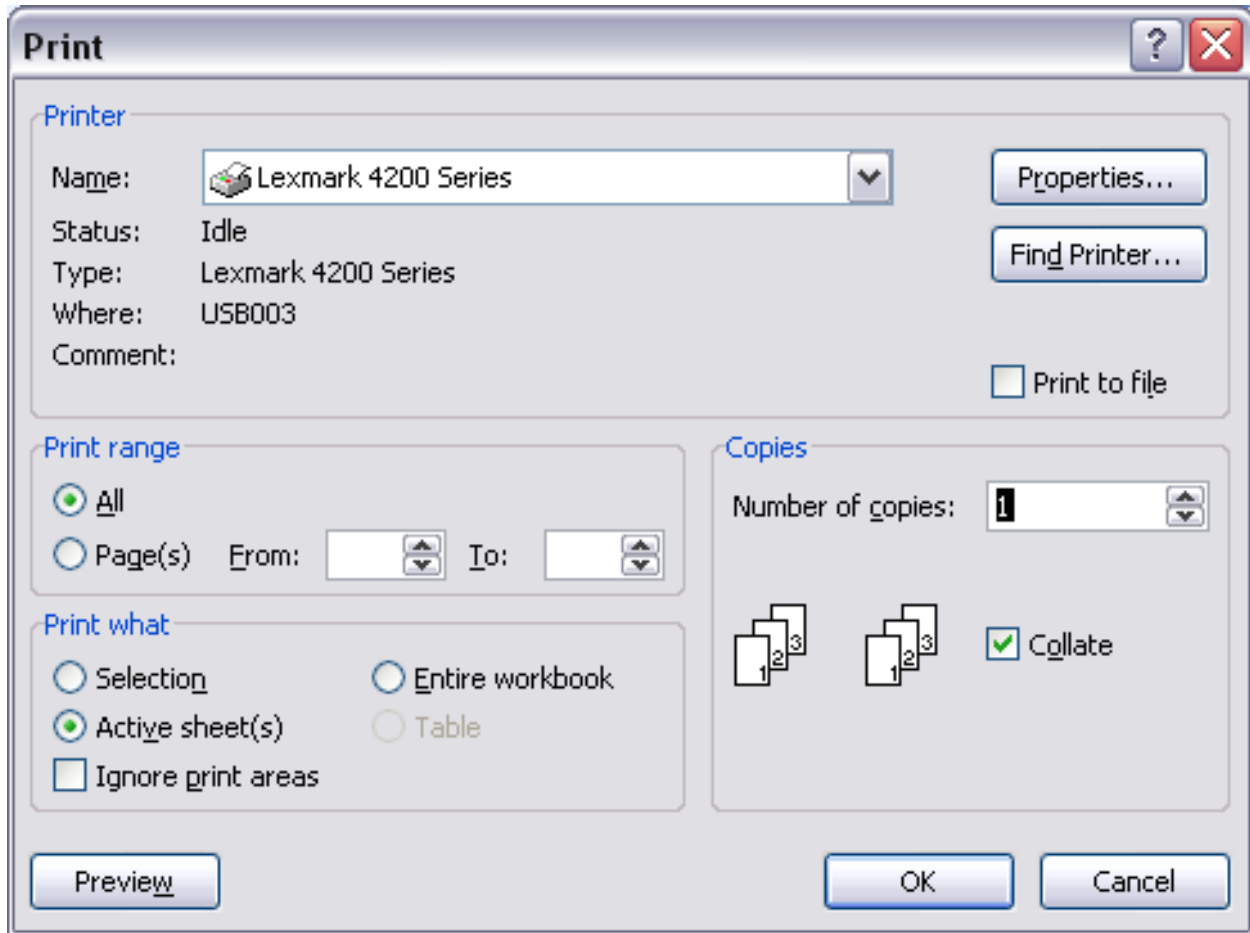


Fig. 4.20 The Print dialog box

In the print dialog box, you can choose the number of copies you would like. As a rule, it is best to have the computer print only one copy (the default number of copies) unless you have a high speed printer, since it is easier (and cheaper) to make multiple copies using a photocopier.

Also, if you have an ink jet printer, select *draft quality* or *quick print* the first time or two, so you don't waste ink (this is not an option with laser printers since laser printers always print best quality).

Another tip, if you have control over your own printer, is to recycle once used paper (clean on one side) for draft copies. You might even start collecting this, instead of throwing it away. Help save the planet!

For in the Print dialog box, the radio button for **All** is selected by default. If you look a little lower in the dialog box (in the **Print what** section) you'll see that the radio button for **Active sheet(s)** is also selected by default (see again Fig. 4.20 on the previous page).

These are the appropriate settings for our Home Inventory spreadsheet. We'll check out other options in Lesson 5.

Click on **OK** to print your **Home Inventory 2015** Home Inventory (it should print in **Landscape orientation without gridlines or row and column headings**)

The printer will print the Home Inventory so you can send it to your instructor. For further reinforcement of the options for printing a spreadsheet, let's print the Home Inventory again, but this time we'll include the row and column headers and the gridlines using a slightly different method.

Select **File menu > Print > Print Preview**, and click on the **Page Setup** button to bring up the Page Setup dialog box (Fig. 4.21)

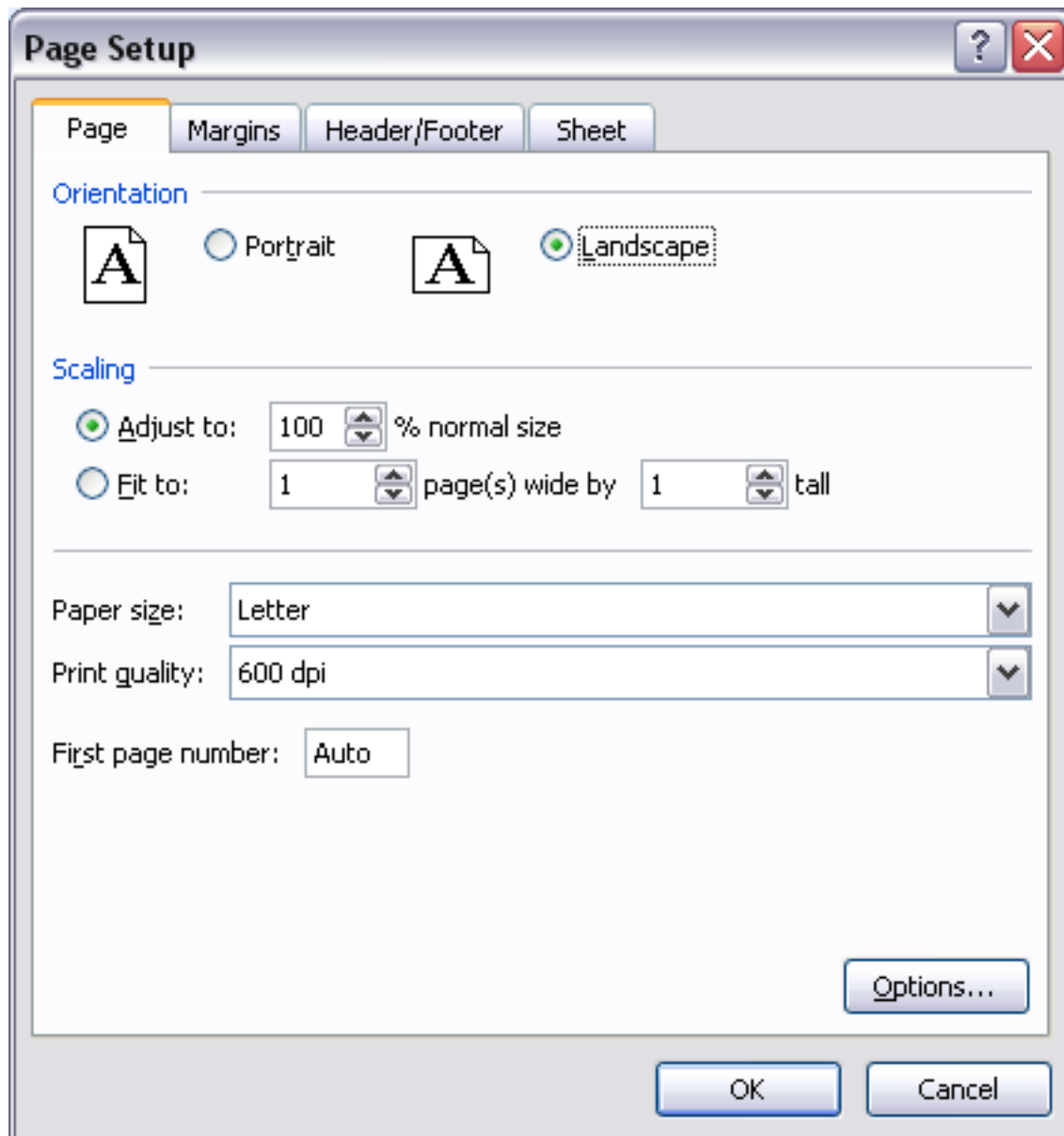


Fig. 4.21 The Page Setup dialog box

As you see, you can set the Page Orientation in this Page Setup dialog box.

Make sure the **page orientation** is still **Landscape** for the **Home Inventory 2015** printout

Now, in the Page Setup dialog box, click on the **Sheet tab** (Fig. 4.22)

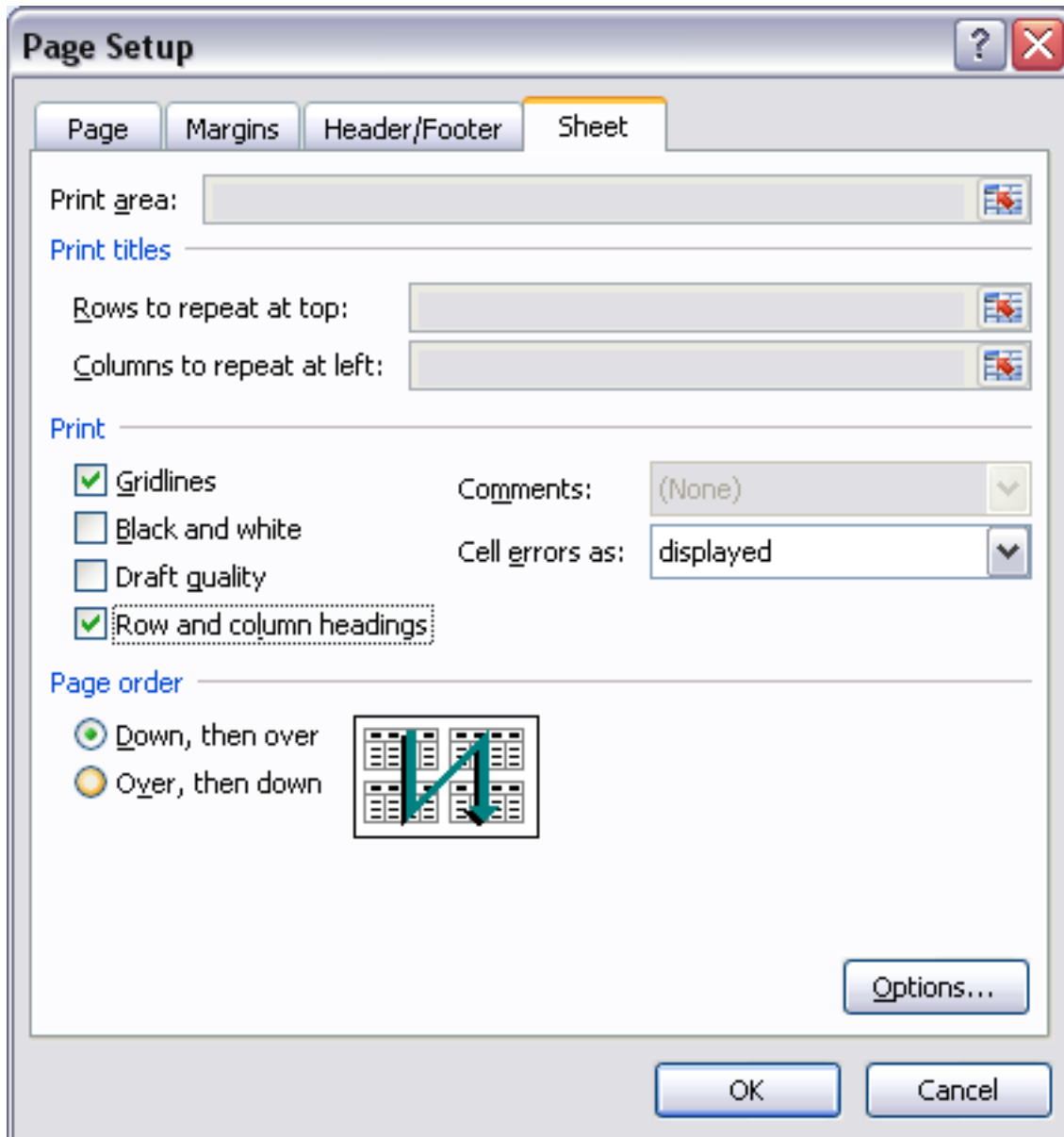


Fig. 4.22 The Page Setup dialog box

Put a **check mark** next to **Gridlines** and next to **Row and column headings**, click on **OK**, click on the **Print...** button, and wait while the printer does its job

Hand in both copies of the **Home Inventory 2015** to your instructor

SKILL CONSOLIDATION

Complete as many of these exercises as you can to reinforce what you have learned in Lesson 4.

1. Update Home Inventory 2015 by adding an extra column for another assignment, quiz, project, or test score and hand in your printout of the new spreadsheet.
2. Add two room items, along with their associated values, to the Home Inventory spreadsheet that you created using this tutorial. Copy and adjust the relevant formulas where necessary.
3. Design and create a spreadsheet to handle an **income statement** for your personal checking account. The income statement will span **one full year**, from January to December. The leftmost column will contain a list of **at least six**

items that you typically purchase during the course of a month (Gas, phone bill, etc.). Then the column headers across the spreadsheet will refer to months in the year. The numbers in the cells will be the financial amounts (with **\$ signs** and **2 decimal places**) that you spent on each item per month. You will include columns for the **total** for each item at the end of **each quarter** (Quarter 1 is Jan., Feb., and March, for example) and a column for the **total** at the end of the year. Then, at the **bottom** of each column you will have a breakpoint **total** for each of the **months** (with a row of its own as illustrated below), a **total** for each of the **Quarters** (with a row of its own as illustrated below), and a **grand total** for the **whole year** (in the **rightmost cell** and with a row of its own as illustrated below). As you may have figured out, there will be 18 columns in the spreadsheet, and at least 10 rows.

Send the exercise to your instructor as an attachment in email when you are done. This could become an ambitious group project if you were to add extra features such as weekly data with break points (sub totals) and so forth—very useful, too. Here is an illustration of what your final Income Statement might look like:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
4	Item	January	February	March	Q1	April	May	June	Q2	July	August	September	Q3	October	November	December	Q4	Total
6	Gasoline	\$ 100.00	\$ 85.00	\$ 80.00	\$ 265.00	\$ 120.00	\$ 85.00	\$ 85.00	\$ 290.00	\$ 80.00	\$ 95.00	\$ 100.00	\$ 275.00	\$ 85.00	\$ 130.00	\$ 90.00	\$ 305.00	\$ 1,135.00
7	Phone Bill	\$ 65.00	\$ 60.00	\$ 63.00	\$ 188.00	\$ 65.00	\$ 65.00	\$ 65.00	\$ 195.00	\$ 62.00	\$ 60.00	\$ 60.00	\$ 182.00	\$ 63.00		\$ 62.00	\$ 125.00	\$ 690.00
8	Entertainment	\$ 50.00	\$ 35.00	\$ 45.00	\$ 130.00	\$ 75.00	\$ 35.00	\$ 40.00	\$ 150.00	\$ 55.00	\$ 65.00	\$ 35.00	\$ 155.00	\$ 45.00	\$ 50.00	\$ 55.00	\$ 150.00	\$ 585.00
9	Car Insurance	\$ 50.00	\$ 50.00	\$ 50.00	\$ 150.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 150.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 150.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 150.00	\$ 600.00
10	Food	\$ 100.00	\$ 85.00	\$ 90.00	\$ 275.00	\$ 100.00	\$ 120.00	\$ 85.00	\$ 305.00	\$ 110.00	\$ 80.00	\$ 95.00	\$ 285.00	\$ 100.00	\$ 80.00	\$ 90.00	\$ 270.00	\$ 1,135.00
11	Rent	\$ 175.00	\$ 175.00	\$ 175.00	\$ 525.00	\$ 175.00	\$ 175.00	\$ 175.00	\$ 525.00	\$ 175.00	\$ 175.00	\$ 175.00	\$ 525.00	\$ 175.00	\$ 175.00	\$ 175.00	\$ 525.00	\$ 2,100.00
12	Cable	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 540.00
13	Internet	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 45.00	\$ 45.00	\$ 45.00	\$ 135.00	\$ 540.00
15	Monthly Expenditures	\$ 630.00	\$ 580.00	\$ 593.00		\$ 675.00	\$ 620.00	\$ 590.00		\$ 622.00	\$ 615.00	\$ 605.00		\$ 608.00	\$ 575.00	\$ 612.00		
16	Quarterly Expenditures				\$ 1,803.00				\$ 1,885.00				\$ 1,842.00				\$ 1,795.00	
17	Annual Expenditure																	\$ 7,325.00

4. Go to the **Work Files for LibreOffice > Miscellaneous Files**

Practice folder and open the Calc spreadsheet file **Ghana Facts and Figures**. Update the spreadsheet in the following ways:

- Reduce the **height of Row 24** to 3, by adding the label **Totals in cell B 25**
- In **Row 25 Cell B25** type the Label **TOTALS**; then in **Cells C25, D25, E25, G25, and I25**, enter the formula to **SUM** the numbers in columns **C, D, E, G, and I**.
- Make **boldface** the entire contents of **Row 25**
- Create the correct formula for the columns of empty cells (Columns **D, F, H, and J**).

The formulas you will need to create are based on the following:

- The calculation that will return the correct result for the cells in column **D** is **Area (in square kilometers) multiplied by (*) 0.3861**
- The calculation that will return the correct result for the cells in column **F** is **Population by Region (column E) divided by the National Population (Cell B7)**. Careful! This will need you to use an *Absolute reference* for the National Population!
- The calculation that will return the correct result for the cells in column **H** is **Number of Males by Region (column G) divided by the Population by Region (Column E)**
- The calculation that will return the correct result for the cells in column **J** is **Number of Females by Region (column I) divided by the Population by Region (Column E)**

5. Get together with one other classmate and brainstorm for ideas about using the *Calc* spreadsheet. List at least 10 suggestions and describe briefly (a sentence or two) how you would use each of them in the home or on the job.

[^1]: Think of the clipboard as a temporary holding area for a single set of data. Once something is on the clipboard it can be pasted anywhere you want—whether in this spreadsheet, or in another spreadsheet, or into some other document altogether, such as a *Word* document, a *PowerPoint* document, a *Paint* document, or anywhere else on your own computer.

3.5 Lesson 5 More on the Use of the Spreadsheet

5 MORE ON THE USE OF the spreadsheet

Making changes to existing spreadsheets

LEARNING OUTCOMES

In this tutorial you will have the opportunity to learn the following.

1. Updating an existing spreadsheet
1. Making changes to the look of a spreadsheet
1. Using the *LibreOffice* LOOKUP function
1. Creating charts based on spreadsheet data
1. Printing the updated spreadsheet

5.1 GETTING STARTED

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (*Continuing with the tutorial, on the next page*). If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 5.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by **double clicking** on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 5.1).

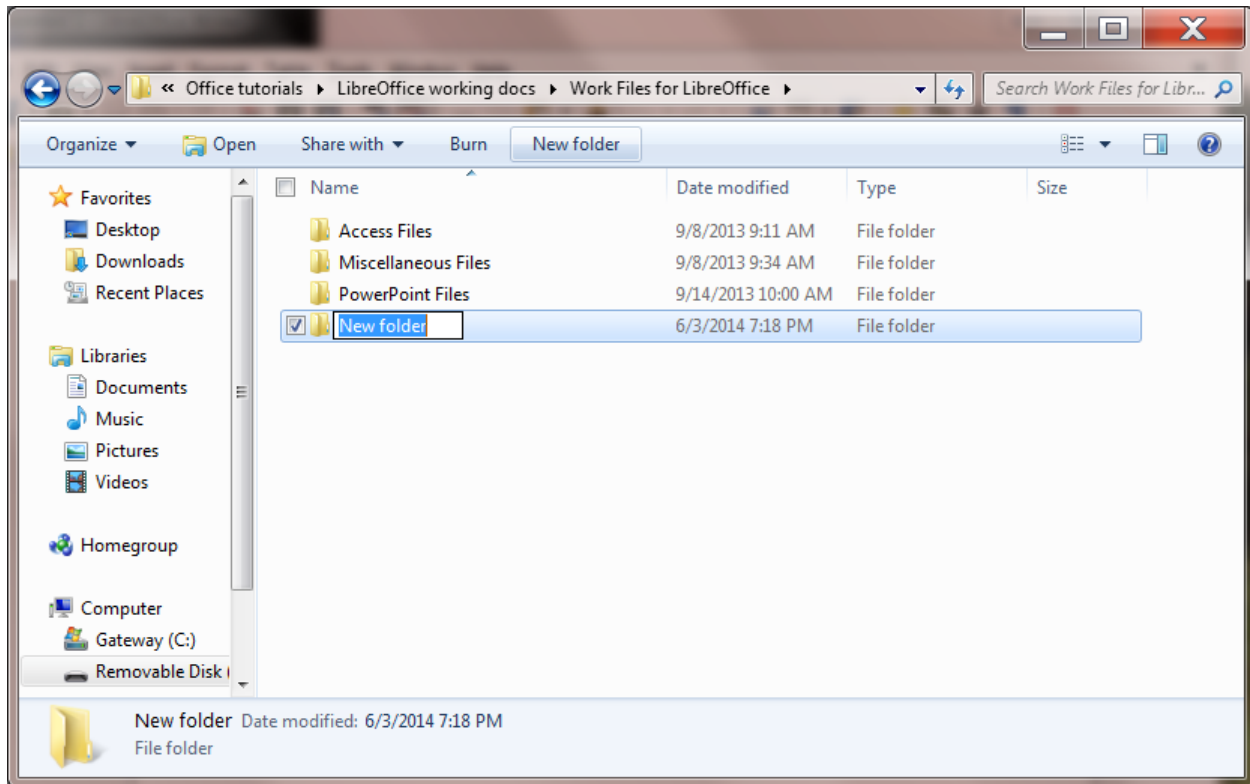


Fig. 5.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 5.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

Continuing with the tutorial

You're going to work with a Gradebook very similar to the one you created in Lesson 4. For the sake of uniformity, and to avoid confusion, you're going to use a Grades Template and a Gradebook specially prepared for use with this lesson.

You will work on the Gradebook first.

By now you should know the steps to open a document, so go to your **Work Files for LibreOffice > Miscellaneous Files > Other Documents** folder and **Open** the **Gradebook** spreadsheet

Go to **File > Save As**, then navigate to your **USB drive**

Work Files for LibreOffice > Data Files > Spreadsheet Documents folder and **Save** the **Gradebook** there

5.2 RECAPITULATION AND REINFORCEMENT

The following sections give you an opportunity to refresh your memory of the basic spreadsheet skills you learned in Lesson 4.

Moving from cell to cell in the spreadsheet

In Lesson 4, you learned some of the more useful commands for moving around in the *Calc* spreadsheet (check Lesson 4, page 105, 106).

In *Calc* spreadsheet terminology, the cell that is selected (surrounded by a heavier border) is called the current (or active) cell. Take a moment now to reacquaint yourself with the methods for changing the position of the currently

active cell.

The **arrow keys** move the **current cell** to the **adjacent cell** left, right, above, or below the current cell—press all four of the arrow keys a few times, and watch how the current cell moves around

The **TAB key (forward)** and the **Shift-TAB command (back)** also move the cursor to the adjacent cell, but only in a **horizontal** (right or left) direction—try these two commands now.

The **RETURN key (forward)** and the **Shift-RETURN command (back)** also move the cursor to the adjacent cell, but only in a **vertical** (up or down) direction—try these two commands now

Use the **scroll bars** when you want to move around the spreadsheet without changing the location of the current cell—try this, too

More cell selection commands

Selecting sets of cells in a spreadsheet

You occasionally may want to highlight all the cells in the spreadsheet—in order to change a font, the font size, or the overall cell background, for example. Here's how you do this.

Click in the **small box** right **above** the **Row headings** and to the **left** of the **Column headings** (Fig. 5.2)

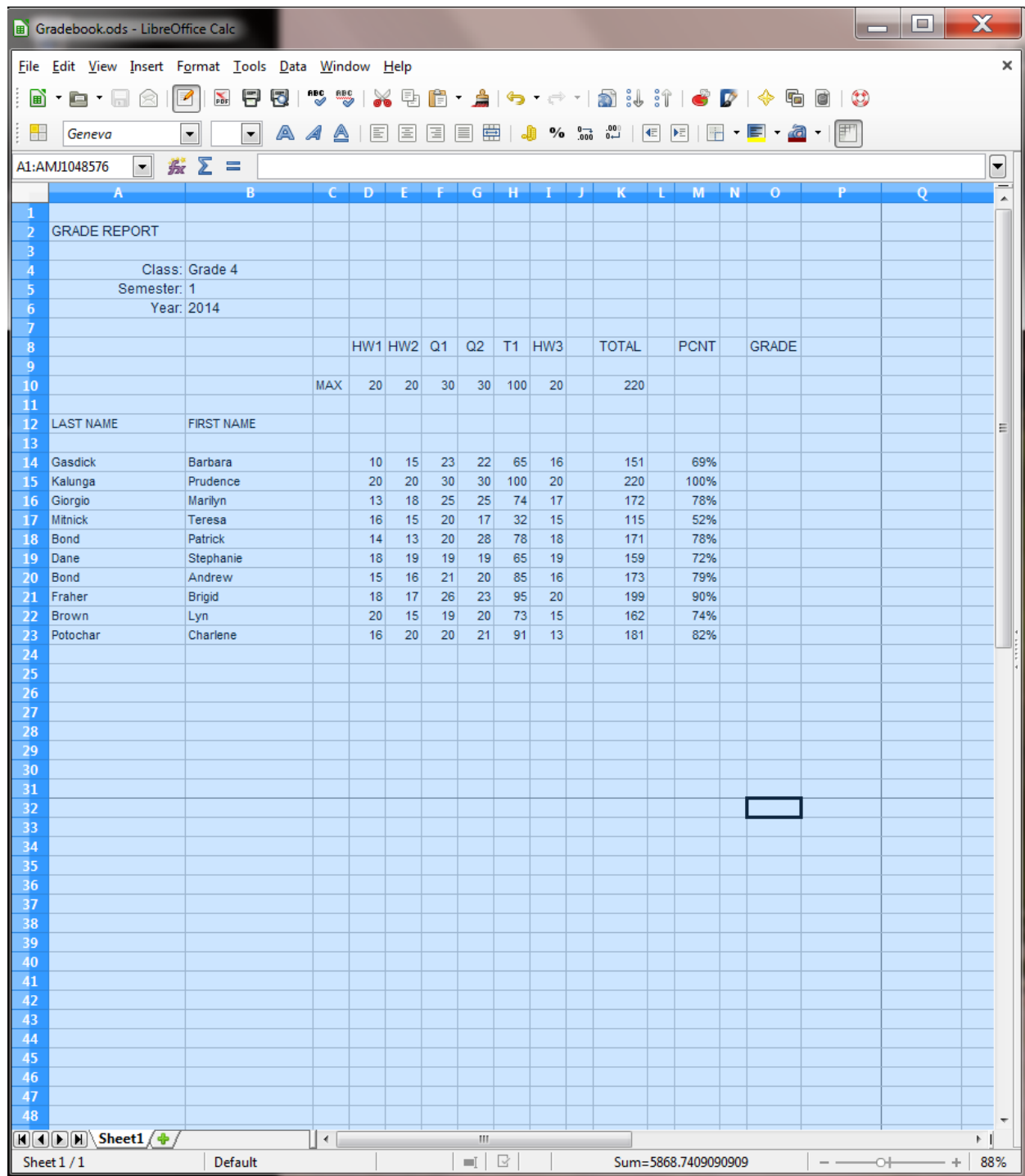


Fig. 5.2 Selecting an entire spreadsheet

The entire spreadsheet is now highlighted. However, perhaps you want to select only the cells that you're working in. There are a couple of ways to do this.

Click anywhere in the spreadsheet to **de-select** the selected cells

Now, starting at **cell A1**, use the mouse to **drag diagonally down** from cell **A1** to cell **O24**

That's one way. Here's another way of doing the same thing.

Click anywhere to **de-select** the selected cells then click in cell **A1**, hold down the **Shift** key, and click in cell **O24**

The same set of cells is selected. The *Shift* key is very useful for selecting an especially large range of *cells* in *Calc*, or a range of *text* in *Writer*, or even a range of *slides* in *Impress*, which you'll learn about soon enough. Dragging with the mouse can get tedious and error prone when you have to select hundreds or thousands of adjacent cells, dozens of pages, or scores of slides. Remember this *Shift* key trick.

Going to a specific cell anywhere in a spreadsheet

If you are working in a large spreadsheet (consisting of thousands of cells, say) and you know the approximate coordinates of a cell you want to find, it is sometimes quicker to let *Calc* find the cell for you. The following simple steps will show you how to make the cell that intersects *Column AJ* and *Row 423*—a location quite deep inside the spreadsheet—the current (or selected) cell.

Click again in the **small box** right **above** the **Row headings** and to the **left** of the **Column headings** (Fig. 5.1 on the previous page), type **AJ423** (you can use either upper case (AJ) or lower case (aj) for the column coordinate), then click on **OK**

There you go! Remember that the first (alphabetic) coordinate (AJ) is always the column; the second (numerical) coordinate is always the Row.

Click again in the **small box** right **above** the **Row headings** and to the **left** of the **Column headings** (Fig. 5.2 on the previous page), then type **A1**, and click on **OK**

You are now back at the first cell (A1) in the spreadsheet. Some of the options for moving about the spreadsheet are considerably slower than others, which is why you should take the time to familiarize yourself with *all* the different methods for moving around the spreadsheet, especially if you become a regular user of *Calc*.

5.3 Updating an existing spreadsheet

The Gradebook would benefit from some cosmetic changes, such as the following.

1. There should be **double lines** to set off different parts of the spreadsheet. It is often useful, for example, to include extra space (but not too much space) between the headings above the columns of data and the data itself, and also before summary totals at the bottom of columns of data.
2. It would be useful to include **more formulas** to increase the information content of the spreadsheet. For example, you could add a formula that calculates an *average* for each of the sets of grades so that your students can see where they stand in relation to the rest of the class on any particular assignment or test. A *highest score* and *lowest score* for each set of grades would also be useful.
3. It would be a good idea to **protect cells** containing data that you consider especially important. Protecting cells prevents you or someone else from accidentally losing or changing cell contents. It takes time to put together spreadsheet templates and other documents. Some cells will contain functions that are tricky to figure out. Protecting them will make it difficult to lose your work.
4. Finally, *Calc* can do some of the thinking for you if you include a **LOOKUP Table** to figure out the *Letter grades* for your students based on their percentage score at the end of a reporting period.

Let's deal with these problems one at a time. In this section you'll learn how to handle the first three improvements. Later in the lesson you'll have the opportunity to learn how to create and use the LOOKUP function.

Dividing up the spreadsheet to make it easier to read

After you have fixed change #1, the Gradebook will look similar to Fig. 5.3.

Gradebook.ods - LibreOffice Calc

File Edit View Insert Format Tools Data Window Help

Geneva 10

P36

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1																	
2	GRADE REPORT																
3																	
4	Class: Grade 4																
5	Semester: 1																
6	Year: 2014																
7																	
8				HW1	HW2	Q1	Q2	T1	HW3		TOTAL		PCNT		GRADE		
9																	
10			MAX	20	20	30	30	100	20		220						
11																	
12	LAST NAME	FIRST NAME															
13																	
14	Gasdick	Barbara		10	15	23	22	65	16		151		69%				
15	Kalunga	Prudence		20	20	30	30	100	20		220		100%				
16	Giorgio	Marilyn		13	18	25	25	74	17		172		78%				
17	Mitnick	Teresa		16	15	20	17	32	15		115		52%				
18	Bond	Patrick		14	13	20	28	78	18		171		78%				
19	Dane	Stephanie		18	19	19	19	65	19		159		72%				
20	Bond	Andrew		15	16	21	20	85	16		173		79%				
21	Fraher	Brigid		18	17	26	23	95	20		199		90%				
22	Brown	Lyn		20	15	19	20	73	15		162		74%				
23	Potochar	Charlene		16	20	20	21	91	13		181		82%				
24																	
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Sheet1 / 1 Default Sum=0 88%

Fig. 5.3 Gradebook after update #1

Breaks between sections of a spreadsheet help the eye locate important data when scanning the page, whether on screen or on paper. In *Calc*, the easiest way to do this is to use an extra row or column at the point where you want to create a division between different parts of the spreadsheet, and then put a *border* along the edges of the empty row and also *reduce the width* of the inserted row or column so it appears as a double line (Fig. 5.3 above).

Here are steps to update the spreadsheet along these lines.

On the left edge of the screen, in **row 13**, click on the **row number (13)** to select the entire empty row

First you want to put a border around the set of cells in Row 13.

Right click on the **Row number 13** and, in the context menu, select **Format Cells...**

In the **Format Cells** dialog box click on the **Borders** tab, then click on the tool to **Set Outer Border Only** (Fig. 5.4), and click **OK**

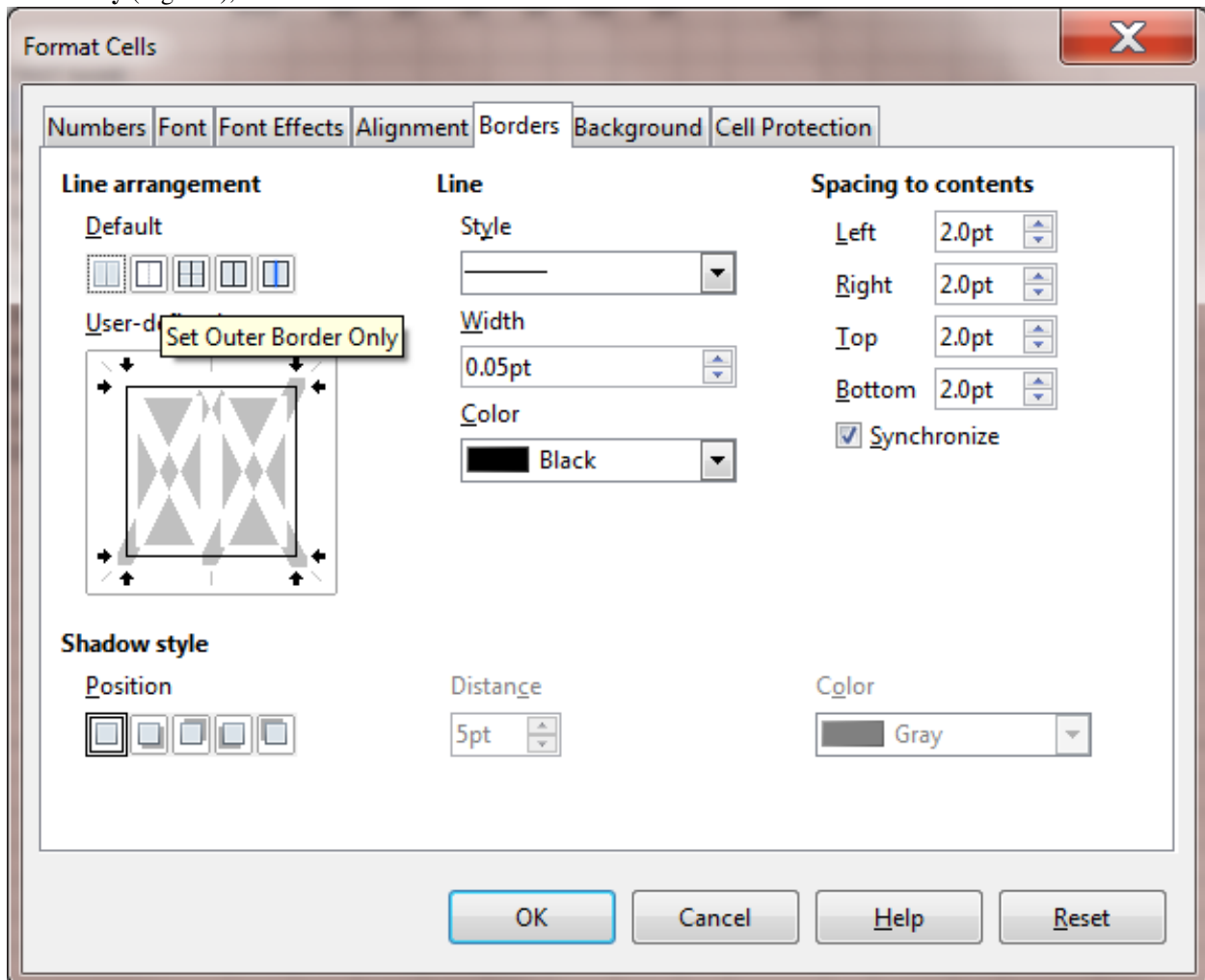


Fig. 5.4 Putting a border around a row of cells

Now you want to reduce the *row height* so the whole row looks like a double line separating Rows 12 and 14.

Right click again on the **Row Number 13** and, in the context menu, select **Row Height...**, then in the **Row Height** dialog box type the value **0.05"** to replace the default height, and click **OK**

You need to create a similar dividing line after Row 23, which holds the data for the last student.

Right click on **Row number 24** and, in the context menu, select **Format Cells...**, then in the **Format Cells** dialog box click on the **Borders** tab, then click on the **Set outer border only** tool (Fig. 5.4), and click **OK**

Right click on **Row Number 24** and, in the context menu, select **Row Height...**, then in the **Row Height** dialog box type **0.05"**, in the **Shadow style** section click on the **first (no shadow)** button, and click **OK**, then save your work (Ctrl-s)

Adding functions to the spreadsheet

Calc comes with many built-in functions. Let's look at some of these built-in functions so that you know how to find them when you need them.

Start this exercise by clicking in cell **A1**, then, in the **Formula Bar**, click on the **Function Wizard** tool (Fig. 5.5)

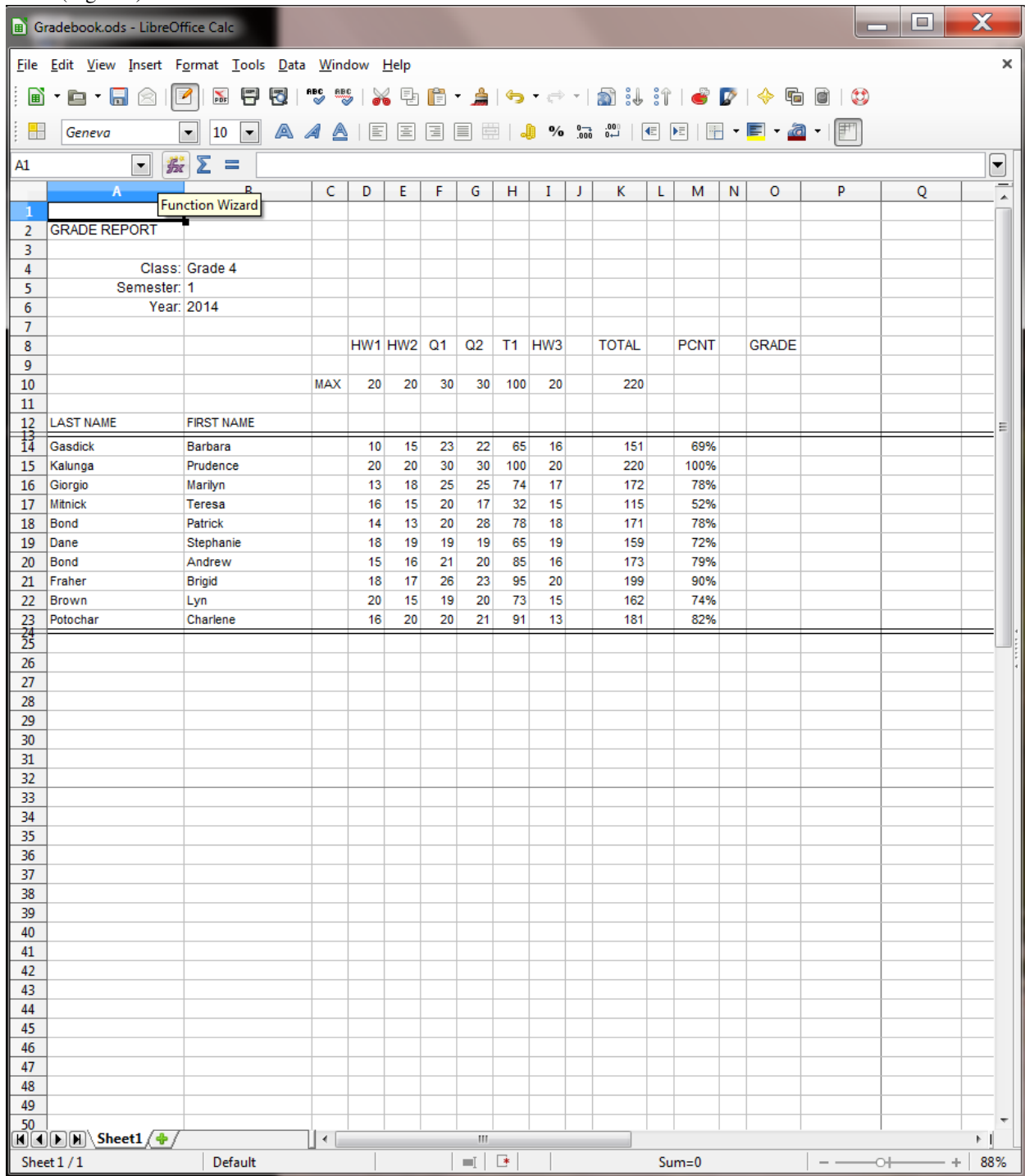


Fig. 5.5 The Function Wizard tool in the Formula Bar

Clicking on the **Function Wizard** tool will bring up the **Function Wizard dialog box** (Fig. 5.6)

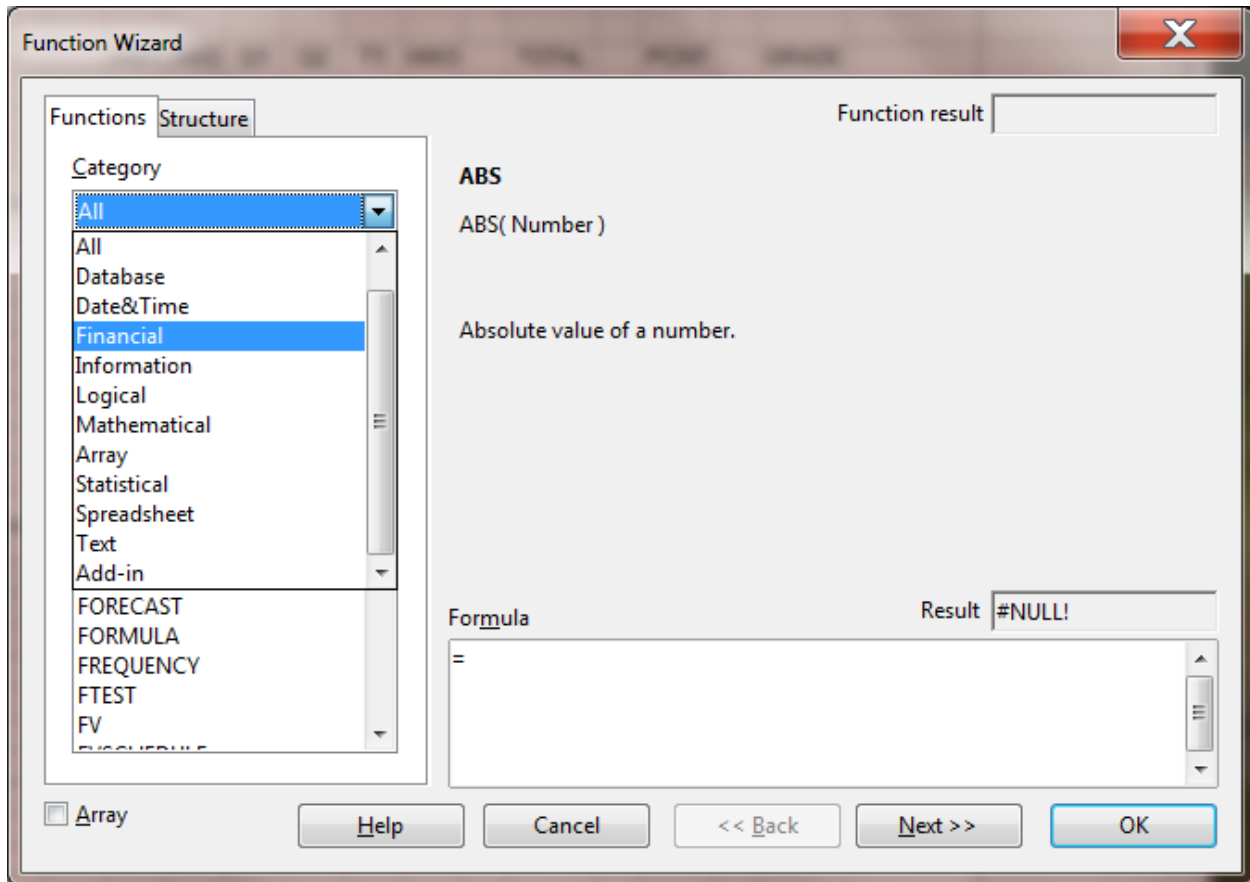


Fig. 5.6 The Function Wizard dialog box

In the **Category** section, click on the **down arrow** to bring up the various **Categories of Functions** available in *LibreOffice*

Select the **Financial** category (Fig. 5.6), then, in the **Function** section of the dialog box, check out the **several dozen Financial functions** available to you there

Do the same with the *Calc* **Database, Date&Time, Information, Logical, Mathematical, Statistical, Spreadsheet, and Text** sets of **built-in Functions**

Click on the **Cancel** button to close the **Function Wizard** dialog box

You are going to add three new functions to the Gradebook: the *Average*, the *Max*, and the *Min* functions. Let's start with the *Average* function, which will calculate the *average score* for a set of student scores.

****Calculating an average for each of the Grade columns ****

In Row 25 of the Gradebook spreadsheet, at the bottom of each of the columns that contain scores for homework, etc., you are going to put the value representing the *average* of the scores for each of the columns, as illustrated in Fig. 5.7.

Gradebook.ods - LibreOffice Calc

File Edit View Insert Format Tools Data Window Help

Geneva 10

Q36

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1																	
2	GRADE REPORT																
3																	
4		Class: Grade 4															
5		Semester: 1															
6		Year: 2014															
7																	
8					HW1	HW2	Q1	Q2	T1	HW3	TOTAL	PCNT	GRADE				
9																	
10				MAX	20	20	30	30	100	20	220						
11																	
12	LAST NAME	FIRST NAME															
13																	
14	Gasdick	Barbara			10	15	23	22	65	16	151	69%					
15	Kalunga	Prudence			11	20	30	30	100	20	211	96%					
16	Giorgio	Marilyn			12	18	25	25	74	17	171	78%					
17	Mitnick	Teresa			13	15	20	17	32	15	112	51%					
18	Bond	Patrick			14	13	20	28	78	18	171	78%					
19	Dane	Stephanie			15	19	19	19	65	19	156	71%					
20	Bond	Andrew			16	16	21	20	85	16	174	79%					
21	Fraher	Brigid			17	17	26	23	95	20	198	90%					
22	Brown	Lyn			18	15	19	20	73	15	160	73%					
23	Potochar	Charlene			19	20	20	21	91	13	184	84%					
24																	
25		Average			14.5	16.8	22.3	22.5	75.8	16.9							
26																	
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Sheet1 / 1 Default Sum=0 88%

Fig. 5.7 Average scores for each column

Notice, in Fig. 5.7, that cell B25, right under the column of first names, has the row label *Average*. You need to put the same cell entry in your Gradebook.

Select cell B25, type the label **Average**, and press **Tab twice** to move to cell D25

A word about automatic calculation

When **Automatic Calculation** is switched on, *Calc* immediately carries out any calculations that are necessary when

you make any changes to the data in the spreadsheet.

With automatic calculation, you don't have to remember to do this. If *Automatic Calculation* is not already on by default, it will be good for you to turn it on, so here's how you do this.

In the **Tools menu > Cell Contents...**, check, in the **Cell Contents sub menu**, that there is a **check mark** next to **AutoCalculate** (Fig. 5.8)

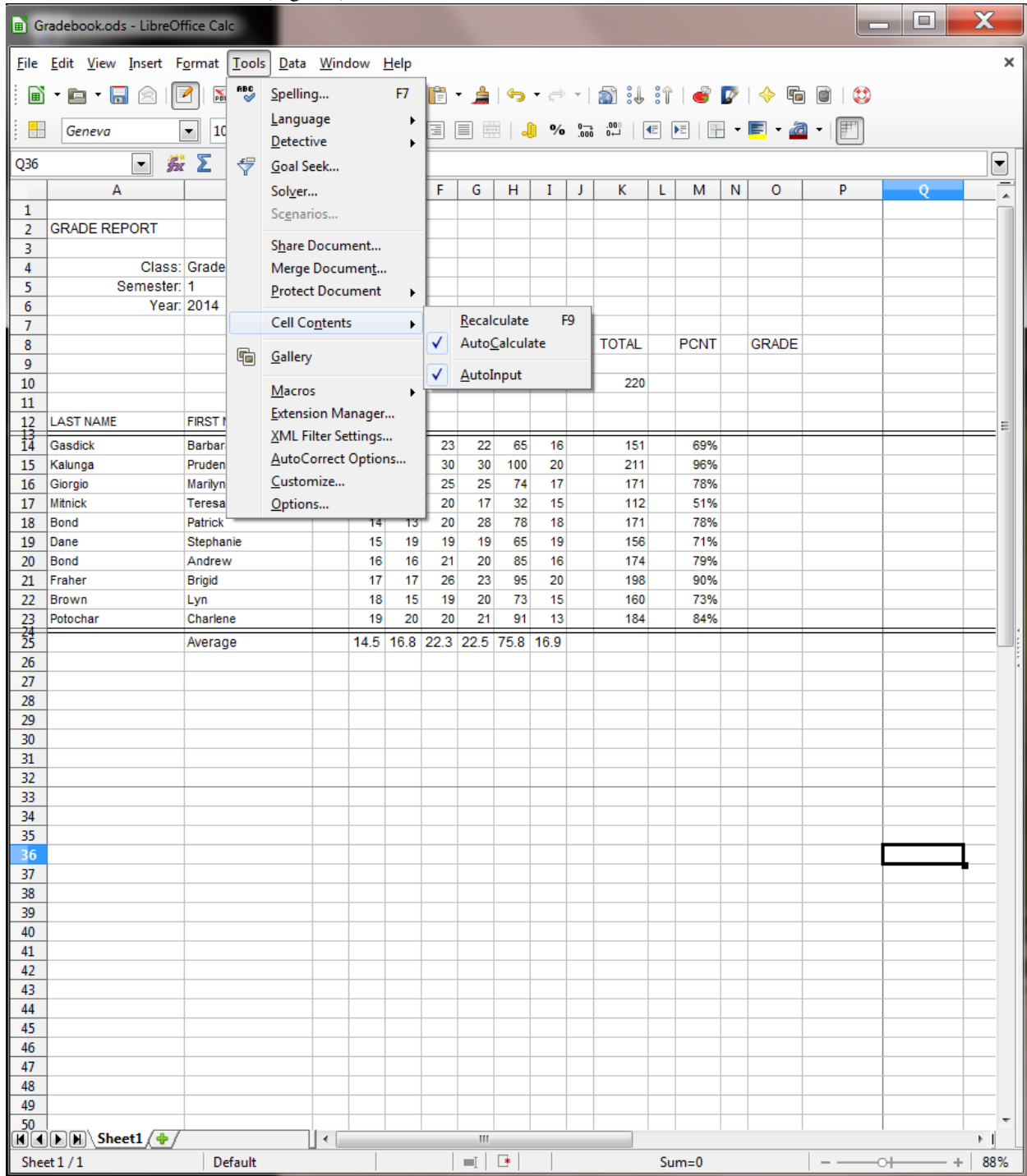


Fig. 5.8 Automatic Calculation

Back to the task at hand

An average is computed by *adding* (SUMming) the set of scores for an assignment or test, and then *dividing the total by the number of scores in the set*. You *could* put together this formula yourself, of course. If you know what the formula would be for the first column of scores, write it in the box below. Remember, a function or formula always begins with the equals (=) sign.

Check the footnote below to see if you got the answer right^[1]. But since *Calc* has a built-in Average function, you may as well use it. Here are the steps to include the Average function in your spreadsheet.

Make sure cell **D25** is still selected (the cell under the first column of scores), then click on the ****Function Wizard (*fx) ***** icon in the **data entry** bar and, in the **Function Wizard dialog box**, from the list of **Categories**, select the **Statistical** category (Fig. 5.9) and, from the list of **Statistical functions**, **double click** on the **AVERAGE** function to select it

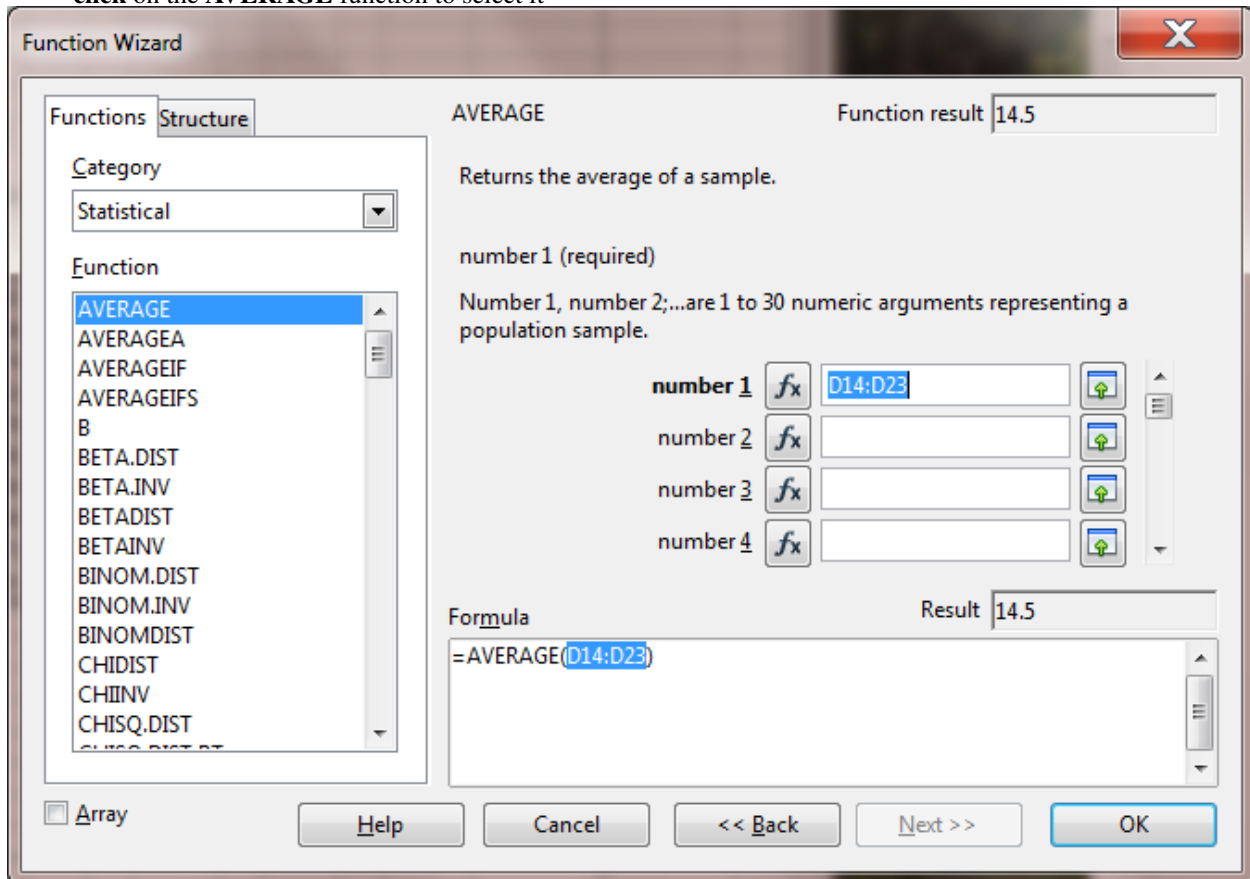


Fig. 5.9 The Insert Function dialog box showing the Statistical category of Functions

Calc pastes the function into the Formula area of the dialog box, followed by a set of empty brackets. The brackets are for the set of cells that contain the scores that are to be averaged. Notice that the cursor is waiting between the brackets for you to select that set of cells.

Type **D14:D23** (Fig. 5.9) then click on **OK**

Alternatively, you could use the mouse to drag down the set of cells from D14 to D23 with the same result. Look at the data entry bar at the top of the spreadsheet and notice that the formula `=AVERAGE (D14:D23)` is copied there, too.

Now look at cell **D25**. It should contain the average for the scores in Column D. At this stage there are three problems that can occur:

1. If you see a series of *pound signs* (#####), this indicates that there's not enough room in the column to show the value, so you will need to *widen* the column a little to make enough space for the average score to appear. If this is the case (where you see ##### instead of an average score), make the column wider.

2. If a *Bad Formula* prompt pops up on the screen, check the formula in the entry bar again, compare it to the correct Average formula **=AVERAGE(D14:D23)**, and make any corrections.

3. It is always possible that the values being averaged yield a result that turns out to be a whole number (no fractions). But it would be useful to show at least one decimal place, regardless of the outcome of the Average calculation. If the average displayed in your Gradebook is rounded to a whole number (no decimal places), here are the steps to change the precision of the Average value to 1 decimal place.

In the **Format menu** select **Cells...** and in the **Format Cells** dialog box > **Options area**, make sure that the number of **Decimal places** is set to **1**

Assuming all is well, your next task will be to copy this *Average formula* into the cells immediately to the right of cell **D25**, so that you have an average score under the other columns of scores (cells E25 through I25).

Cell **D25** should still be selected (click on it if it is not selected)

Fig. 5.10 shows you that you're going to use the mouse to grab hold of the Fill handle in the lower right corner of cell **D25** (you practiced doing this in Lesson 4) and drag it to the right to cell I25.

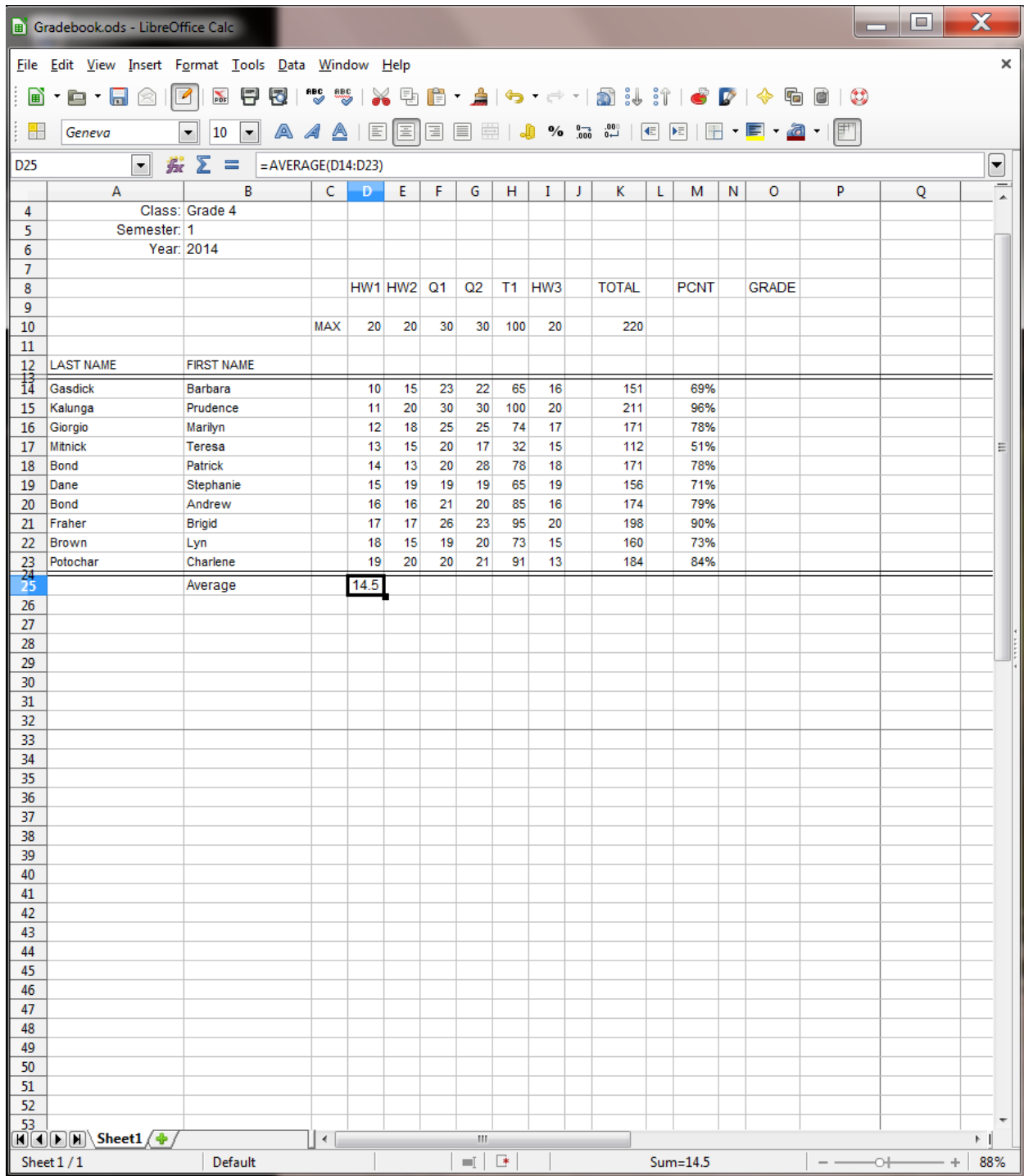


Fig. 5.10 Cell Fill handle

Use the mouse to point at the **handle** in the **lower right** corner of cell **D25** (Fig. 5.10), and drag the handle across to **Column I**—so that the formula is copied across to cells **E25**, **F25**, **G25**, **H25**, and **I25**, which will all now have the correct Average score for their respective columns

That's all there is to it. If necessary (though it shouldn't be the case with this exercise) adjust the column widths if you see pound signs (#####) in any cell instead of averages.

Time to save all your hard work (**Ctrl-s**)

Displaying the Highest (MAX) and Lowest (MIN) scores for each column of scores

Now that you know how to use the Insert Function icon (*fx*) next to the Data Entry bar, and in particular since you just used it to put the Average function in your spreadsheet, you should be able to complete the exercise that follows without much help.

In cell **B26** put the heading **Max score** and in cell **B27** put the heading **Min score**

Make sure cell **D26** is selected (the cell under the first Average calculation), then click on the ****Function Wizard (*fx) ***icon** in the **data entry** bar and, in the **Function Wizard dialog box**, from the list of **Categories**, select the **Statistical** category (Fig. 5.9 on page 139)

From the list of **Statistical functions**, **double click** on the **MAX** function to select it

Calc again pastes the function into the *Formula area* of the dialog box, followed by a set of empty brackets. The brackets are for the set of cells that contain the scores that are to be averaged. Notice that the cursor is waiting between the brackets for you to select that set of cells.

Type **D14:D23** (Fig. 5.9—p. 139) then click on **OK**

In the data entry bar at the top of the spreadsheet notice that the formula **=MAX (D14:D23)** is copied there, too. Now look at cell **D26**. It should contain the maximum score in Column D.

Now make sure cell **D27** is selected (the cell where you're going to put the MIN formula), then click on the ****Function Wizard (*fx) ***icon** in the **data entry** bar

In the **Function Wizard dialog box**, from the list of **Categories**, select the **Statistical** category (Fig. 5.9 on page

1.

From the list of **Statistical functions**, **double click** on the **MIN** function

Calc again pastes the function into the *Formula area* of the dialog box, followed by a set of empty brackets. The brackets are for the set of cells that contain the scores that are to be averaged. Notice again that the cursor is waiting between the brackets for you to select that set of cells.

Type **D14:D23** (Fig. 5.9—p. 139) then click on **OK**

Look at the data entry bar at the top of the spreadsheet and notice that the formula **=MIN (D14:D23)** is copied there, too. Now look at cell **D27**. It should contain the maximum score in Column D. Check to confirm that that is indeed the case.

At this stage, the last task is to copy the Functions across to the other cells in rows 26 and 27. You probably already know how to do this, but here are the steps in case you need help.

With cell **D26** selected, grab hold of the **Fill handle** in the **lower right corner** of the cell and **drag across** to the **right** to select cells **E26 through I26**—the cells in which you want to include the **Max** function, and click **OK**

Now, click on cell **D27**, grab hold of the **handle** in the **lower right corner** of the cell and **drag across** to the **right** to select cells **E27 through I27**—the cells in which you want to include the **Min** function, and click **OK**

Better **Save** your work (**Ctrl-s**)

When you're done, your spreadsheet should look much the same as Fig. 5.11.

The screenshot shows the LibreOffice Calc application window titled 'Gradebook.ods'. The spreadsheet contains the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
4	Class: Grade 4																
5	Semester: 1																
6	Year: 2014																
7																	
8				HW1	HW2	Q1	Q2	T1	HW3		TOTAL		PCNT		GRADE		
9																	
10			MAX	20	20	30	30	100	20		220						
11																	
12	LAST NAME	FIRST NAME															
13																	
14	Gasdick	Barbara		10	15	23	22	65	16		151		69%				
15	Kalunga	Prudence		11	20	30	30	100	20		211		96%				
16	Giorgio	Marilyn		12	18	25	25	74	17		171		78%				
17	Mitnick	Teresa		13	15	20	17	32	15		112		51%				
18	Bond	Patrick		14	13	20	28	78	18		171		78%				
19	Dane	Stephanie		15	19	19	19	65	19		156		71%				
20	Bond	Andrew		16	16	21	20	85	16		174		79%				
21	Fraher	Brigid		17	17	26	23	95	20		198		90%				
22	Brown	Lyn		18	15	19	20	73	15		160		73%				
23	Potochar	Charlene		19	20	20	21	91	13		184		84%				
24																	
25		Average		14.5	16.8	22.3	22.5	75.8	16.9								
26		Max Score		19	20	30	30	100	20								
27		Min score		10	13	19	17	32	13								
28																	
29																	
30																	
31																	
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Fig. 5.11 The Gradebook after adding the functions (your data will be different)

Protecting (locking) important cells

Calc allows you to protect the contents of a cell or cells. This means that neither you nor anyone else will be able to change the contents unless you remove the protection. This feature is useful to prevent accidental loss of data, and will also help prevent others from interfering with the data you have collected.

Since all the data in a Grade book are important, it would be a good idea to protect everything. The process to do this is the same as if you were protecting a single cell, or a few cells, except that you select every cell.

Press **Ctrl-a** to **Select All** the cells in the spreadsheet then, from the **Tools menu > Protect Document**, click to put a check mark in the box next to **Sheet** —to select protection for the sheet (Fig. 5.12)

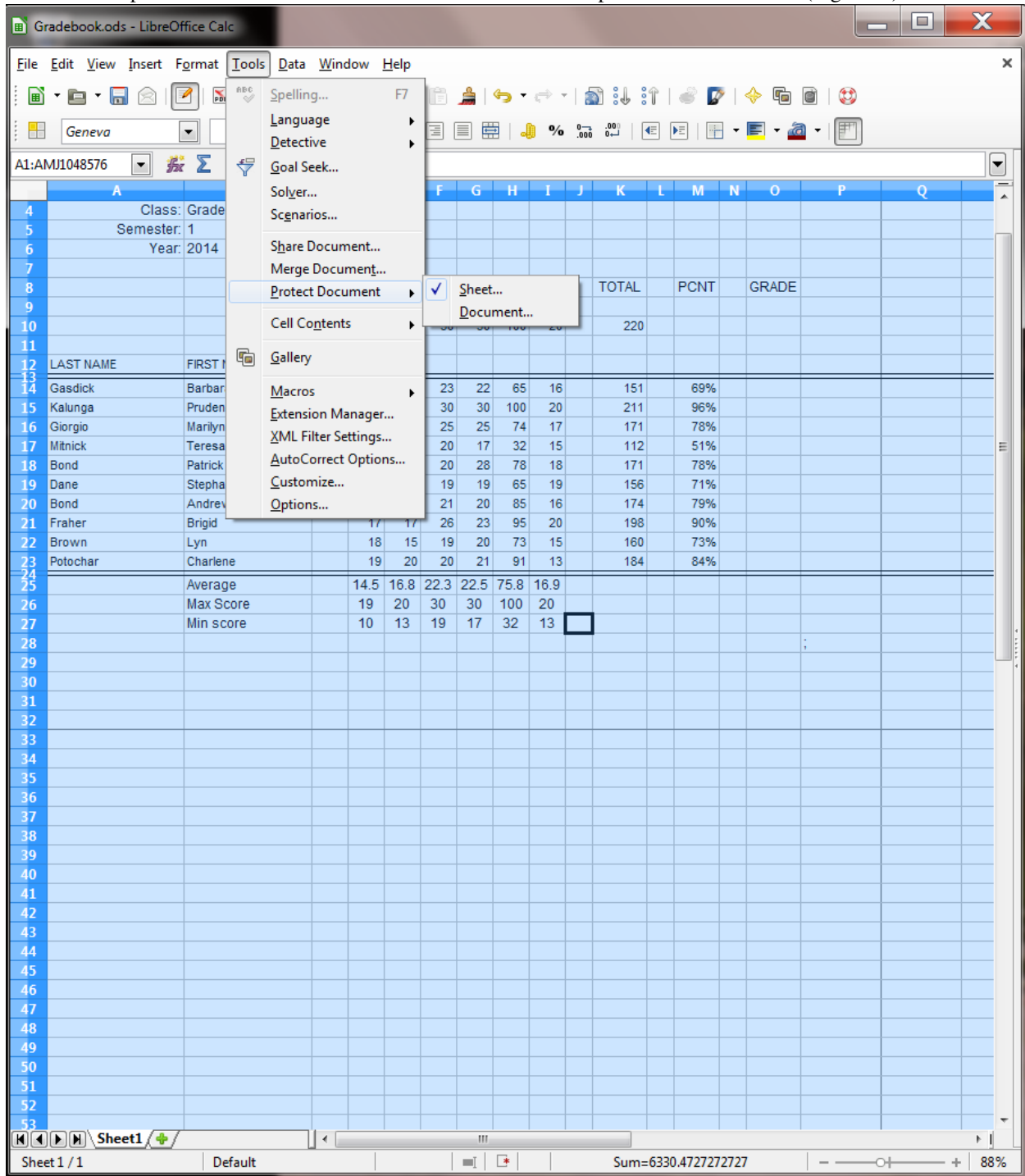


Fig. 5.12 Protecting the spreadsheet data

This brings up the *Protect Sheet* dialog box (Fig. 5.13).

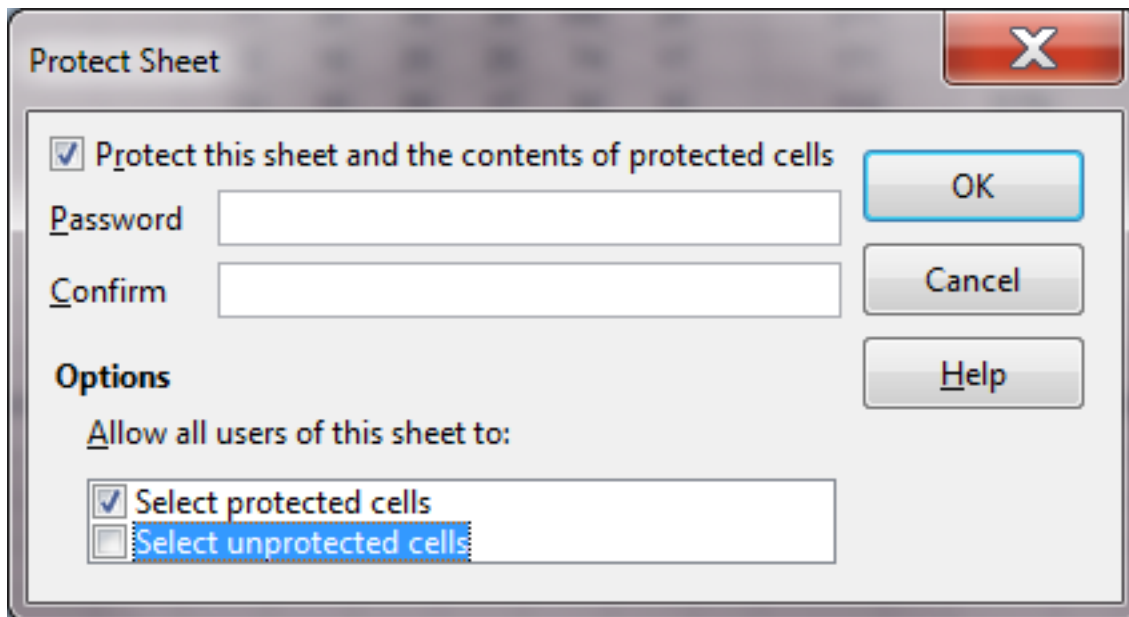


Fig. 5.13 Protect Sheet dialog box

Take a look at this dialog box. Notice that the option to “Protect this sheet and the contents of protected cells” is checked by default, which is fine because that’s what you want to do. Notice, too, that you have the option to include a *password* for the protection, which would be important if this were a real world spreadsheet. But for the sake of this exercise, we’ll not use a password.

But you *do* need to remove the check mark next to *Select unprotected cells*. This is because you have opted to protect *every* cell in the spreadsheet.

So, click to **remove** the **check mark** next to **Select unprotected cells**, then click on **OK**

Now, even if you try to click on a cell, the system won’t let you. Every cell in the spreadsheet is protected against unwarranted attack.

Password protection

Of course, someone who knows how to use *Calc* will know how to unlock the protection—unless it’s protected by a password, of course. So if you really want to prevent someone else from messing with the data in the spreadsheet, you may need to take advantage of the option to include a password.

This is a necessary feature if you want to lock the cells in your spreadsheet in a way that prevents others from changing data you have stored in the spreadsheet, such as scores or grades.

Passwords provide protection against unauthorized access. Choose a password carefully; one that would be difficult to guess, of course, but also one that you would be sure to remember! The weirder the password the better—it should include upper case letters as well as numbers and special characters such as the @ symbol or whatever. Remember, the weirder your password the better—as long as you can remember it. However, there’s no need to use a password in this exercise unless you want to, of course.

Now all the cells in the Gradebook spreadsheet are unable to be changed unless, in the *Tools menu > Protect Document*, you remove the check mark next to *Sheet* in the sub menu.

Time to **Save** the changes to the Gradebook (**Ctrl-s**)

Dividing the spreadsheet into panes

Often a spreadsheet will be too long or too wide to view all the data at once on the screen. For this purpose, *Calc* has a useful feature (*Split*), which allows you to compare separate parts of a sheet side-by-side. You can split any window

horizontally and vertically into sections (or Panes—like window panes). This allows you, while working or scrolling in one section, to keep other section(s) fixed in place. This applies whether the spreadsheet is protected or not.

To see how this works, first click in cell **P28** to give *Calc* a pivot for the split screen, then in the **Window menu** select **Split**

Calc immediately divides up the worksheet into four sections, using a vertical and a horizontal split bar (Fig. 5.14).

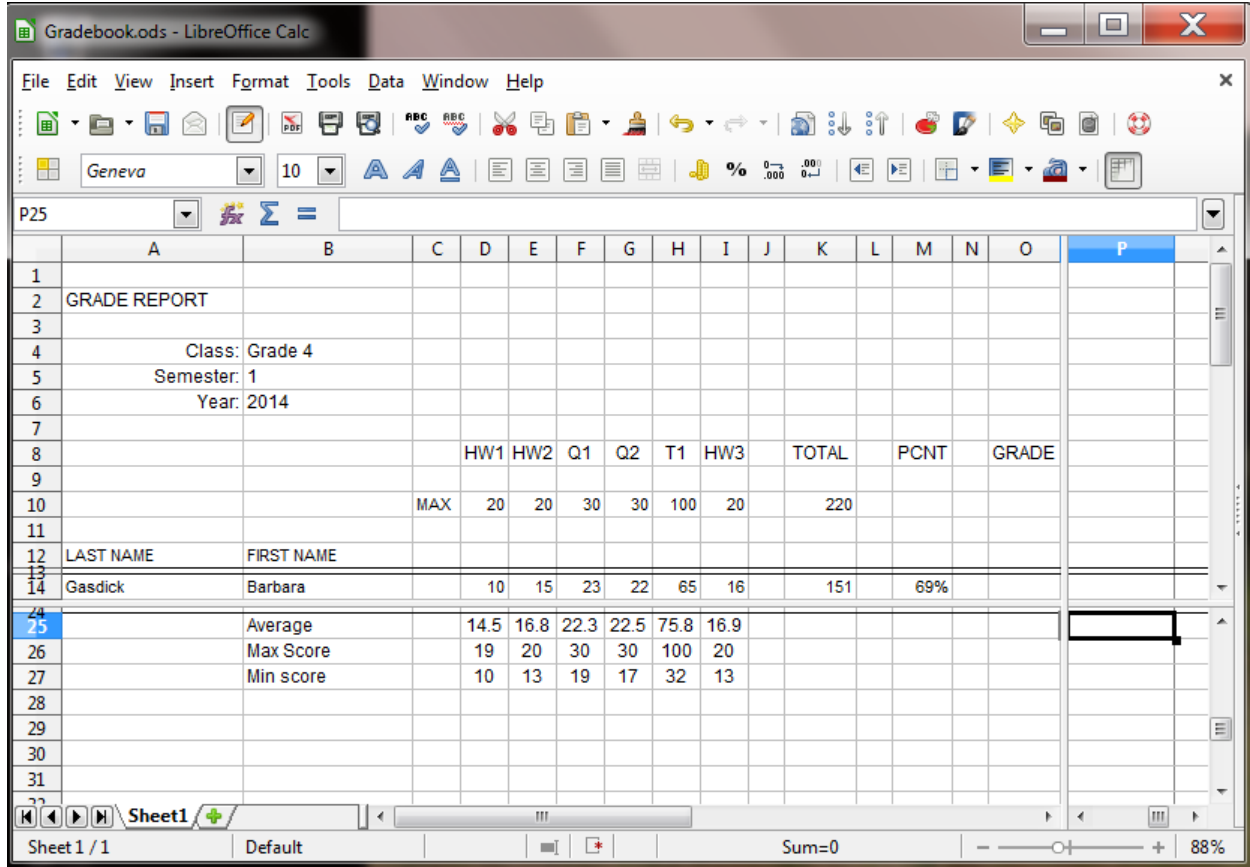


Fig. 5.14 *Calc*'s vertical and horizontal split bars

The split bars are grey so not that obvious, especially with other cell lines all over the place, but look carefully and you'll see them well enough.

The vertical and horizontal split occurs at the point in the spreadsheet where you have a cell selected. You can change the position of the split bars by positioning the mouse arrow on a split bar and dragging across or down the screen. Try this for practice

Position the mouse arrow on either the vertical or horizontal **split bar** (you'll get a **cross-hair cursor**) and drag across or down the screen

Now grab each of the **scroll bars** and check out the data in each of the four panes

Notice how easy it is to compare different parts of a spreadsheet in this way.

Finally, in the **Window menu** select **Split** again to **turn off** the panes option

5.4 MAKING changes to the look of the spreadsheet

In Lesson 4 you learned how to change the width of columns and the height of rows. Now you are going to learn how to put borders around selected cells and how to remove the grid lines and column and row headings.

Putting a border around a cell or set of cells

Before you can make any changes, you need to remove Protection from the worksheet. Let's do that before proceeding with the tutorial.

In the **Tools menu** select **Protect Document** and in the **sub menu** select **Sheet** to **remove the check mark** there, thus **removing Protection** on the **Gradebook** sheet

Now let's make some more changes to the Gradebook. For example, you may want to put a box around certain sections of your spreadsheet, such as the Class info in cells A4 through B6. This will make the information stand out on the sheet. Try this now.

Drag across the six cells **A4 through B6** to select the set of **Class info**, then, in the **Format menu** select **Cells...** to bring up the **Format Cells** dialog box (Fig. 5.15)

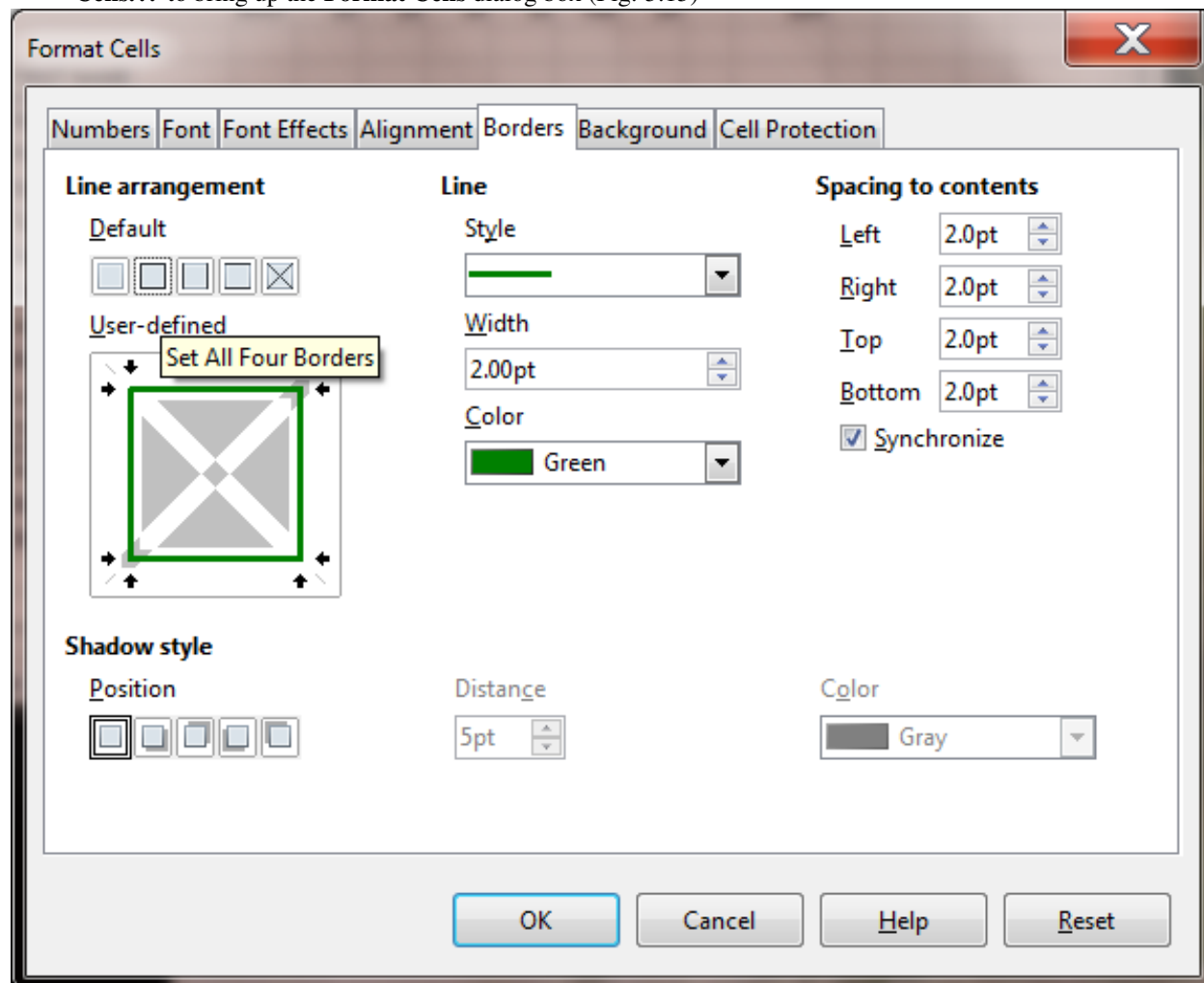


Fig. 5.15 Calc's Borders options for cells or groups of cells

In the dialog box, click on the **Borders** tab (Fig. 5.15 above)

As you can see, the Borders dialog box gives you various options.

In the **Line Arrangement** section, click on the icon to **Set Outer Border Only** then, in the **Line** section (see Fig. 5.15 above), increase the **Line Width** to **2.00pt** and the **Line Color** to **Green**, then click on **OK**

The Class Info now has a distinctive green border around it, setting it off from the rest of the data in the Gradebook (Fig. 5.16).

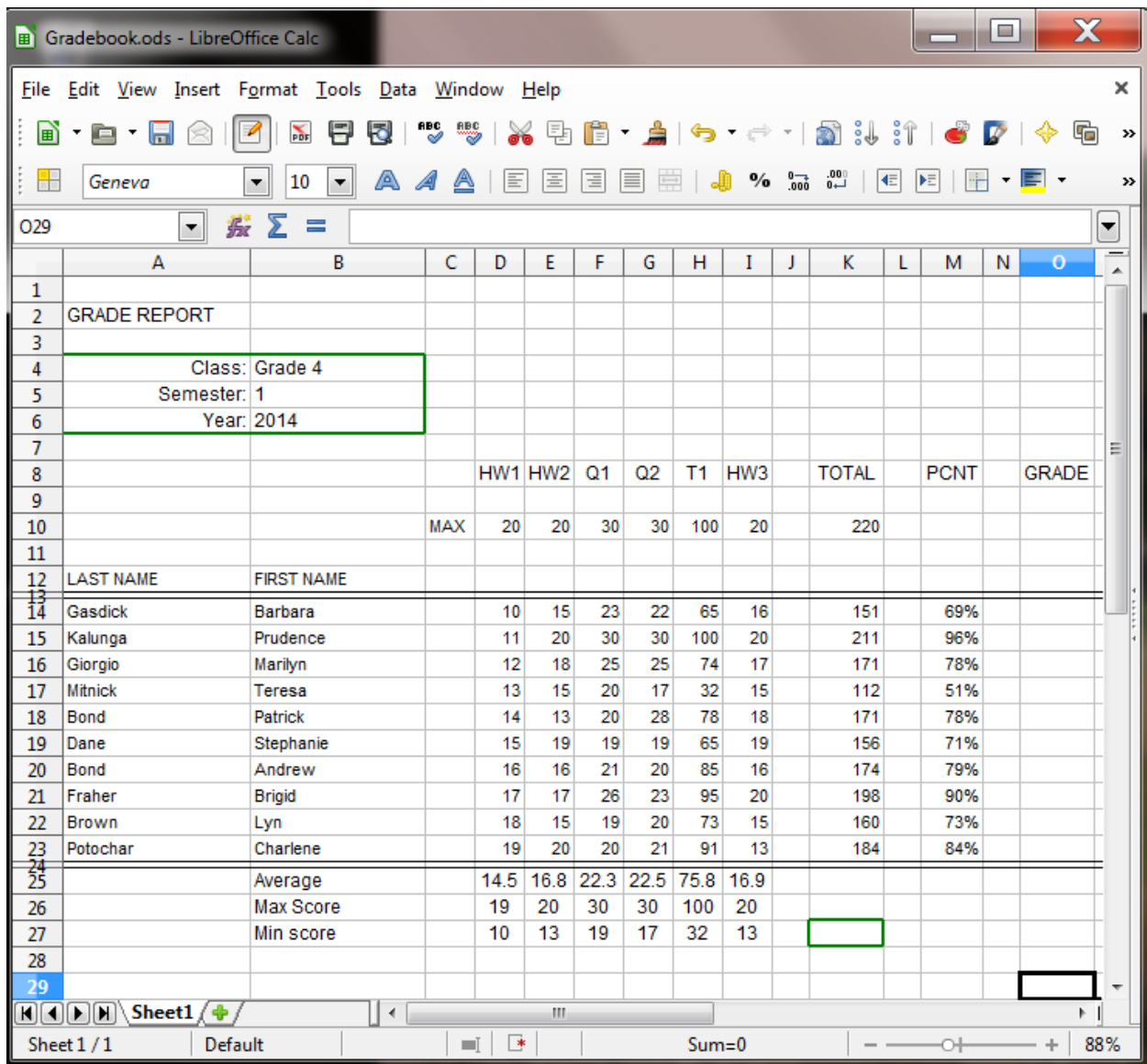


Fig. 5.16 Spreadsheet cell with border

Removing grid lines and column and row headings

Grid lines and column and row headings are essential when developing a spreadsheet or when you are updating the data. But for reporting purposes it may look better, perhaps even easier to read, if they are removed. You may recall doing this in Lesson 4, specifically in order to print the spreadsheet without column and row headers and gridlines. Here, however, you want to remove the column and row headers and gridlines in the spreadsheet as it appears on the computer screen.

In the **View** menu select **Column and Row Headers** to remove the headers then, in the **Formatting toolbar**, click on the tool to **Toggle Grid Lines for Current Sheet** (Fig. 5.17)

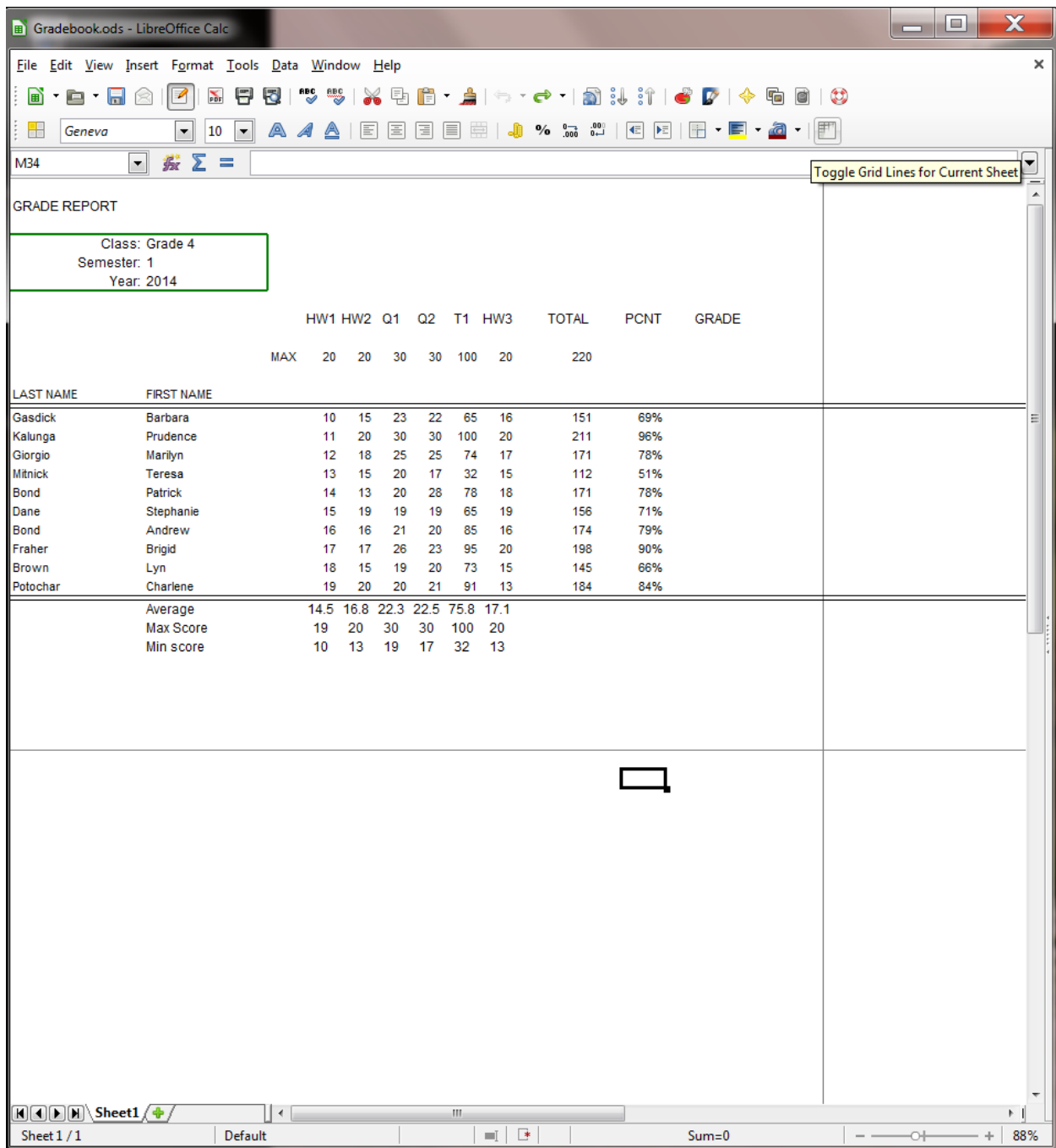


Fig. 5.17 Removing grid lines and column and row headings

No problem. The spreadsheet now looks quite different, as you can see. For the next exercise, however, it will be best to have the Gridlines and Headers showing in the Gradebook.

In the **View menu** select **Column and Row Headers** again to put back the headers, then, in the Formatting toolbar, click on the tool to **Toggle Grid Lines for Current Sheet** (Fig. 5.16 on previous page)

Updating the Grades Template spreadsheet

You are now going to make the same changes to the Grades Template that you just made to the Gradebook. To do this, it will be easiest if you have both spreadsheets side-by-side on your screen.

Click on **File > Open**, then navigate to your **disk drive/USB drive > Work Files for LibreOffice > Miscellaneous Files > Templates** folder and open the **Grades Template**

Now you should have both the Gradebook and the Grades Template open on your screen.

If you have a large enough screen, use the mouse to drag each window so they are side-by-side (Fig. 5.18)

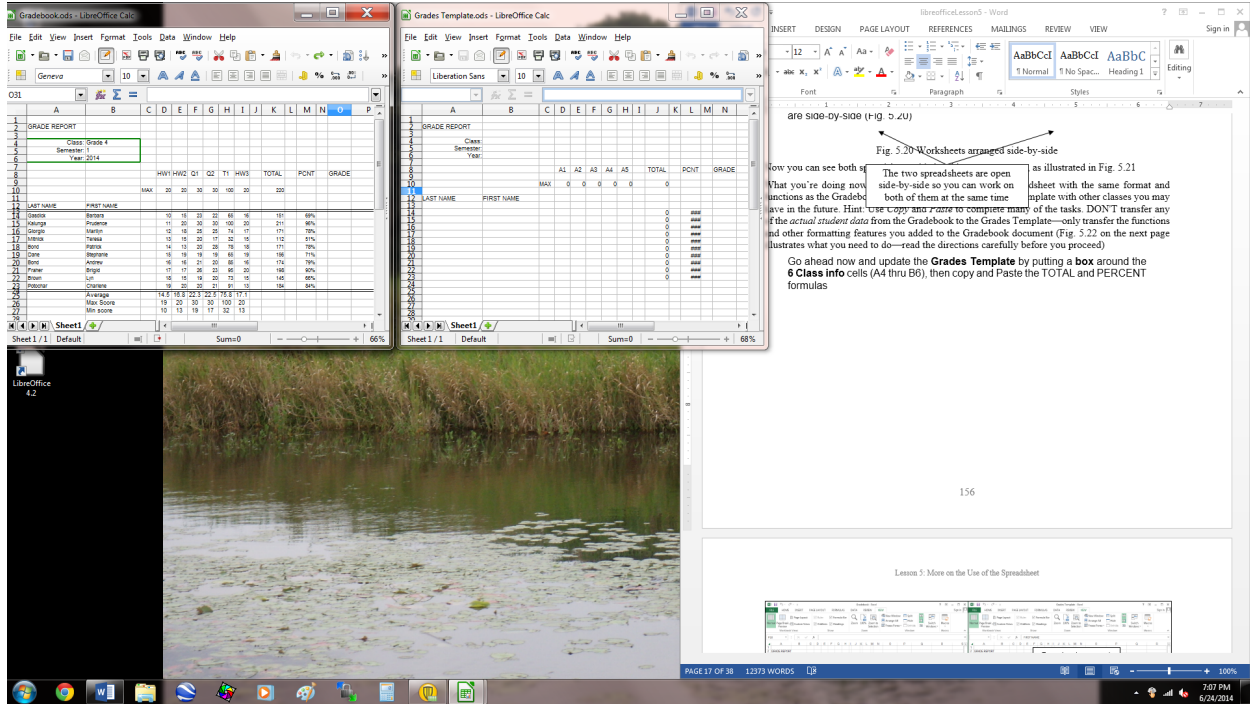


Fig. 5.18 Spreadsheets arranged side-by-side

If you are using a computer with a smaller screen, the two spreadsheets can be layered on top of one another and you can toggle back and forth using the Window menu (Fig. 5.19).

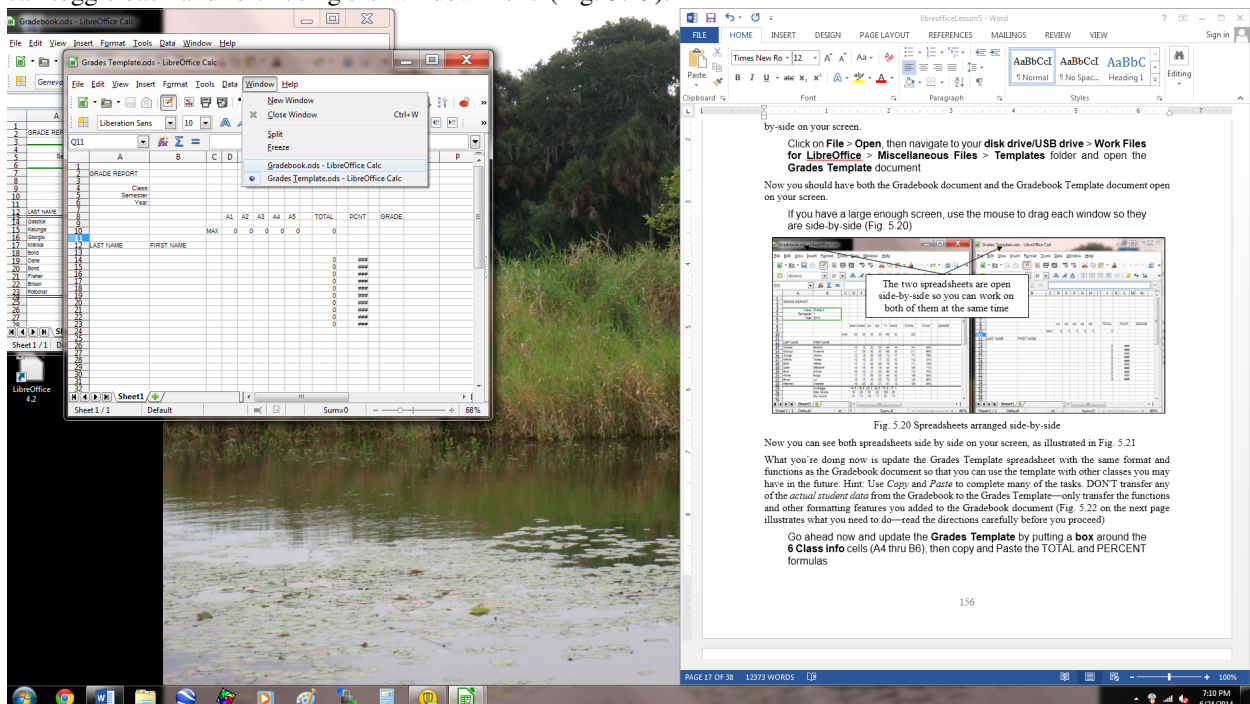


Fig. 5.19 Using the Window menu to toggle back and forth between spreadsheets

What you're going to do now is update the Grades Template spreadsheet with the same format and functions as the Gradebook spreadsheet so that you could use the template in the future.

Hint: Use *Copy* and *Paste* to complete many of the tasks. DON'T transfer any of the *actual student data* from the Gradebook to the Grades Template—only transfer the functions and other formatting features you added to the Gradebook.

Fig. 5.20 illustrates what you need to do—read the directions carefully before you proceed.

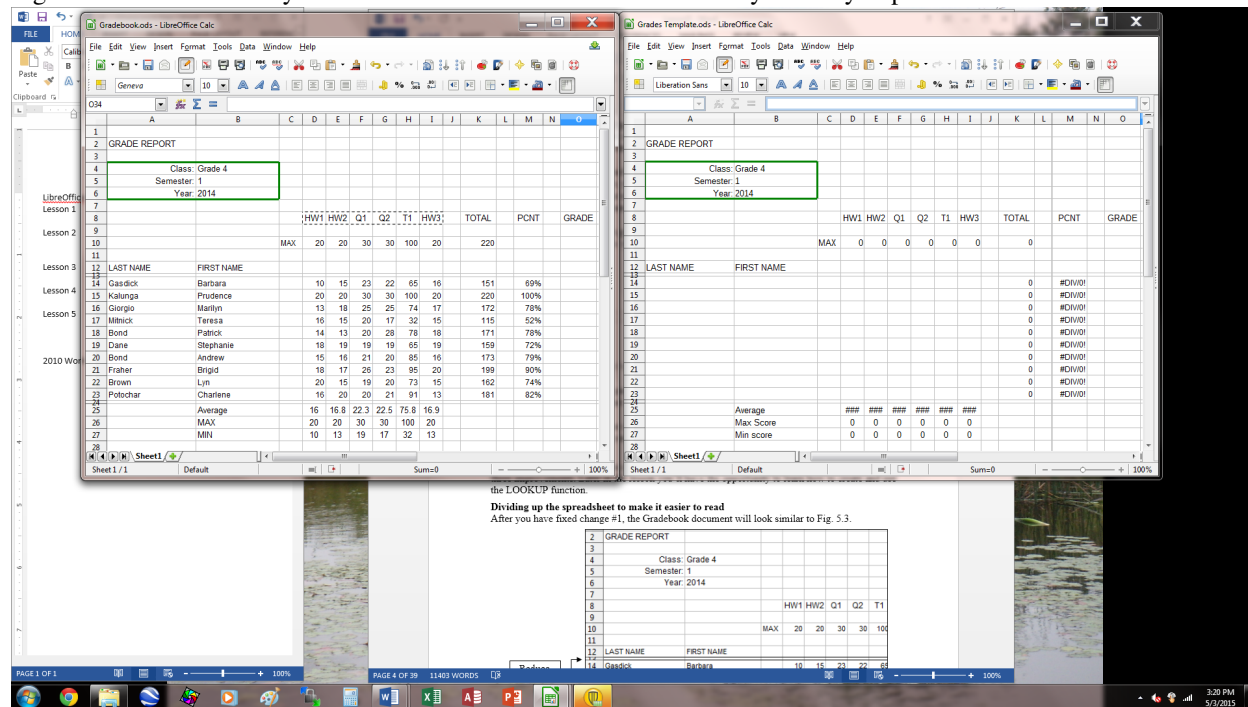


Fig. 5.20 Making updates to the Template

Go ahead now and update the **Grades Template** by putting a **box** around the **6 Class info cells** (A4 thru B6), then **Copy** and **Paste** the columns of **TOTAL** and **PERCENT** formulas (

When you are done, your Grades Template spreadsheet will look like Fig. 5.21.

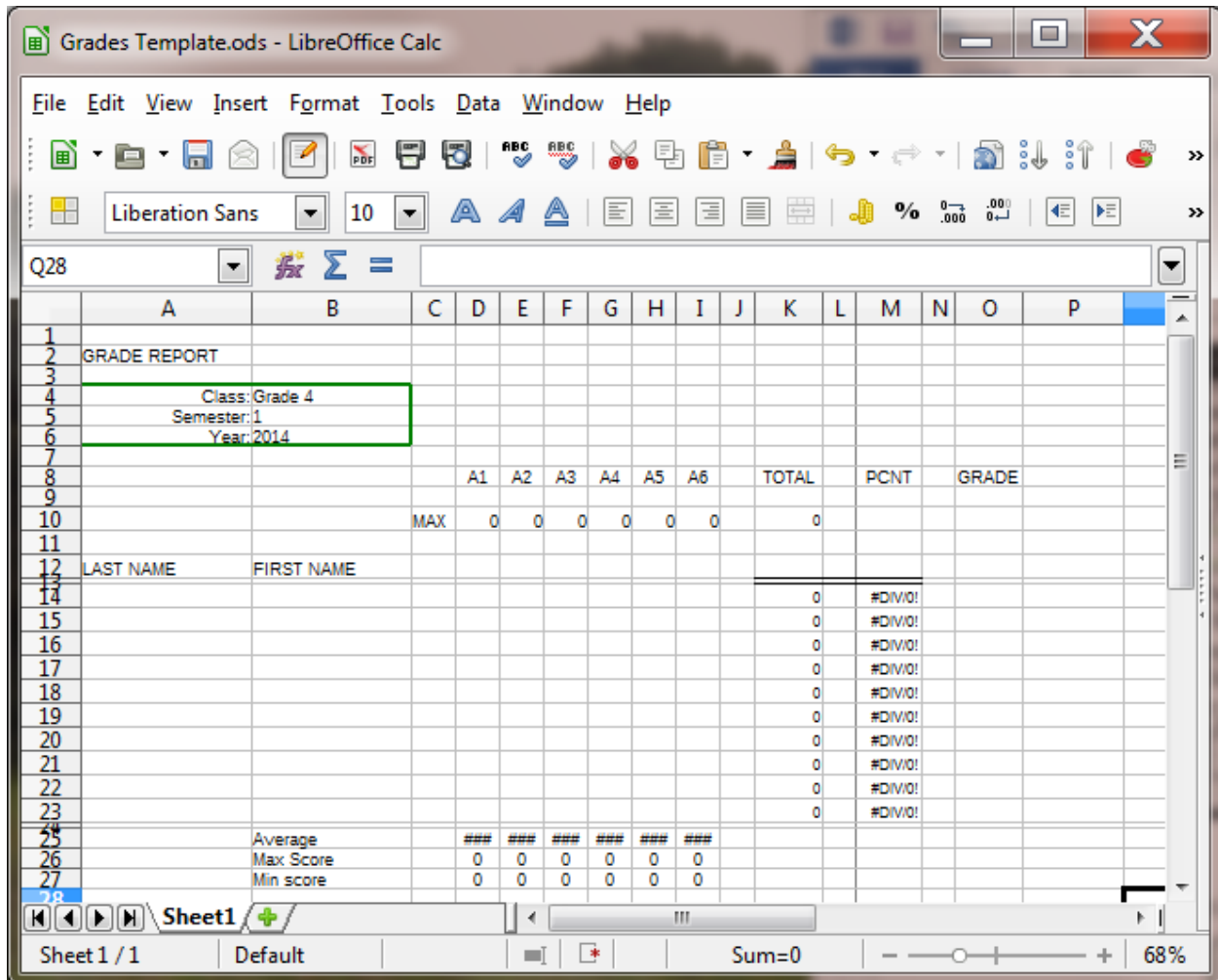


Fig. 5.21 Grades Template spreadsheet after updates

Save the **Grades Template** when you have finished making the changes

Your next task is to once again protect the cells in the Gradebook spreadsheet and also reset the protection on the worksheet. First you must make the Gradebook the active document on the screen.

In the **Window menu**, click on the **Gradebook.ods** so as to make this the current spreadsheet on the Desktop

Now you can go ahead and protect the Gradebook spreadsheet.

Press **Ctrl-a** to **Select All** the cells in the spreadsheet (this is the quickest way to select all the cells in the spreadsheet, but you may recall that you can also click in the small box in the top left corner of the row and column headings)

From the **Tools menu** select **Protect Document** and click **Sheet...** in the sub menu

In the **Protect Sheet dialog box** that pops up, click to remove the check mark next to **Select unprotected cells** (see Figs. 5.12 and 5.13 on pages 142 and 143) then click on **OK**, and **Save** your work

It might be a good idea to take a break at this point in the tutorial. But if have time, and you feel up to it, proceed directly to the next section, Section 5.5, on the next page, and learn all about the LOOKUP function.

Time for a break?

FEEL FREE TO TAKE ONE...

THIS MIGHT BE ENOUGH FOR TODAY!

5.5 USING the Lookup function

The concept of the LOOKUP function

The LOOKUP function is a simple logic tool that you can use to automatically assign grades to students based on the numbers in the Percentage column of your spreadsheet (column **L**).

You are probably aware by now that if you have the *automatic calculation* option selected, *Calc* carries out function-based calculations as you make changes in a spreadsheet. Thus, once you have programmed *Calc* to LOOKUP the grades, the system will automatically update each student's Letter Grade, along with Totals and Percentages, even as you enter new scores for assignments, homework, tests, and so forth.

Thus, with no effort on your part, you will be able to keep students informed at any time during the semester as to exactly what grade they currently carry for the class.

Fig. 5.2 illustrates the LOOKUP Table that will be the outcome of this exercise.

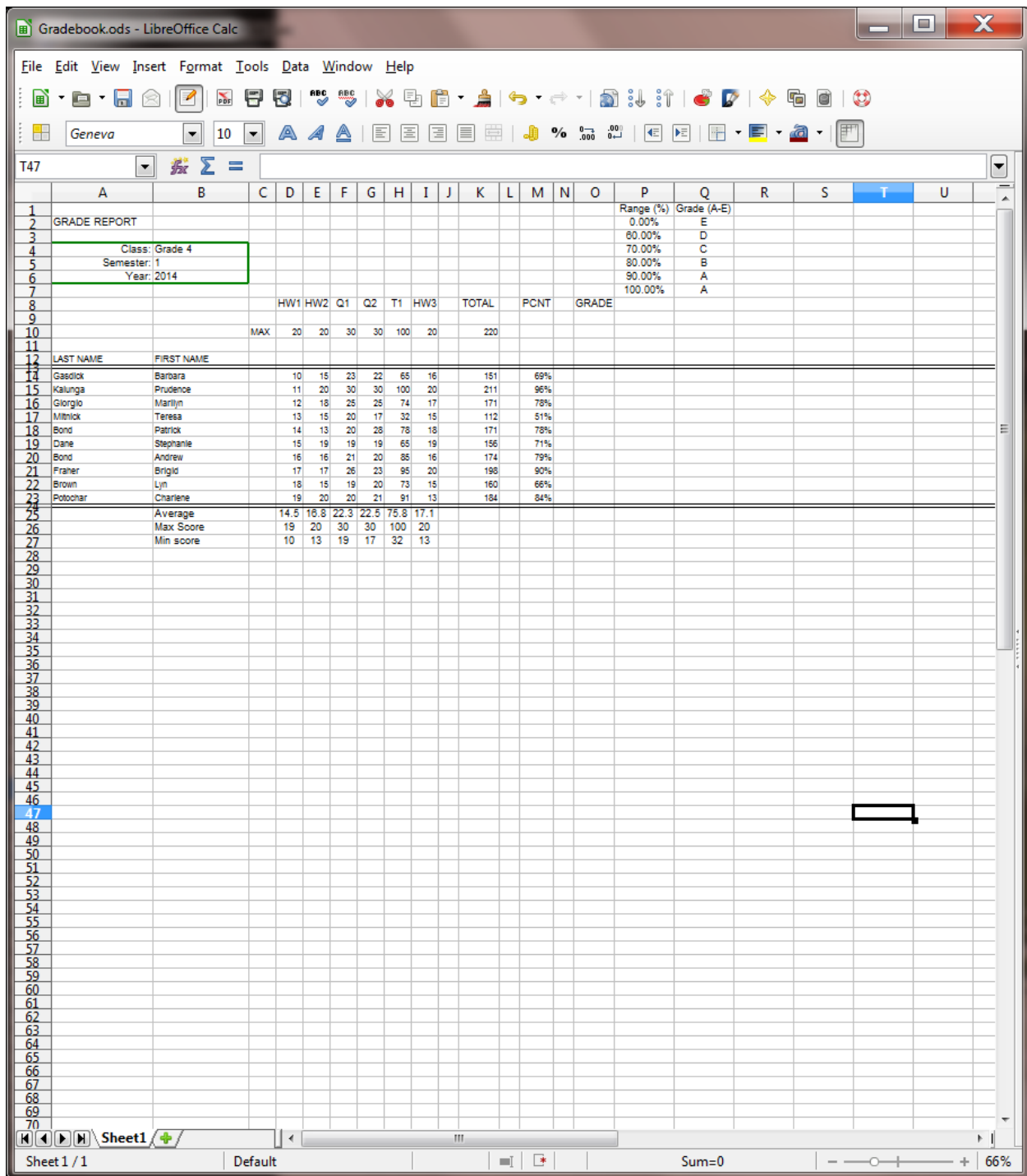


Fig. 5.22 LOOKUP table

You are going to tell *Calc* to compare a student's percentage with the range of values in the first column of the table. These are control percentages. *Calc* will search through this first column, looking for the highest value (percentage) that is *less than or equal to* the student's percentage. Once that value is located in the first column, the function will assign the student the letter grade that is adjacent to it in the second column.

Does that make sense? An example will help. Suppose the student's percentage is 87%. Well, in the table above, the *highest* value in the first column that is still *less than or equal to* 87% is 80%, is it not? 70%, 60%, and 0% are less

than or equal to 87%, but they are not the *highest* value that is less than or equal to 87%. So 80% is the value that *Calc* will select from the Range column in its LOOKUP of the table. The letter grade from the corresponding cell in the second column—in this case a “B”—will then be posted to the **GRADE** column of the Gradebook.

Once you understand the concept of “the highest value less than or equal to another number”, the rest is easy. Here are a few student percentages to try for yourself. Complete the exercise that follows.

From Fig. 5.22 above:

What is the highest value less than or equal to 45%, and what is the resulting letter grade?_____

What is the highest value less than or equal to 67%, and what is the resulting letter grade?_____

What is the highest value less than or equal to 59%, and what is the resulting letter grade?_____

What is the highest value less than or equal to 100%, and what’s the resulting letter grade?_____

The answers are in the footnote at the bottom of the page.[^2]

There are two parts to incorporating the *Calc* LOOKUP function into your Gradebook. First you must build the LOOKUP Table into the spreadsheet. Second you must enter into the appropriate cells the LOOKUP function that will instruct *Calc* to carry out the LOOKUP operation.

Building the LOOKUP Table

You’ll need both the **Gradebook** (which you saved in the **Data Files** folder in the **Spreadsheet Documents** folder) and the **Grades Template** (which you also saved in the **Data Files** folder in the **Spreadsheet Documents** folder) to complete the remainder of this tutorial, so if these documents are not already open, open them both now from your **Work Files for LibreOffice** folder before proceeding

Next, in the **Window menu** select the **Gradebook**, if it is not already the active window on the screen

Since all the cells are protected in the Gradebook, you’ll need to unlock them first in order to make changes.

From the **Tools menu** select **Protect Document**, then make sure, in the sub menu, that there is **no check mark** next to **Sheet**

Now, let’s build the Lookup table that’s illustrated in Fig. 5.22 above (page 150). The first column of the LOOKUP Table (the lookup vector) has a set of numbers which *Calc* calls the *Search vector*.

A vector is just another name for a single column of numbers. The *Search vector* contains the set of values against which *Calc* compares the data from a selected cell in the Gradebook.

Let’s create this column (vector) of the LOOKUP table first. As you work your way through this exercise, be sure to hit the *number* 0 (zero), NOT the *letter* O; they are so close together on the keyboard that some students hit the wrong character by mistake.

Select cell **P1** and type the column header **Range (%)** then press **Enter** to move down to cell **P2**

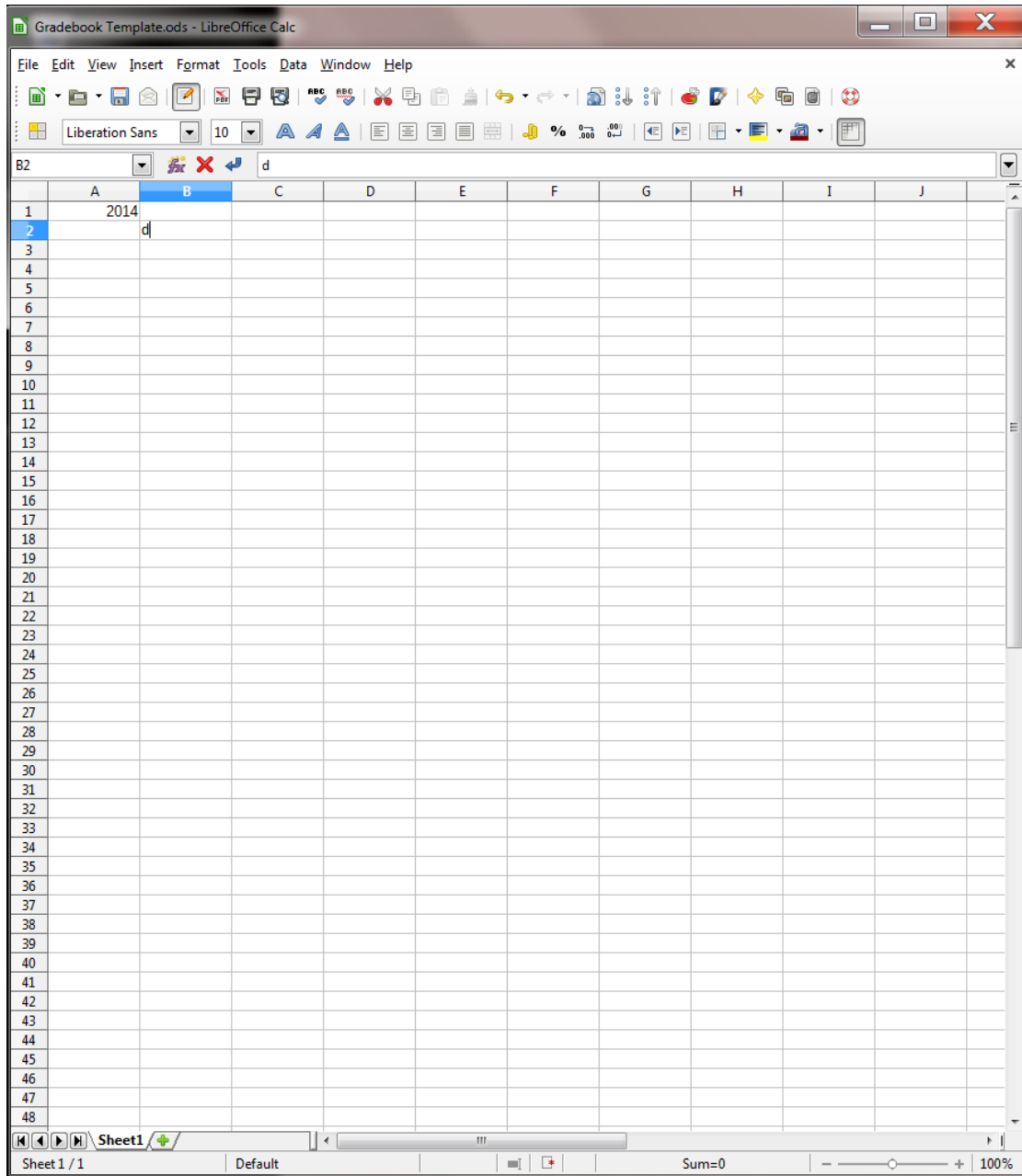
Type **0** (the number zero (0) that is) in cell **P2** and press **Enter** to move down to cell **P3**

Type **0.6** (this is equivalent to 60% in mathematical terms) and press **Enter** again to select cell **P4**

Type **0.7** and press **Enter** to make **P5** the current cell

Type **0.8** and press **Enter** once more

Type **0.9** in cell **P6** and press **Enter** again to make **P7** the current cell



Finally type **1** (this is equivalent to 100% in mathematical terms) and click on the **Accept** () button

Now you need to change the cell attributes of this first column of the table so as to display the numbers in *percent* form (with the percent (%) symbol). You did this before in Lesson 4, so the following is just a reminder of how to do this.

Drag down to highlight **all 6** of the values from cell **P2** to cell **P7**

In the **Formatting toolbar** click on the **% (Percent)** symbol to change the format of the decimal numbers to percentages

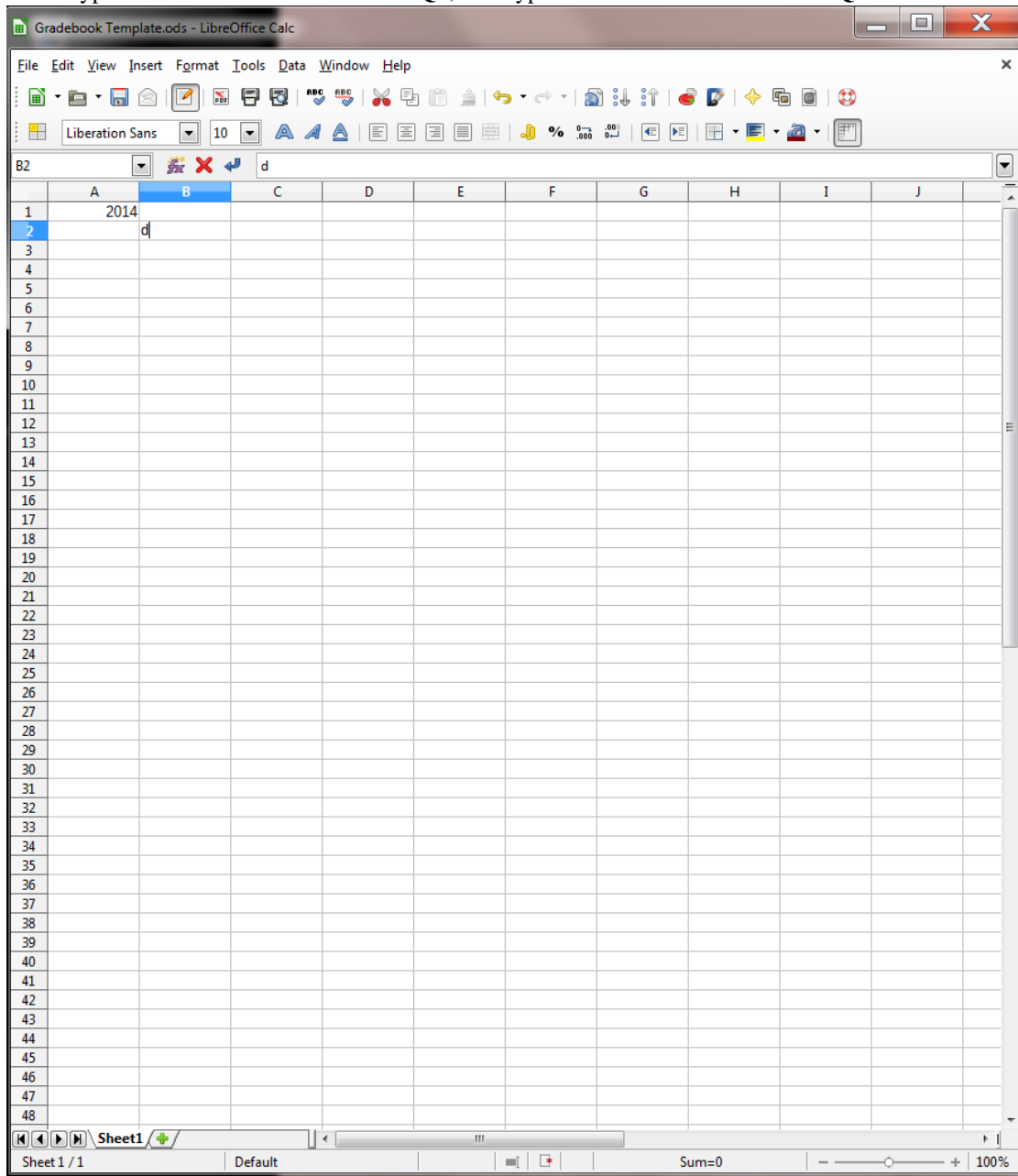
That completes the first column of the table. Now for the second column with the letter grades—what *Calc* calls the *result vector*. The *result vector* contains the values which *Calc* returns to the Gradebook cell which contains the formula which calls on (references) the LOOKUP function.

Select cell **Q1** and type the header **Grade (A-E)**, then press **Enter** to move down to cell **Q2**

Type the letter **E** (or whatever you would use for a failing grade) and press **Enter** to go to cell **Q3**

Type a **D** and move down to cell **Q4**, then type a **C** and move down to cell **Q5**

Type a **B** and move on down to cell **Q6**, then type an **A** and move down to cell **Q7**



Finally type an **A** again in cell **Q7** and click on the **Accept ()** button

The table is now almost ready for use. One more cosmetic adjustment will improve its appearance.

Select the complete **LOOKUP table** in columns **P** and **Q** by dragging across the **column headers P** and **Q** at the top of the columns then, in the **Home Ribbon > Paragraph Group**, click on the **Center** icon

Your LOOKUP Table should now look like Fig. 5.22 on page 150.

Save all your hard work before proceeding with the tutorial

Using the clipboard to copy cells from one document to another

Now that you have completed the task of building the LOOKUP Table in the Gradebook spreadsheet you should update the Grades Template along the same lines. First you must copy the relevant cells (those used for the LOOKUP Table) from the Gradebook spreadsheet to the clipboard and then paste them into the Grades Template spreadsheet. Here are the steps.

Select cell **P1** and drag down diagonally across the **LOOKUP Table** to cell **Q7**

Press **Ctrl-c** to copy the **LOOKUP Table** to the clipboard

Now switch to the **Grades Template** by **switching windows** in the **View Ribbon > Window Group** or, more simply, just clicking in any cell in the Grades Template

In the **Grades Template**, click on cell **P1** to make it the current cell

Press **Ctrl-v** to paste the **LOOKUP Table** from the clipboard to the **Grades Template**, then **Save** your work (**Ctrl-s**) once more

Entering the LOOKUP function into the Grade column

Take a moment to understand the next step in using the LOOKUP table. Recall that the LOOKUP function instructs *Calc* to look up a table that you have built and come back with a corresponding result to store in the spreadsheet proper. Still confused? Maybe the following will help you figure it out. The LOOKUP function has the following parts to it:

=LOOKUP(Search criterion,Search vector,result_vector)

Let's examine each part of this function in order to understand how it works.

1. The "=" symbol at the start of the function simply tells *Calc* that a function or formula is in the cell, as opposed to ordinary data such as numbers or labels.
1. The word **LOOKUP** tells *Calc* what task to carry out (**look** something **up** in a list).
1. **Search criterion**, **Search vector**, and **result_vector** are variables (control values) that *Calc* uses when it is looking up the table in columns P and Q:
 1. the **Search criterion** is either a number or text (such as a person's name); this **value** will be the "key" that *Calc* will use as it searches through the cells in the **Search vector** or column;
 1. the **Search vector** is the column of cells that *Calc* has to check in its lookup of the table (column P in Fig. 5.22 on page 150);
 1. the **result_vector** is the column of cells in which *Calc* will find the result of the LOOKUP operation (Column P in Fig. 5.22 on page 150).

Still confused? Don't feel bad; this is definitely tricky stuff. Maybe an example will help you understand how the Lookup function works. It will be easiest for you to follow the next exercise if you have an actual grade book to work with.

The **Grades Template** and **Gradebook** spreadsheets should still be side-by-side on your screen, so switch back to the **Gradebook** (use the **Window menu** to **Switch Windows** for this or click on any cell in the **Gradebook**)

Make sure you have at least the LOOKUP Table (columns **P** and **Q**) showing on the screen, as well as columns **M** thru **O** of the Gradebook containing the PCNT and GRADE data.

Scroll over if necessary until you have columns **M** thru **Q** showing on the screen, with the LOOKUP Table at the top of the screen (Fig. 5.23)

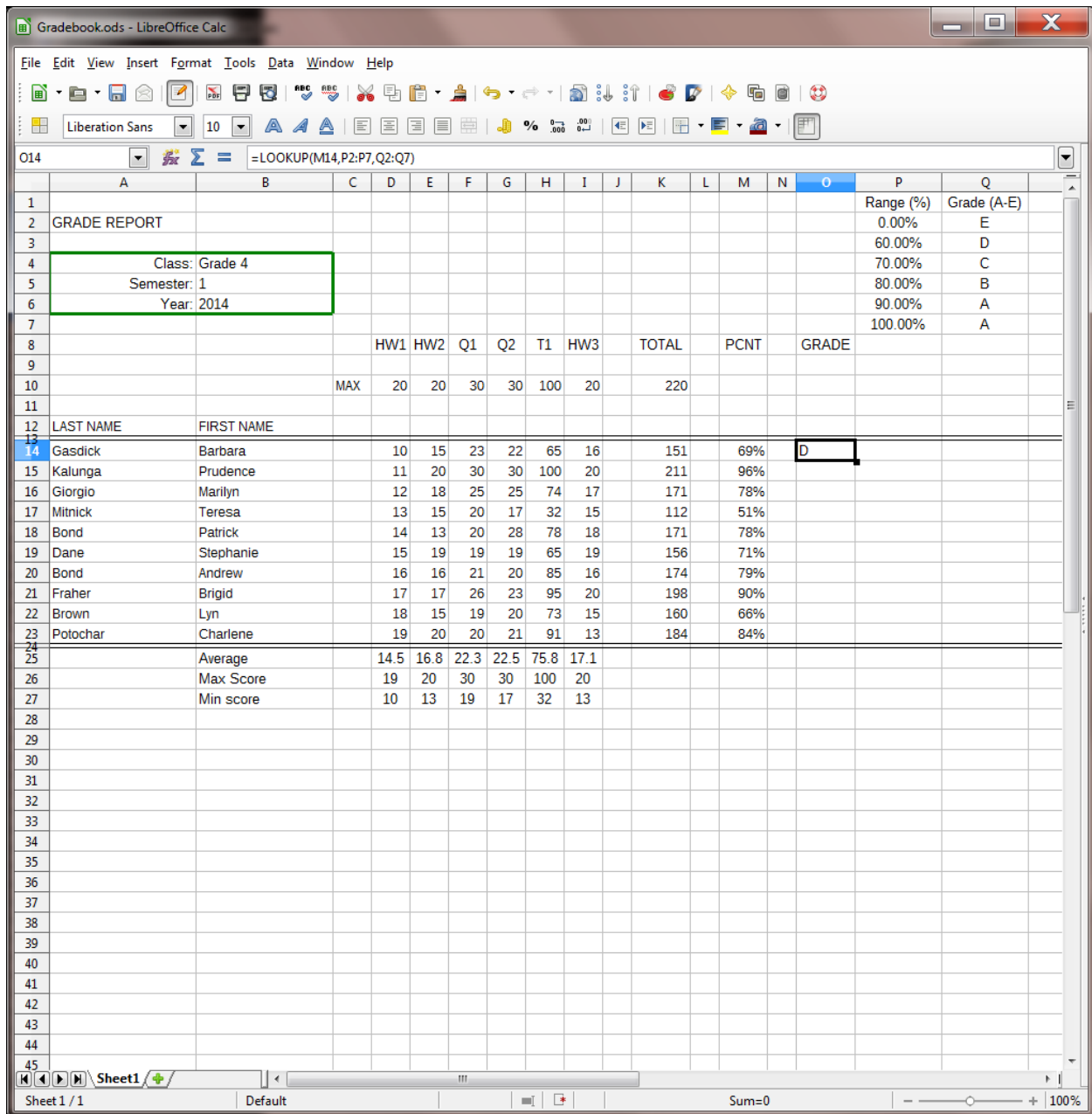


Fig. 5.23 Spreadsheet showing the Lookup Table

Select cell **O14** (Fig. 5.23 on previous page)

This is the first cell in the GRADE column. You want *Calc* to use the LOOKUP function to figure out the letter grade for each student and display it in this column (Column O). So the LOOKUP function must go in each cell of Column O.

Click on the **Function Wizard** icon (*fx*) in the **data entry** bar towards the top of the spreadsheet window, then in the **Function Wizard** dialog box select the **Spreadsheet category** and locate and **double click** on the **Lookup function** to select it (Fig. 5.24)

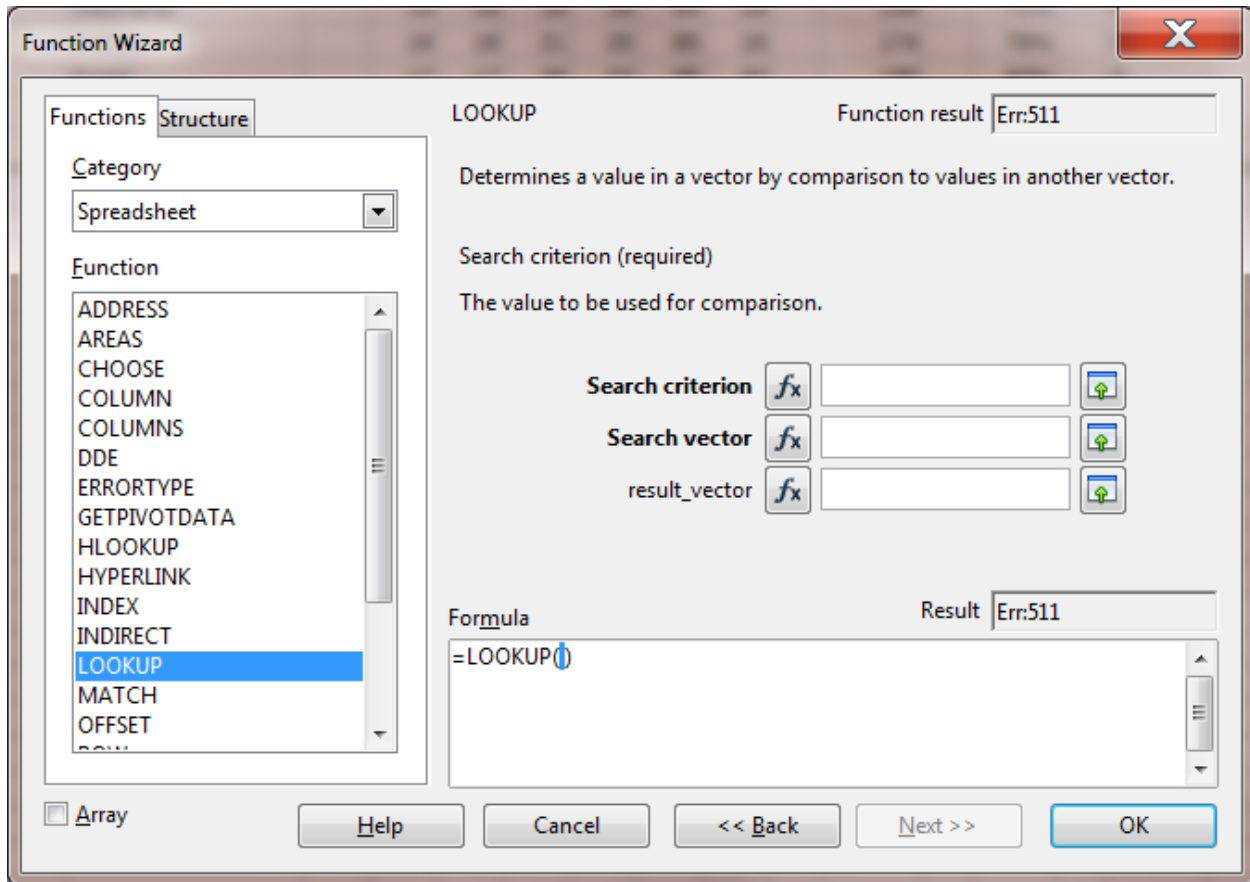


Fig. 5.24 Function Wizard dialog box before defining Lookup function criteria

Notice in Fig. 5.24 that the cursor is positioned between the brackets after the word =LOOKUP (l) in the formula area of the dialog box. The three sets of data for the LOOKUP function will appear there as you complete the steps that follow.

If the **Function Wizard dialog box** is covering the cells you need to work with (**column M** and the **Lookup Table** in **columns P and Q**), slide the **Function Wizard dialog box** down and off to the right or left on the screen so that the dialog box is out of the way

On the *right side* of the *Function Wizard dialog box* in Fig. 5.24 above, you see three data entry boxes for the set of arguments (*Search criterion*, *Search vector*, *result_vector*) which you need to fill out.

In Fig. 5.25 below you see the end result of this task, with the set of arguments (*Search criterion*, *Search vector*, *result_vector*) filled out relative to cell M14. Your task now is to reproduce this yourself.

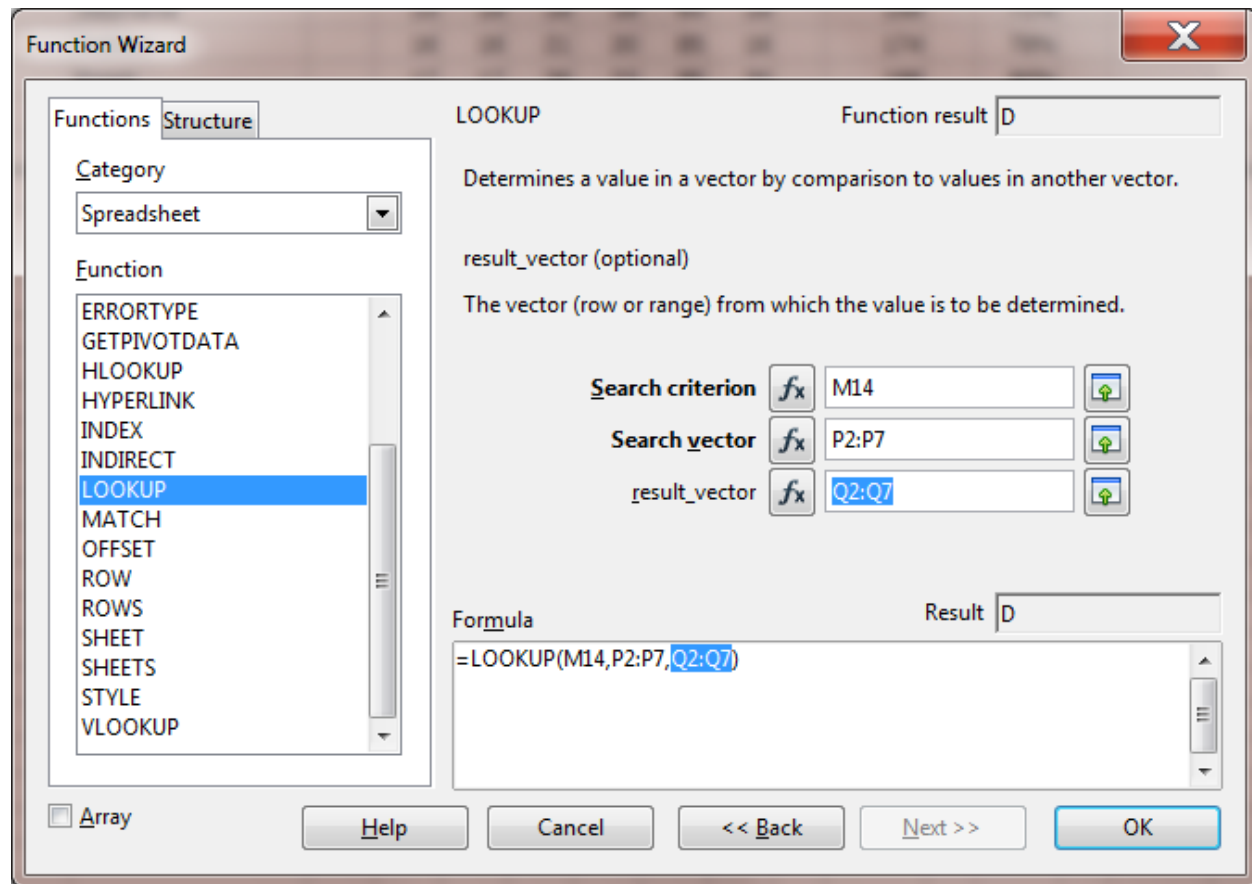


Fig. 5.25 Function Wizard dialog box showing the Spreadsheet > Lookup function

Entering the Search criterion in the dialog box

Each student's Percentage will determine the Letter Grade, so the percentage is what we want *Calc* to use as the Search criterion to find the letter grade from the Lookup Table.

In the **Gradebook** spreadsheet, click on cell **M14** and notice that **M14** is immediately entered into the **Search criterion data entry box** and also **between the brackets after =LOOKUP (!)**—you should now see **=LOOKUP (M14)** there

So *Calc* enters this cell's coordinates as the first of the LOOKUP parameters, the *Search criterion*. You are telling *Calc* that it must use this first student's percentage as the value to check against the first column of the LOOKUP Table (cells P2 through P7).

Entering in the Search vector

Cells P2 through P7 are the Search vector for the LOOKUP Table.

In the **Function wizard dialog box**, click to position the cursor in the **second** data entry box—the **Search vector** entry area (see Fig. 5.25 above)—so you can enter the cells which contain the **Search vector**

Now, in the **Gradebook** spreadsheet, use the mouse to drag down **from cell P2 to cell P7**

Notice that in the data entry bar *Calc* fills in the second of the LOOKUP parameters for the LOOKUP function, namely the *Search vector*. It also appears between the brackets after **=LOOKUP (M14,P2:P7)**. Check that it also appears in the Gradebook spreadsheet in the Data entry bar, too. You are almost done with building the LOOKUP function.

Entering the result_vector

Cells Q2 through Q7 are the *result_vector* for the LOOKUP Table.

Click to put the cursor in the **third** data entry box so you can specify the cells that contain the **result_vector**, then, in the **Gradebook** spreadsheet, drag down **from cell Q2 to cell Q7**

Notice, once again, that *Calc* fills in the third of the =LOOKUP (M14,P2:P7,Q2:Q7) parameters, the **result_vector**.

In the **Gradebook spreadsheet** itself, check the **data entry bar** to see that the LOOKUP function is now complete—at this stage it should read **=LOOKUP(M14,P2:P7,Q2:Q7)**

Finally, click on **OK** and **Save** your work

Applying the function

Calc will look for “the highest value in cells P2 through P7 that is less than or equal to the student’s percentage”.

Take a look at cell **O14** now and **verify** that it contains the correct **letter grade** according to the value in cell **M14** (the percentage for this first student)

As you see, once the LOOKUP function has located the correct cell in column 1 of the Lookup Table (the Range column), all that remains is for *Calc* to make a note of the letter grade that is in the corresponding cell in column 2 of the table (the Grade column), and the LOOKUP function copies that grade into cell O14.

Don’t feel bad if your eyes are starting to glaze over; this is kinda nerdy stuff. But hang in there, we’re nearly done.

Copying the LOOKUP function into the rest of the GRADE column

The first student’s grade is taken care of. The next task is to copy this function from cell O14 down to the other cells in the GRADE column (column O), but this is not as simple as it seems because we have to consider the problem of *Absolute* and *Relative* cell references.

If you want to try and do this on your own (you will need to understand the concept of Absolute and Relative references!), go ahead. If you are successful you can skip the rest of this sub-section and go to the *Practice makes perfect* section on the next page.

If you need help completing the LOOKUP function, read on to follow the steps to *correctly* Fill down the LOOKUP function to the remaining cells in column O.

First you must make a small change to the function itself. You also need to put your thinking cap on, because if this is the first time you’ve used a LOOKUP function, it can get mighty confusing.

You may recall learning about Relative and Absolute cell references in Lesson 4. The function =LOOKUP(L14,P2:P7,Q2:Q7) will work fine for the first student, but if you copy it to the other cells as is, *Calc* will assume that *all* the cell references in the function are relative to the cell into which they are being copied, and will adjust them accordingly, resulting in the WRONG letter grades. If you enjoy math or logic, you’ll be enjoying this; but if not, bear with us, OK?

What you have to bear in mind is that the references to the LOOKUP Table (cells P2:P7 and Q2:Q7) must be *absolute* references—which means any references to those cells *must not* change—because the data for the LOOKUP Table will *absolutely always* be found in these specific cells.

So you need to tell *Calc* to leave these LOOKUP Table references unchanged when copying the LOOKUP function into the other cells in column N. You do this by surrounding the LOOKUP Table’s cell coordinates with \$ (dollar) signs. Like this:

=LOOKUP(L14,\$P\$2:\$P\$7,\$Q\$2:\$Q\$7)

The reference to the lookup value (cell M14 for the first student) is *relative*, and will be different for each student (M15, M16, and so on), so it doesn’t need to have dollar signs around it. But the references to the Search vector and to the result_vector are *absolute*—fixed because they refer to the LOOKUP table in columns P and Q.

Here is a reminder of the steps to tell *Calc* to treat references as Absolute References when referring to the LOOKUP Table.

Click on cell **O14**

Take a look at the Data Entry bar at the top of the screen and you'll see that the LOOKUP function is spelled out in full (Fig. 5.26). It just needs all those \$ signs around the references to the cells that make up the LOOKUP table.

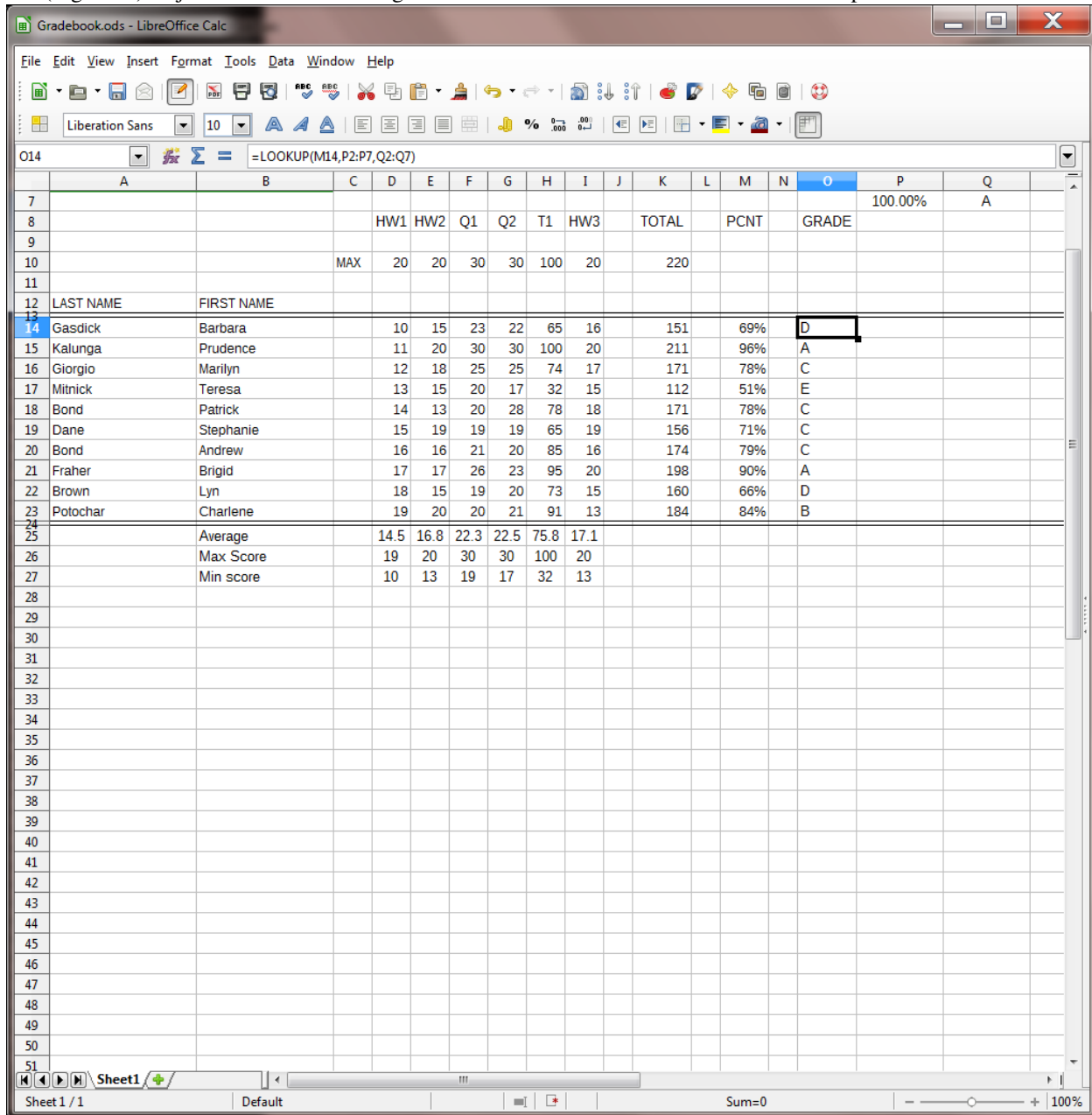


Fig. 5.26 LOOKUP function for cell N14

In the **Data entry bar** (Fig. 5.26 above), in the **LOOKUP formula**, click to put the cursor immediately before the reference to **cell P2**

Now put a dollar (\$) sign in front of **every coordinate** (rows *and* columns) for the LOOKUP Table (**8 \$ signs** in all) as illustrated in Fig. 5.27

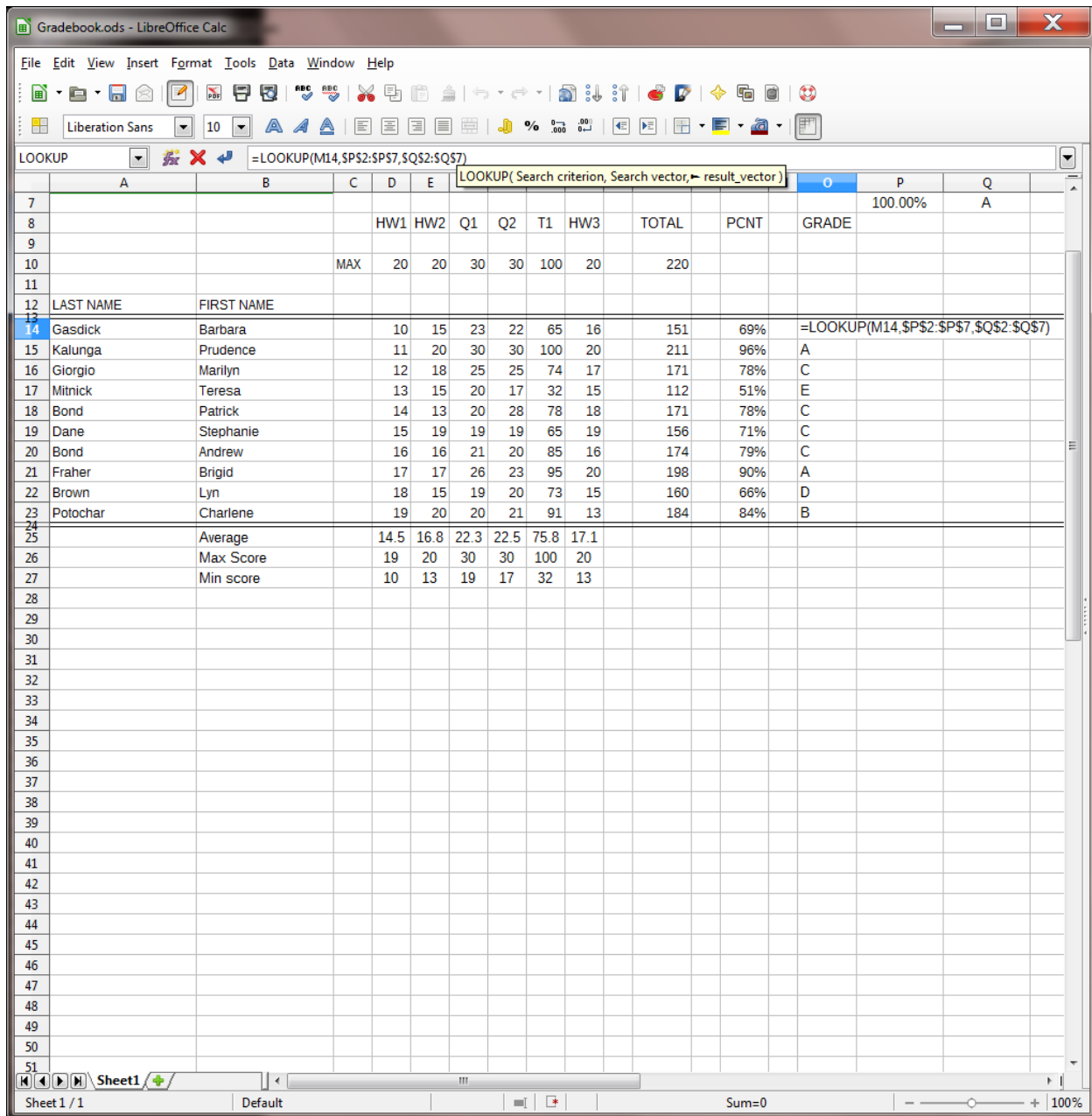
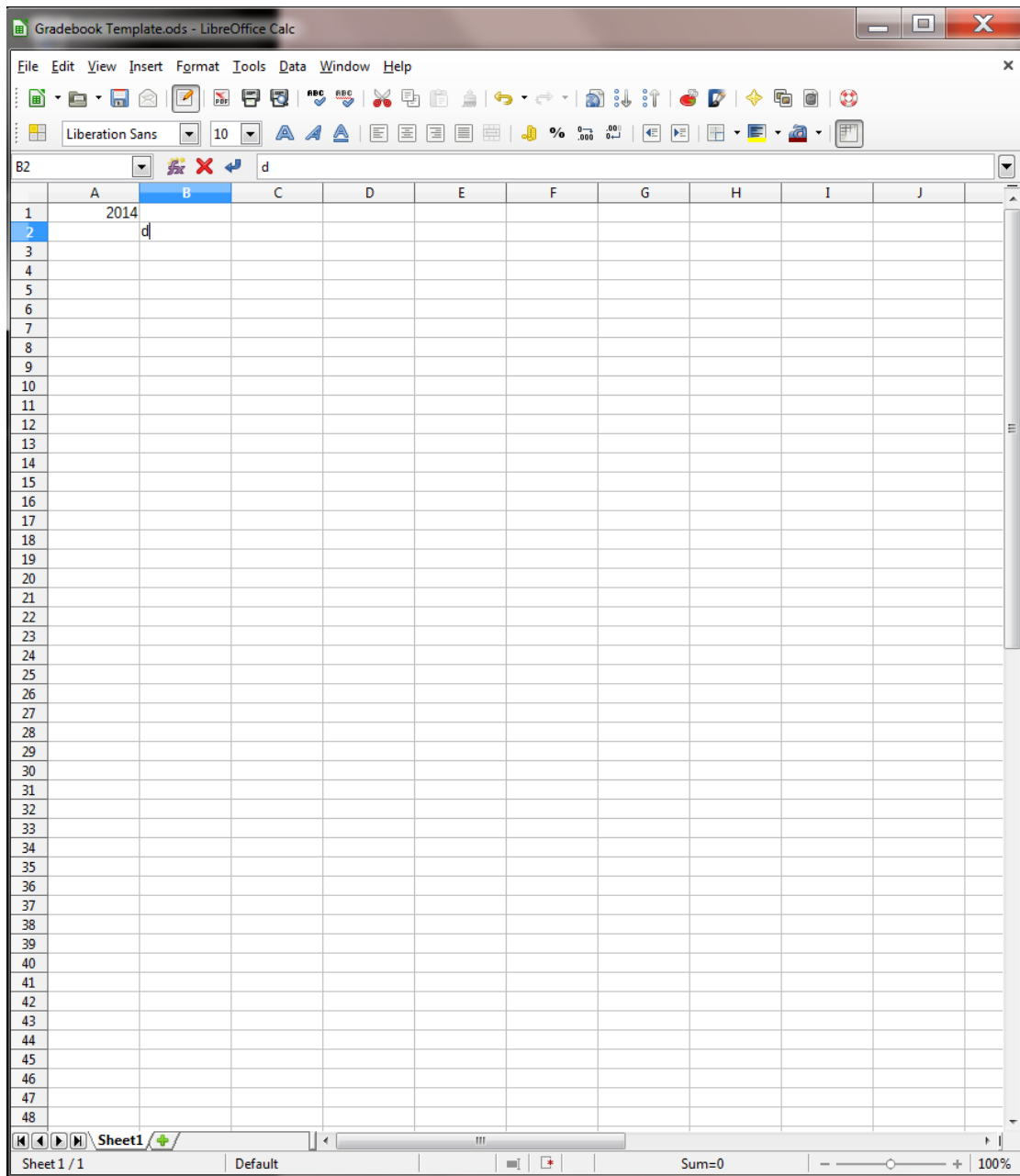


Fig. 5.27 Absolute references are preceded by dollar (\$) signs

This will ensure that this part of the function will remain unchanged (“absolute”) when you copy it shortly into the other cells in column O.



Click the **Accept button** () to accept the LOOKUP function into cell **O14**

Here now are the steps to copy the function from cell O14 into the remaining cells of the GRADE column (Column N).

Make sure the current cell is still cell **O14**

Grab hold of the small **Fill handle** in the **lower right** corner of cell **O14**, drag down to cell **O23** and let go of the mouse button (or take your finger tip off the screen if you're using a touch screen)

You now should see the correct letter grade for each student in column O.

While you have the cells in **column O** highlighted, **center** the grades in the column (**Formatting toolbar > Center icon**)

Save the changes you have made to the **Gradebook** spreadsheet

If you need to think about the LOOKUP function a little more, go carefully back over what you have just done. Once you have a clear idea of how the LOOKUP function works, you and your students will be able to apply it in myriad situations when you build spreadsheets of your own.

Practice makes perfect

Your task now is to switch to the Grades Template again, and add the LOOKUP function there, too. You do not have any data in the template (or at least you shouldn't have!), so your LOOKUP function will produce a column of meaningless grades (all E's!) in the GRADE column, just as was the case when you built a function into the PCNT column of the Grades Template when you were working on Lesson 4. This is no problem, because the data will be relevant and correct when you use the spreadsheet with an *actual class of your own* and enter *meaningful* sets of scores, as is the case in the Gradebook itself.

You either can add the functions to the Grades Template the long way, by repeating all the steps you just carried out for the Gradebook cell by cell, or you can use the Copy (*Ctrl-c*) and Paste (*Ctrl-v*) functions as you did a short while ago to copy the LOOKUP Table from the one document to the other.

Go ahead and **copy the grades formulas in column O** from the **Gradebook** to the **Grades Template**; don't forget, when you're done, to **Save** the changes you have made to the **Grades Template** spreadsheet, then close the **Grades Template**

Finally in this exercise you must *protect* the Gradebook worksheet so that no one can make unauthorized changes to the data in the cells.

Select all the cells in the **Gradebook** worksheet (**Ctrl-a**), then, in the **Tools menu > Protect Document** click, in the sub menu, to put a **check mark** back in front of **Sheet...**

Do the same for the **Grades Template** worksheet

Save your work and **close just** the **Grades Template**

You should now have only the *Gradebook* open on your screen.

5.6 PRINTING THE UPDATED SPREADSHEET

You're going to print out the Gradebook twice. Here are the steps for the first printout.

It is usually best to print a spreadsheet in landscape (sideways) orientation.

In the **Format menu > Page...** dialog box, in the **Orientation section**, click on the **radio button** next to **Landscape Orientation**

You need to take care of a couple of other details before clicking on the Print button. The printed spreadsheet will look better if you remove *column and row headings* as well as the *cell gridlines*.

In the **View menu** click on **Column & Row Headers** to remove the **check mark** there, thus removing column and row headers from the spreadsheet

Next remove the gridlines by clicking, in the **Formatting toolbar**, on the **Toggle Grid Lines for Current Sheet** icon (Fig. 5.28)

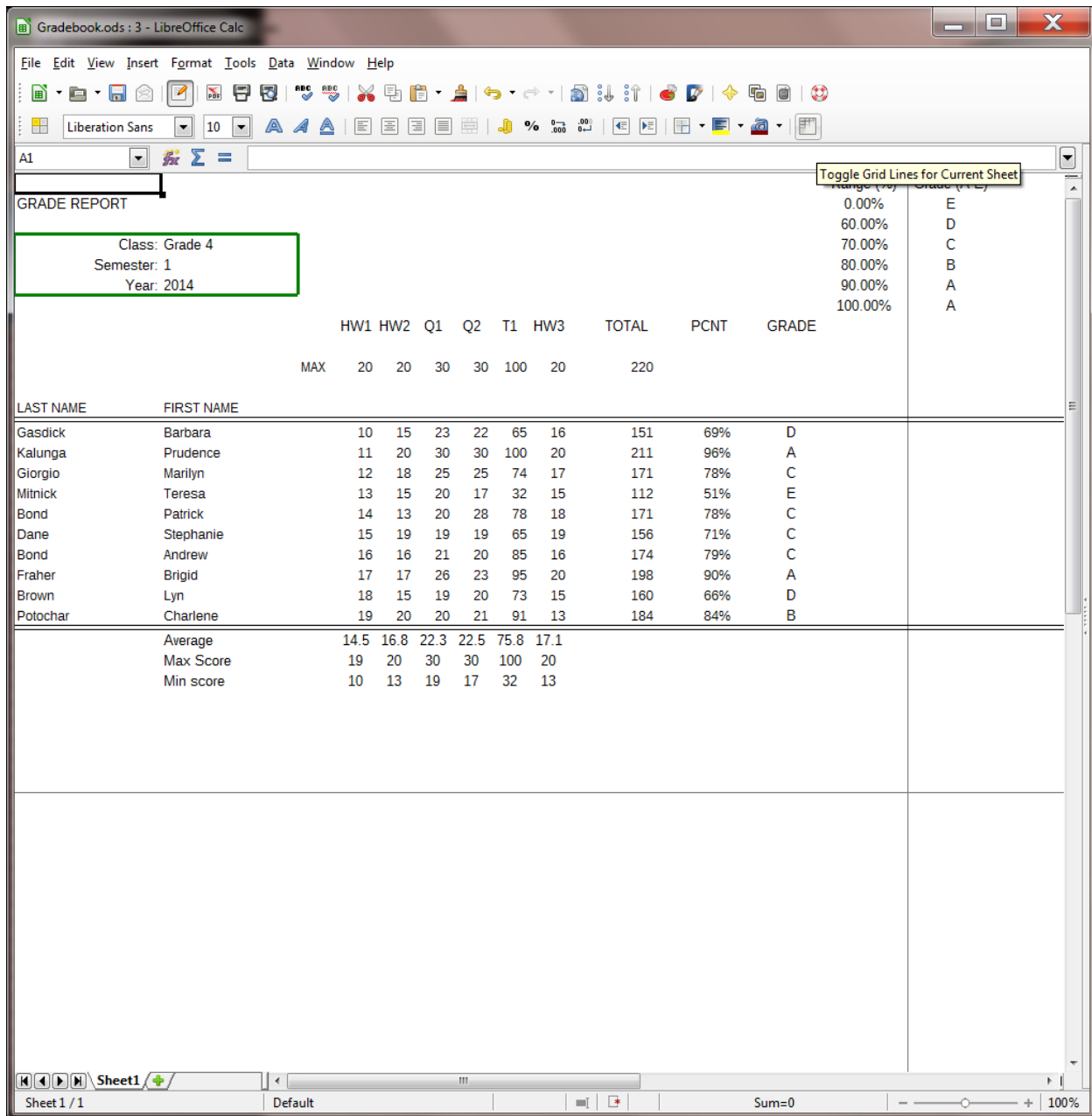


Fig. 5.28 Toggling gridlines on and off

**Selecting a section of the spreadsheet for printing **

When you first print out your Gradebook, you do not want the LOOKUP Table to appear on the printed report. You want to print only that block of cells that contains the data pertaining to student grades for the semester. This includes columns A through O and Rows 1 through 27.

The steps that follow will show you how to select just this block of cells for printing. First you must select (highlight) the range of cells that you want to print.

Drag down diagonally from cell **A1** to cell **O27** (this will include the **Average**, **Max Score**, and **Min Score** summary lines at the bottom of the Gradebook, but **not** the cells with the LOOKUP table)

Now, from the **File** menu select **Print** to bring up the **Print dialog box** (Fig. 5.29)

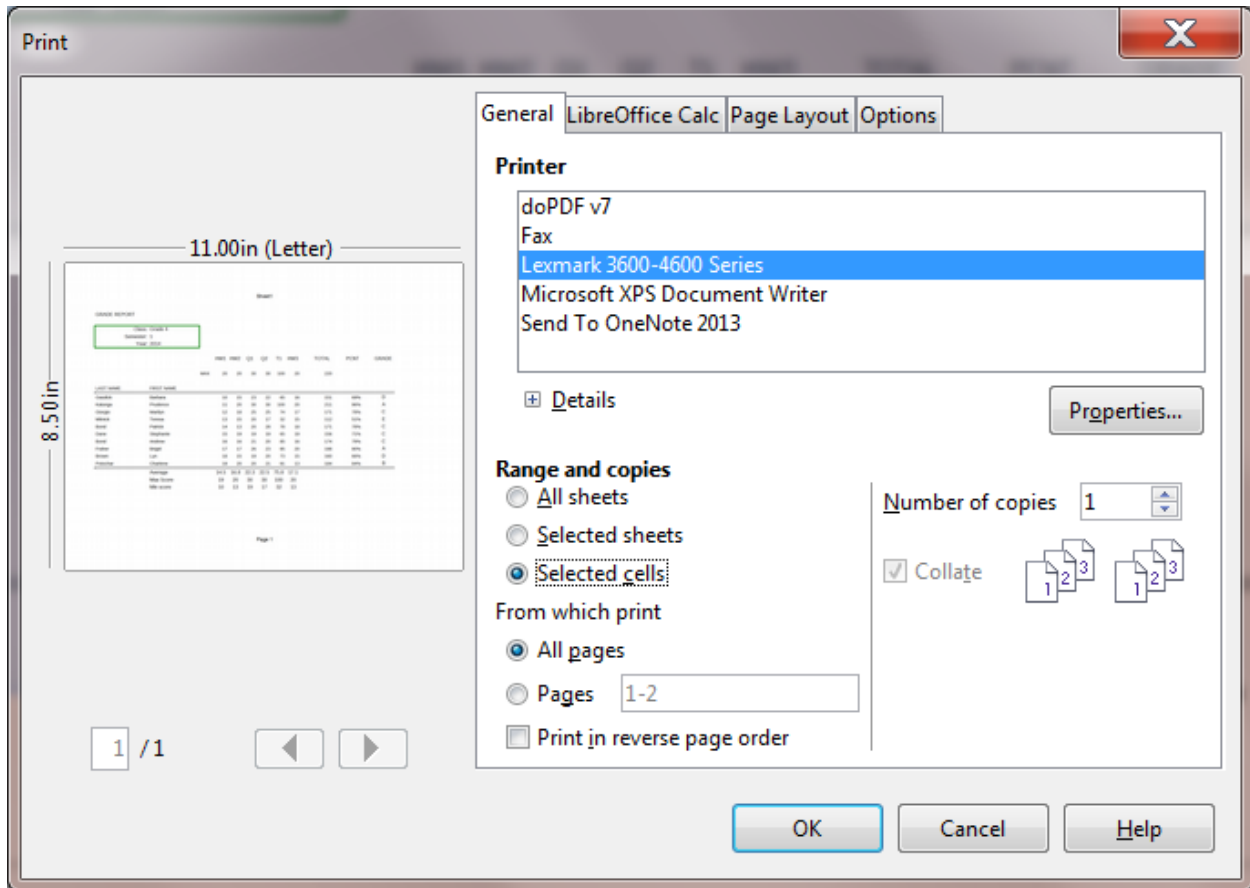


Fig. 5.29 Setting the Print area in the Print dialog box

Notice that in the Print dialog box you have a Preview of the worksheet before printing. Your spreadsheet has just one page. If you wanted to check how many pages there are in your spreadsheet before printing, you would find the answer *underneath* the Print Preview window (it reads 1 of 1 for this spreadsheet).

Check out how the spreadsheet looks in the **Preview window**, then click on **OK** to print out the first hardcopy of the **Gradebook**

Now you are going to print a second copy of the Gradebook, but this time you will include the LOOKUP table, the Column and row headers and the gridlines.

In the **Gradebook**, drag down diagonally from cell **A1** to cell **Q27** (this will include the **LOOKUP table** in columns P and Q)

In the **View menu** select **Column & Row Headers** to put back the **check mark** there, then **bring back** the **gridlines** by clicking, in the **Formatting toolbar**, on the **Toggle Grid Lines for Current Sheet** icon (Fig. 5.28 on page 174)

Now, from the **File menu** select **Print** and, in the **Print dialog box** make sure the **radio button** next to **Selected cells** is **on** (check the **Print Preview window** to make sure the **LOOKUP table** is included in this **second** printout), then click on **OK** to print this **second copy** of the **Gradebook** spreadsheet

If you are completing the lesson for a class at school, hand in **both hardcopies** of the spreadsheet to your instructor

5.7 Creating charts based on SPREADSHEET data

The Calc charting capability

Calc makes it easy to create dozens of different types of charts. You can create a chart from information gathered in most any spreadsheet. In the next Lesson (Lesson6) you'll learn how to incorporate a chart into a *Writer* document.

A spreadsheet user can take advantage of charts based on the numbers stored in its rows and columns of cells. The numbers on their own may not provide much information. Charts based on those numbers, on the other hand, may enable the user to *visualize* the data. "A picture," as they say, "is worth a thousand words."

Creating a Column chart

For this exercise, we'll set aside the work we've been doing with the Gradebook. You are going to open a new grades spreadsheet so that you can practice creating charts.

Go to **File > Open** and navigate to your **Removable Disk**

Work Files for LibreOffice > Miscellaneous Files > Other Documents folder and open the **Charts** spreadsheet

Your Charts spreadsheet should look like Fig. 5.30.

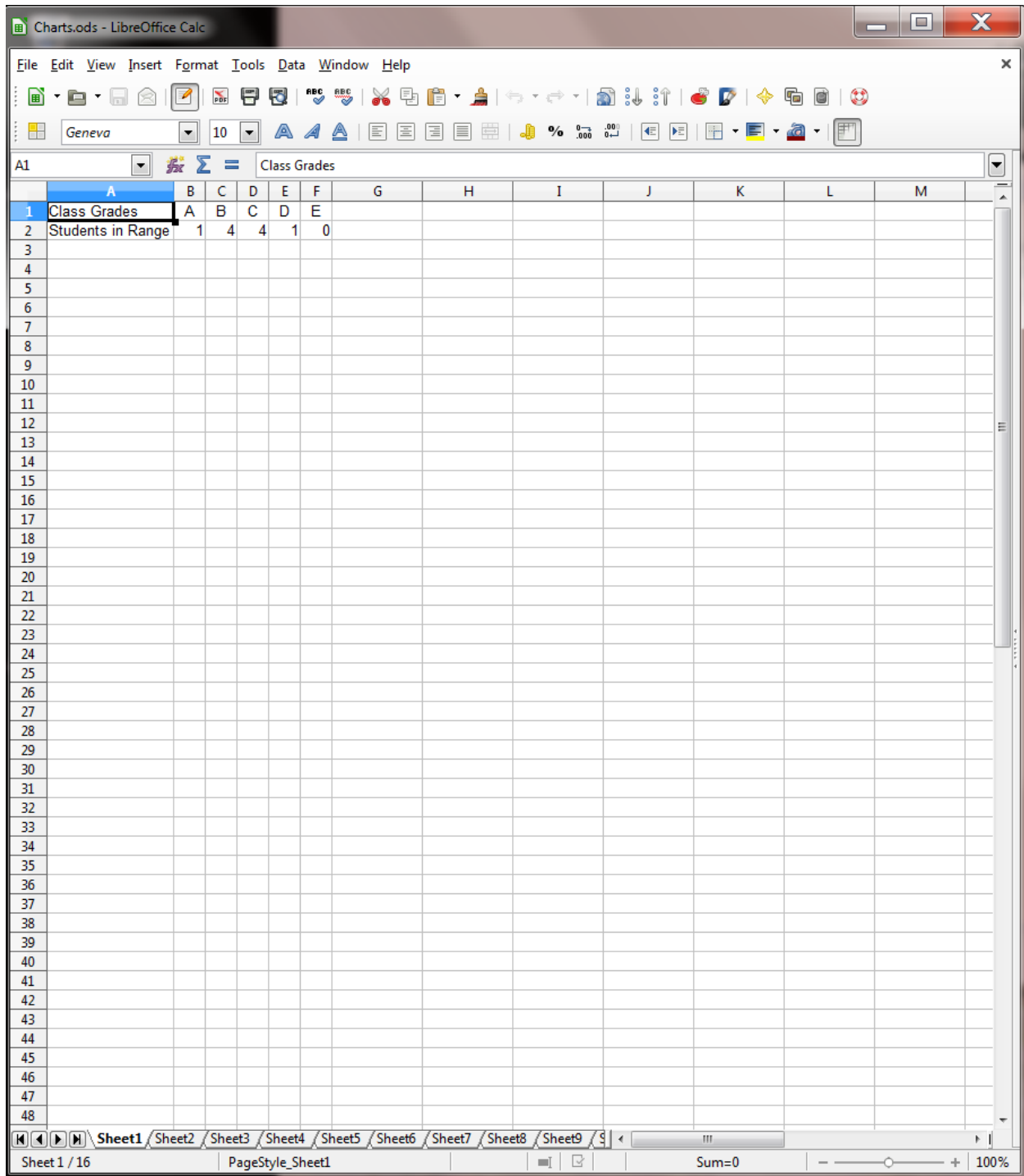


Fig. 5.30 Data for the Charts spreadsheet

The values represented in a chart are called a *data series* or a *data set*. In the chart you are about to create, the number of students in the various grade ranges (A, B, C, etc.) will be represented by bars. The chart will have a *title* and a *legend* with names descriptive of the *data series*.

Most charts, except pie charts, have *axes*, which are the perpendicular lines along which the data are plotted or displayed. The Y axis is the *vertical* axis (running from top to bottom). The X axis is the *horizontal* axis (running from left to right).

To create a chart in *Calc*, you must first designate the set of cells in the spreadsheet that you want included in the chart. This is called the *chart range*. Let's select the Chart Range now.

Select, by dragging and highlighting, cells **A1** through **F2**

Now, let's check out each of the various categories of *LibreOffice* charts.

In the **Standard toolbar**, click on the **Chart** tool (Fig. 5.31)

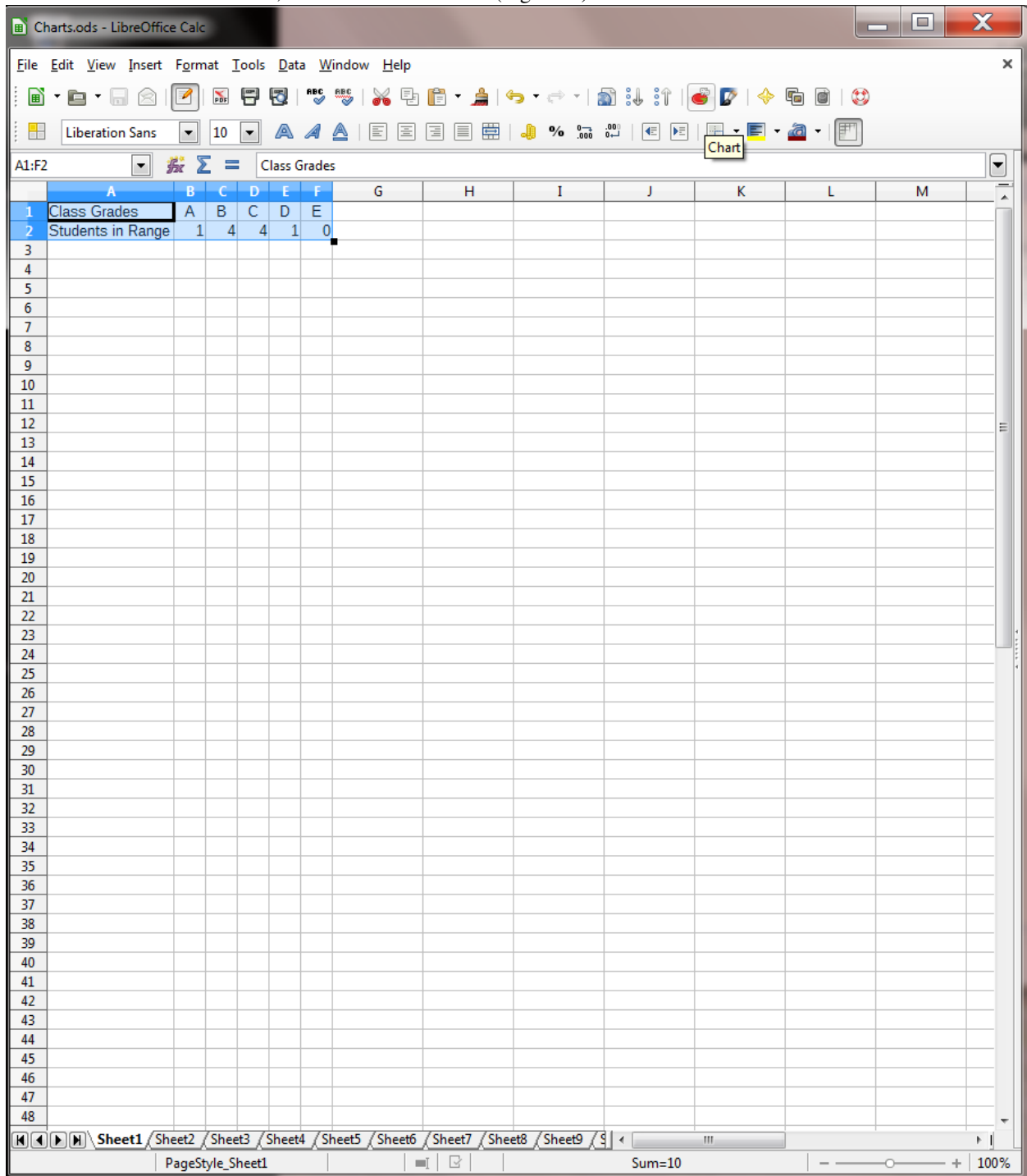


Fig. 5.31 The Chart tool in the Standard toolbar

This immediately brings up a basic chart (a bar chart) based on the data highlighted in the spreadsheet, and also offers the *Chart Wizard dialog box* (Fig. 5.32).

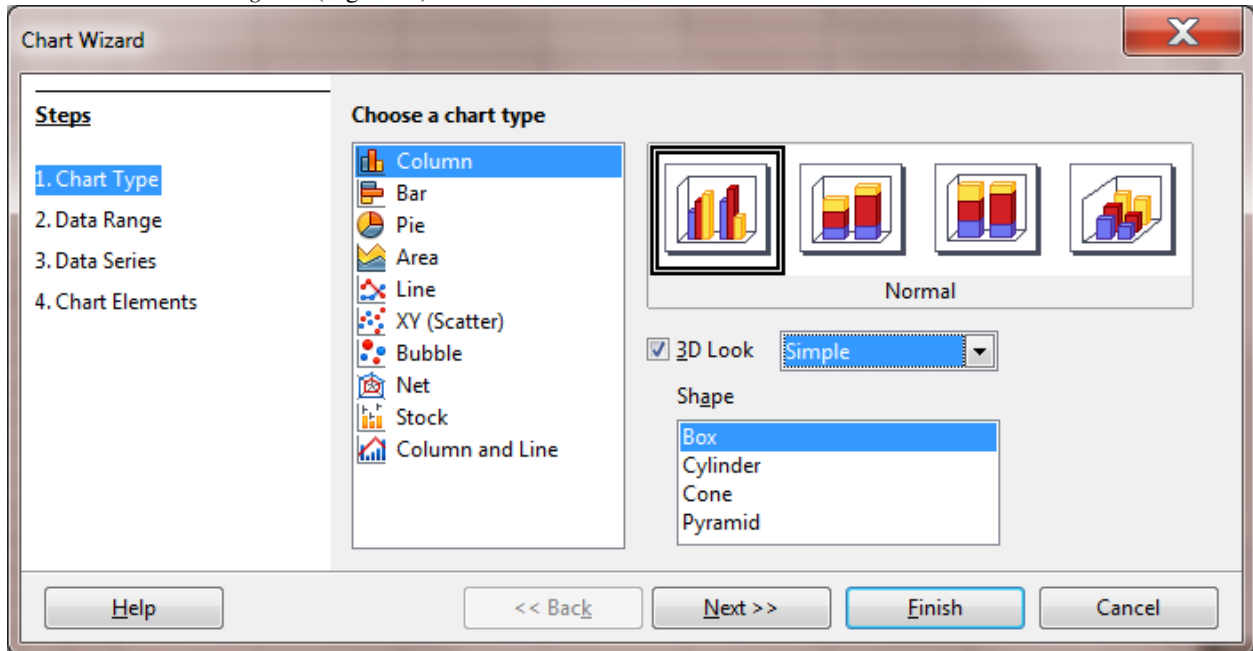


Fig. 5.32 The *LibreOffice Chart Wizard*

The Chart Wizard dialog box opens up a world of opportunities to create other eye-catching and, more importantly, *effective* chart styles—effective, that is, in the sense of getting the *true* meaning of the data across.

In the **Chart Wizard dialog box > Choose a chart type menu**, click on **Column** (Fig. 5.33 on previous page), and look at the many different types of **Column Charts** you can work with, from **Plain** to **3D charts** (including Box, Cylinder, Cone, and Pyramid charts)

Click on the **Bar chart type** and look at the different types of **Bar Charts**

Click on the **Pie chart type** and look at the different types of **Pie Charts**

Click on the **Area chart type** and look at the different types of **Area Charts**

Click on the **Line chart type** and look at the different types of **Line Charts**

Click on the **XY (Scatter) chart type** and look at the different types of **Scatter Charts**

Click on the **Bubble chart type** and look at the different types of **Bubble Charts**

Click on the **Net chart type** and look at the different types of **Net Charts**

Click on the **Stock chart type** and look at the different types of **Stock Charts**

Finally, click on the **Column and Line chart type** and look at the different types of **Column and Line Charts**

Quite a selection—dozens of different kinds of charts. But let's focus for now on the Column charts.

After you have checked out the various chart types, in the **Chart Wizard dialog box**, click on the **Column charts type**

In the **Column Charts** options, click to put a **check mark** in the box next to **3D Look** (Fig. 5.31 on the previous page) then, in the **Shape menu**, click on **Box** (Fig. 5.31 again), and then click on the **Normal** type

Immediately *Calc* creates the chart and displays it on the screen (Fig. 5.33).

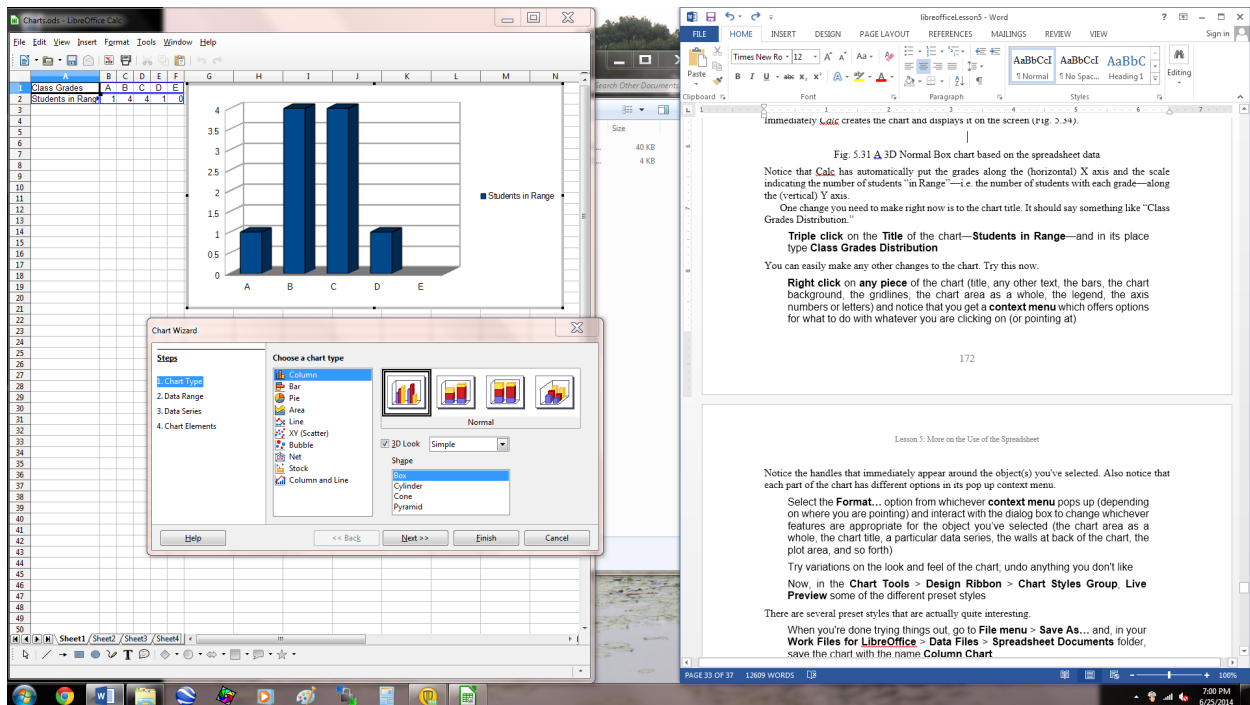


Fig. 5.33 A 3D Normal Box chart based on the spreadsheet data

Notice that Calc has automatically put the grades along the (horizontal) X axis and the scale indicating the number of students “in Range”—i.e. the number of students with each grade—along the (vertical) Y axis.

One change you need to make right now is to the chart title. It should say something like “Class Grades Distribution.” While we’re doing that we can make a couple of other changes as well.

In the **Chart Wizard > Steps** section, click on **4. Chart Elements** (Fig. 5.34)

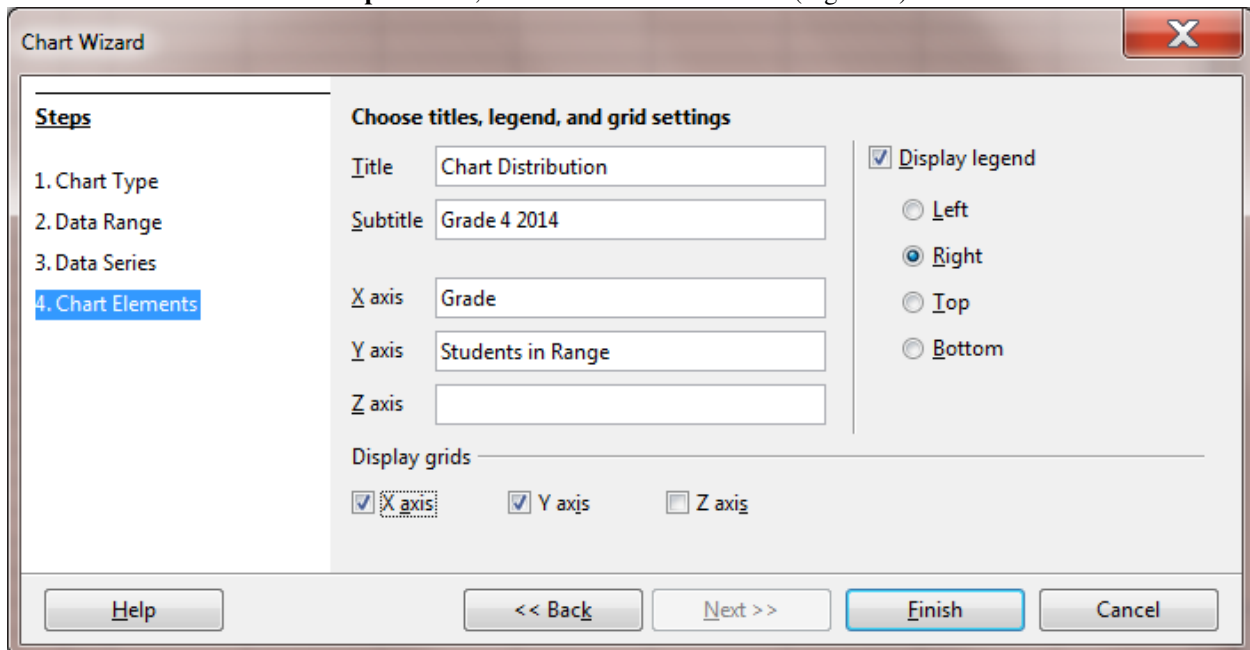


Fig. 5.34 Chart Wizard > Chart Elements dialog box

In the **Chart Elements** dialog box, fill out the **Title**, **Subtitle**, **X axis**, and **Y axis** as per the data in Fig.

5.34—leave the **check mark** in the box next to **Display legend** and click on **Finish**

The end result will look like Fig. 5.35.

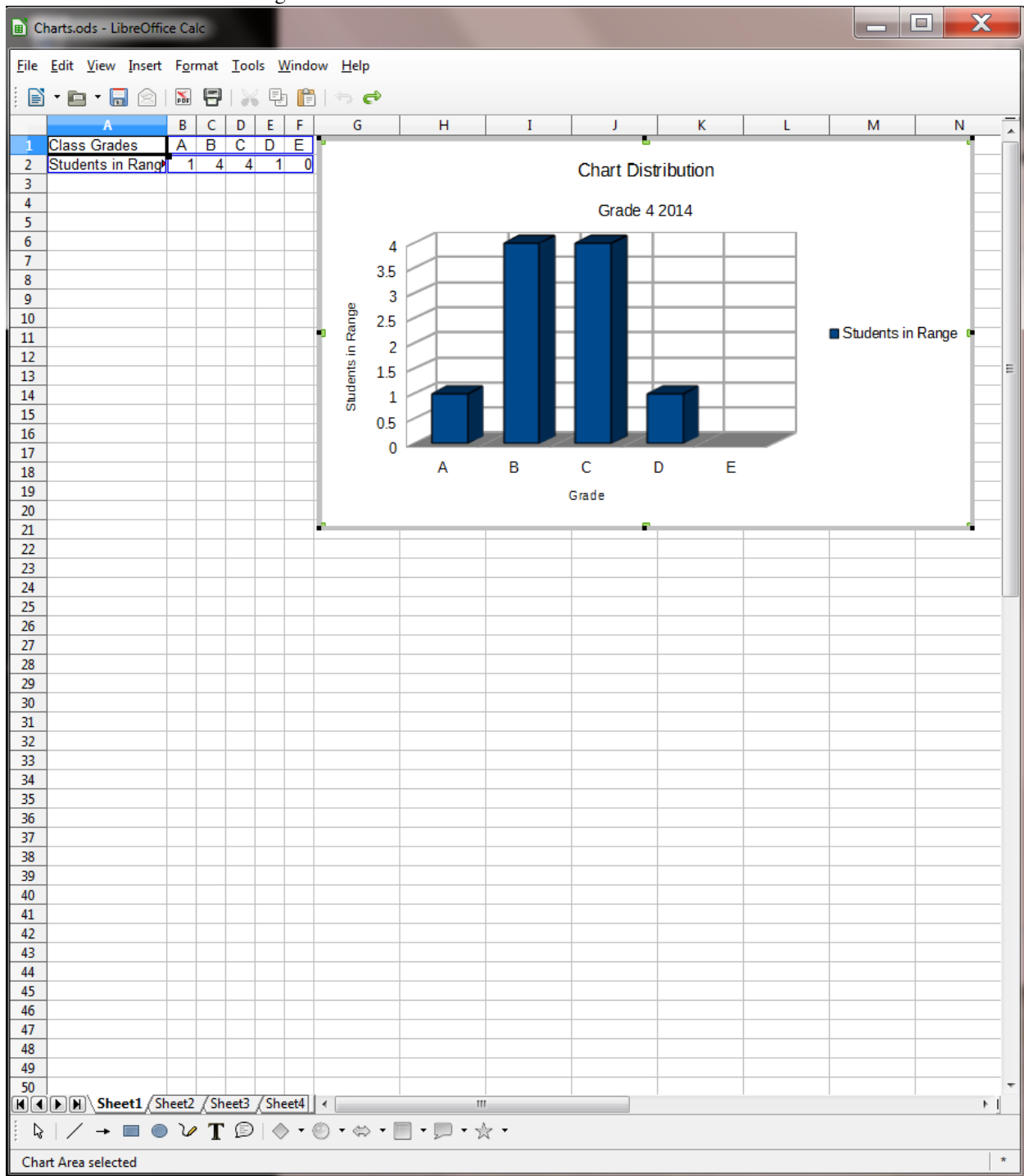


Fig. 5.35 The final version of the 3D Column chart

Go to **File > Save As...** and, in your **Work Files for LibreOffice > Data Files > Spreadsheet Documents** folder, save the chart with the name **Column Chart**, then remove it from the spreadsheet window before the next exercise

Creating a pie chart

Creating a pie chart is straightforward (not to say easy) if you just successfully completed the Column chart exercise. You will use the same set of data for the exercise that follows.

Drag to select cells **A1** through **F2**, then, in the **Standard toolbar**, click on the **Chart tool** to bring up the **Chart Wizard** (Fig. 5.32 on page 177), and then, in the **Choose a chart type** menu, click on **Pie**

In the **Pie Charts** dialog, click to put a **check mark** next to **3D Look** and, in the **3D Look** menu select the **Simple** option

In the **Chart Wizard**, click on each of the four Pie Chart styles and check them out

The style of Pie Chart you are going to work with is the *Exploded Pie Chart* (Fig. 5.36).

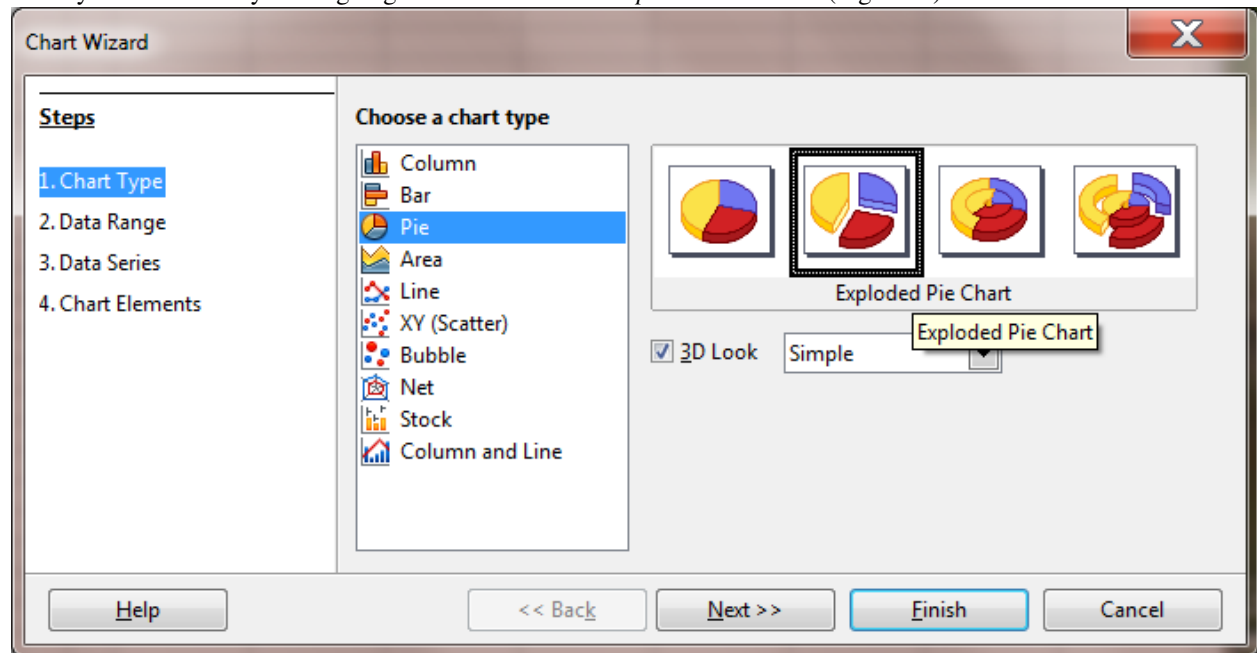


Fig. 5.36 Exploded Pie Chart Style

In the **Steps** section on the **left** of the **Chart Wizard** dialog box, click on **4. Chart Elements** and change the **Title** to **Class Grades Distribution** as you did for the Column Chart, with a **Subtitle** of **Grade 4 2014**

Leave the **check mark** in the box next to **Display legend** and click on **Finish**

Now, **right click** on any of the **slices** in the **Pie chart** and, in the **context menu** that pops up, select the option to **Insert Data Labels**

This puts a label on each of the slices indicating how many students got that particular grade, thus adding information to the chart. It would be helpful if the Font size were bigger on each of those slices and maybe the color white would stand out more against the colors of the various slices. This is easy enough to do.

Right click again on the **number** on any one of the slices in the **Pie chart** and, in the **context menu** that pops up, select the option to **Format Data Labels**

This brings up the dialog box titled *Data Labels for Data Series "Students in Range"* (Fig. 5.37).

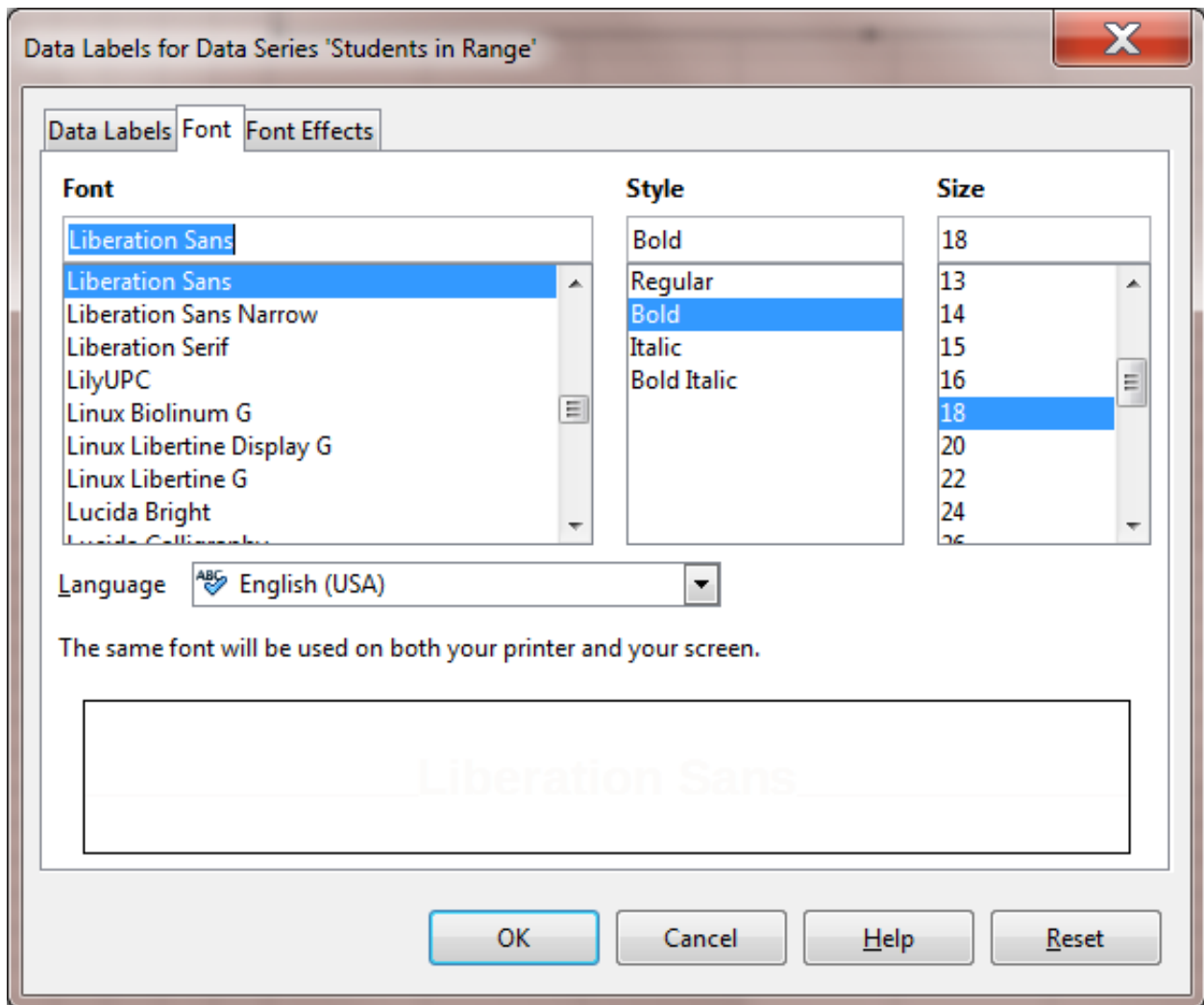


Fig. 5.37 Changing the Font and Size of the Data labels in a Pie chart

Click on the **Font** tab and change the **Style** to **Bold** and the **font size** to **18**, then click on the **Font Effects** tab and change the **Font Color** to **White**

There, that's better (Fig. 5.38).

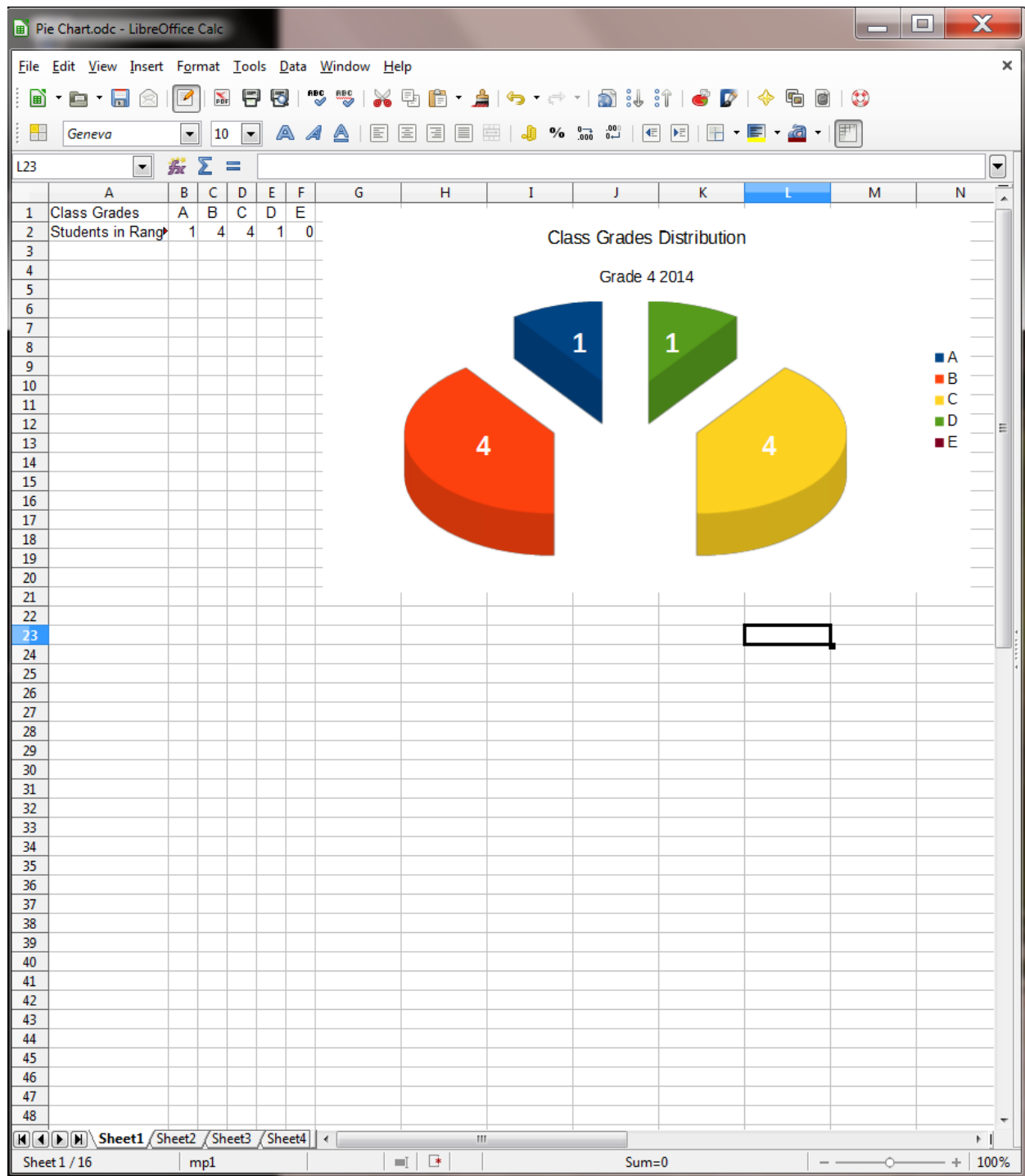


Fig. 5.38 Final version of the Pie Chart

Save the chart in your **Data Files > Spreadsheet Documents** folder with the name **Pie Chart**

That's all you want to do with the pie chart, so you might as well remove it from the spreadsheet window before the next exercise.

Left click on the border of the **Pie chart** to select the **whole chart** and not some piece of the chart's contents, then hit the **Del(ete)** key

Creating a bar chart

One last Chart type will suffice for you to get the hang of creating charts using spreadsheet data. This time you'll create a 3D Bar chart.

If necessary, drag to select cells **A1** through **F2**, then, in the **Standard toolbar**, click on the **Chart tool** to bring up the **Chart Wizard** (Fig. 5.34 on page 179), and then, in the **Choose a chart type** menu, click on **Bar**

In the **Bar Charts** dialog, click to put a **check mark** next to **3D Look**, then in the **3D Look menu** select the **Simple** option, and in the **Shape section** select **Cylinder**

Of the four **Styles of Cylinder Bar Charts**, select the first (**Normal**) style, then, in the **Steps** section of the Chart Wizard, click on **Chart Elements** and type the Title **Class Grades Distribution**, with the Subtitle **Grade 4 2014**

Click the **Finish** button, then **right click** on any of the **Bars** in the **Bar chart** and, in the **context menu** that pops up, select the option to **Insert Data Labels**

In the **Data Labels** dialog box, click on the **Font tab** and change the **Style** to **Bold** and the **font size** to **18**, then click on the **Font Effects tab** and change the **Font Color** to **a color of your choice**

The end result might look something like Fig. 5.39.

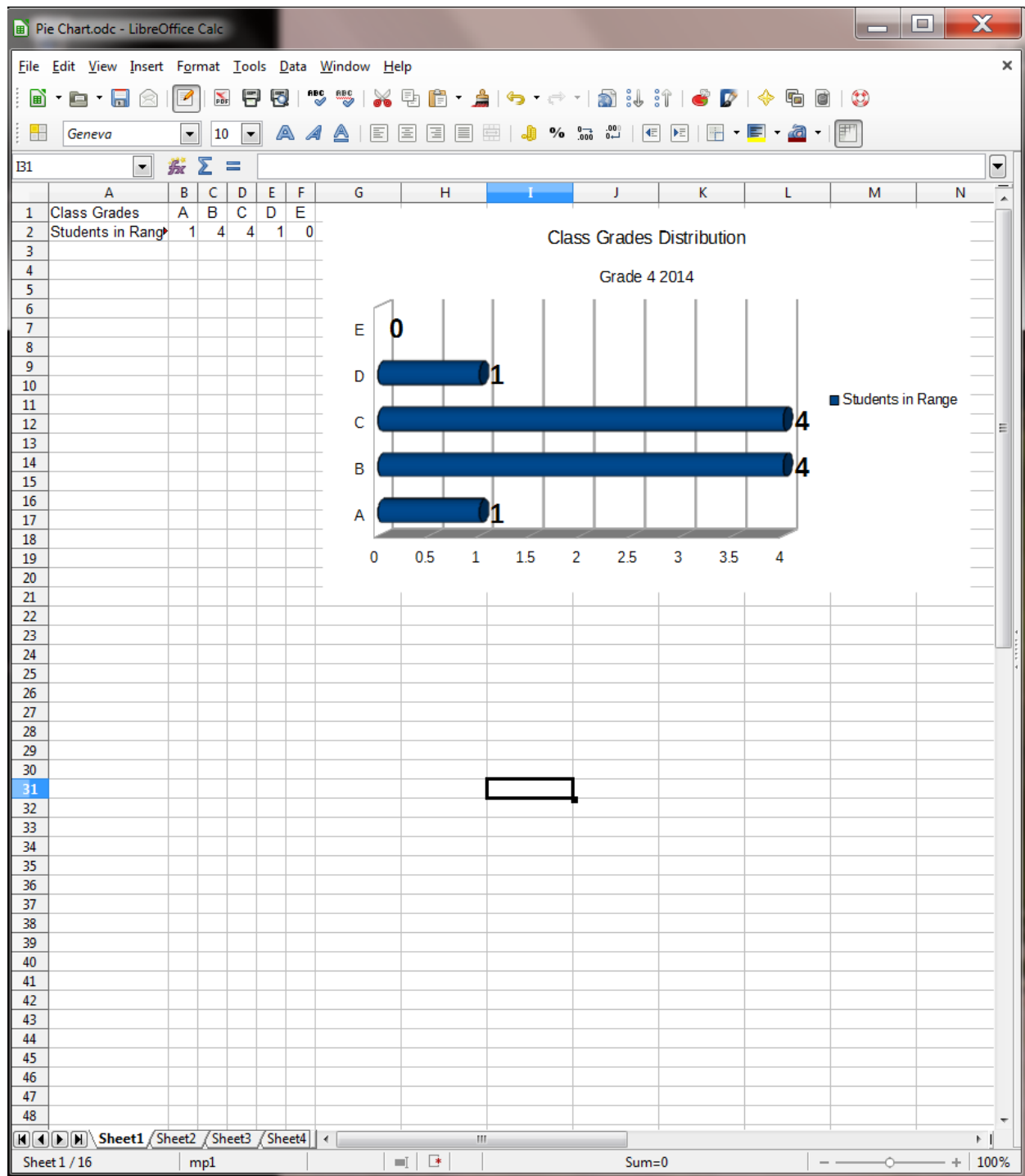


Fig. 5.39 Final version of the Bar Chart

Save the chart in your **Data Files > Spreadsheet Documents** folder with the name **Bar Chart**, then close the spreadsheet

SKILL CONSOLIDATION

Complete these exercises to reinforce what you have learned in Lesson 5.

1. List at least 5 applications, other than those presented in these tutorials, for which you think you would use the *Calc*

spreadsheet in a classroom environment.

2. Either alone, or with a group, develop templates for each of the five spreadsheets identified in exercise 1. This could be an excellent class project. Each team would develop a different set of templates. Then all groups would present their results for review by everyone else in the class, and the complete set of templates could be made available on disk for everyone to take away from the course.

3. Load the Gradebook to the Desktop.

- Add the function to calculate the average score for each of the tests, quizzes, homework, etc. The system will add up all the scores and divide by the number of cells that contain scores to arrive at the average. You should use the copy function to duplicate the functions across the spreadsheet.
- Save the updated spreadsheet.
- Print out only the columns that contain the student names and the final totals and percentages (so you will need to temporarily delete the columns in between—don't save this!)

4. Load the Gradebook onto the Desktop.

- Add a new column for another set of scores
- Add a new row for another student
- Update the functions where necessary
- Sort the student records based on the First and Last Name columns
- Save the updated document

5. Create a line chart based on a set of values for populations in several cities in the U.S. Generate a Bar chart from the data. Research the populations on the web at <http://www.census.gov/popest/states/NST-ann-est.html>

6. Create a pie chart based on a set of values for the amount of rainfall for each of any ten cities world wide. Research the rainfall data at this web address: <http://www.worldclimate.com>

[^1]: Your formula should look something like this: `=SUM(D14:D23)/10`

[^2]: 0% (E); 60% (D); 0% (E); 100% (A)

3.6 Lesson 6 Introduction to the *BASE* database

6 Introduction to the *BASE* DATABASE

Keeping student records

LEARNING OUTCOMES

This tutorial will introduce you to the following:

- the general idea behind a database
- planning a new database
- creating a database template
- adding records to a new or existing database
- viewing the data in a database
- clearing entries and records from a database

- making a backup copy of a database

BEFORE YOU BEGIN

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (*6.1 An Overview of the Database Concept—next page*). If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 6.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by **double clicking** on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 6.1).

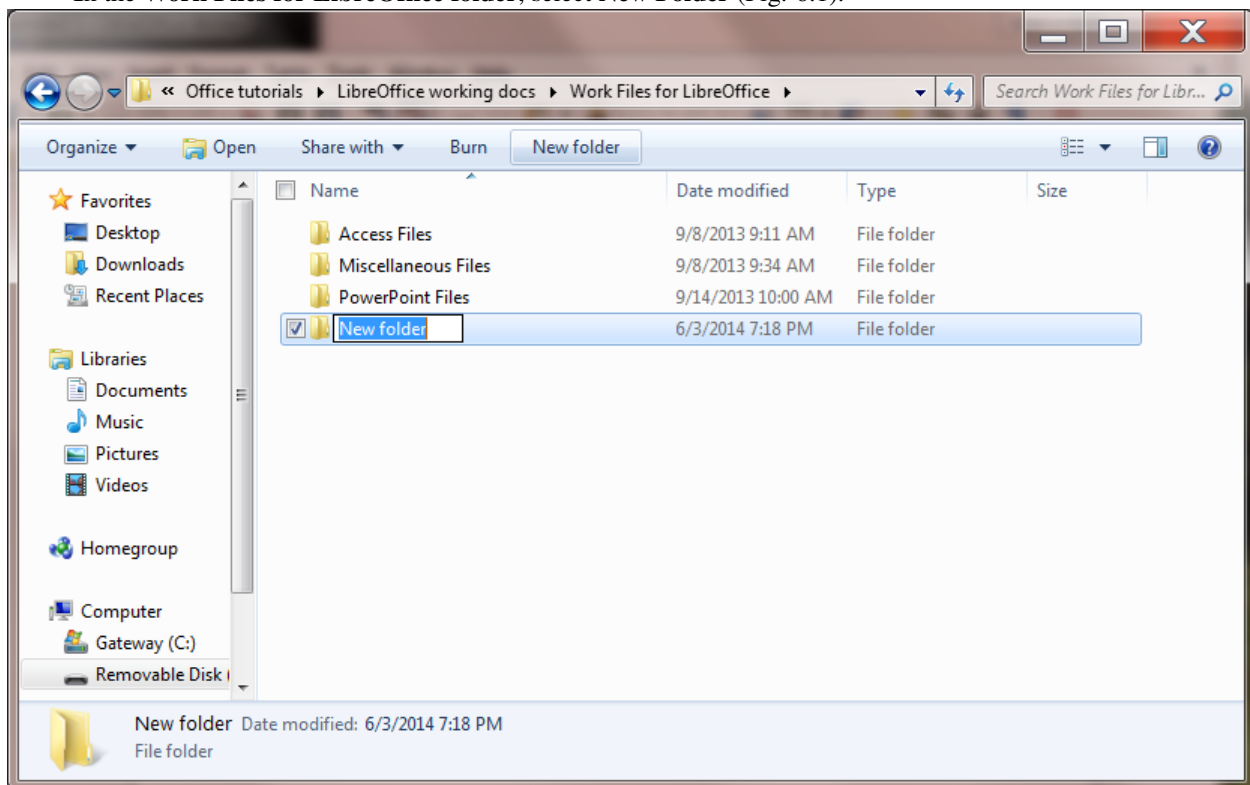


Fig. 6.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 6.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

6.1 AN OVERVIEW OF THE DATABASE CONCEPT

How is a database organized?

Base is an object-oriented relational database management system. It is designed to help an organization—such as a company or an institution or a school or school district, and also the individual teacher—to collect, organize, manage, and store data in such a way that they can be easily accessed and made available to users in a variety of useful ways.

The various types of database objects that you can create using *Base* are listed in the *Database Objects* menu in the left hand frame of any *LibreOffice* database that you open, as illustrated in Fig. 6.2.

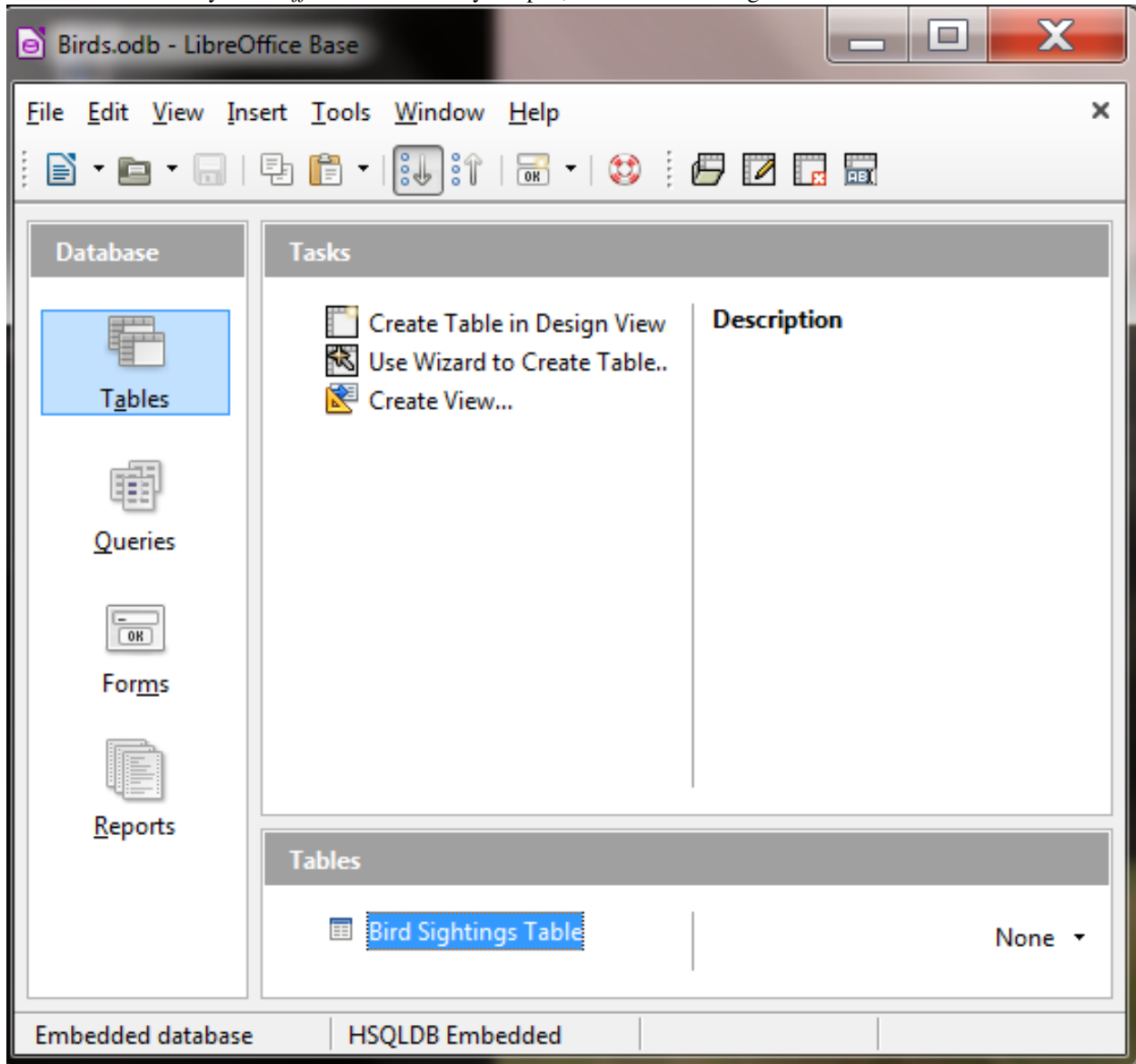


Fig. 6.2 The *Base* database objects

Let's take a look at each of these objects now to see how they can be used to help you organize and access the information collected into a database (in this case a database of information about different birds).

- A **Table** is the fundamental object in a relational database and tables use rows and columns to present the data—rather like a spreadsheet. You will learn about Tables and in this lesson, as well as how to use the *Design View* to create a table, add fields to a table, and define the type of data that is in a specific field.

- A **Query** makes a request to the database, asking it to find some specific data that are stored in the database. You will learn more about queries in Lesson 7.
- A **Form** gives the user another way of looking at the data in the database. Whereas a Table allows the user to view many records at once, a Form displays the contents of just *one record at a time*. Forms are very useful for entering data into new records or updating the data in existing records. You will learn about Forms in this lesson.
- A **Report** is used to present a selected set of information from a database in a format that is neatly laid out and thus easier for the user to mentally digest. You will learn about reports in Lesson 7.

Base database terminology

A *Base* database is able to contain thousands, hundreds of thousands, even millions of records. Records contain *fields*. Each field contains *entries* made up of text and numbers, which are the basic building blocks of data.

6.2 LET'S TAKE A LOOK AT AN EXISTING BASE DATABASE

It will be useful for you at this stage to see an actual *Base* database.

Open **LibreOffice > Base Database**

Base presents you with the Database Wizard dialog box (Fig. 6.3).

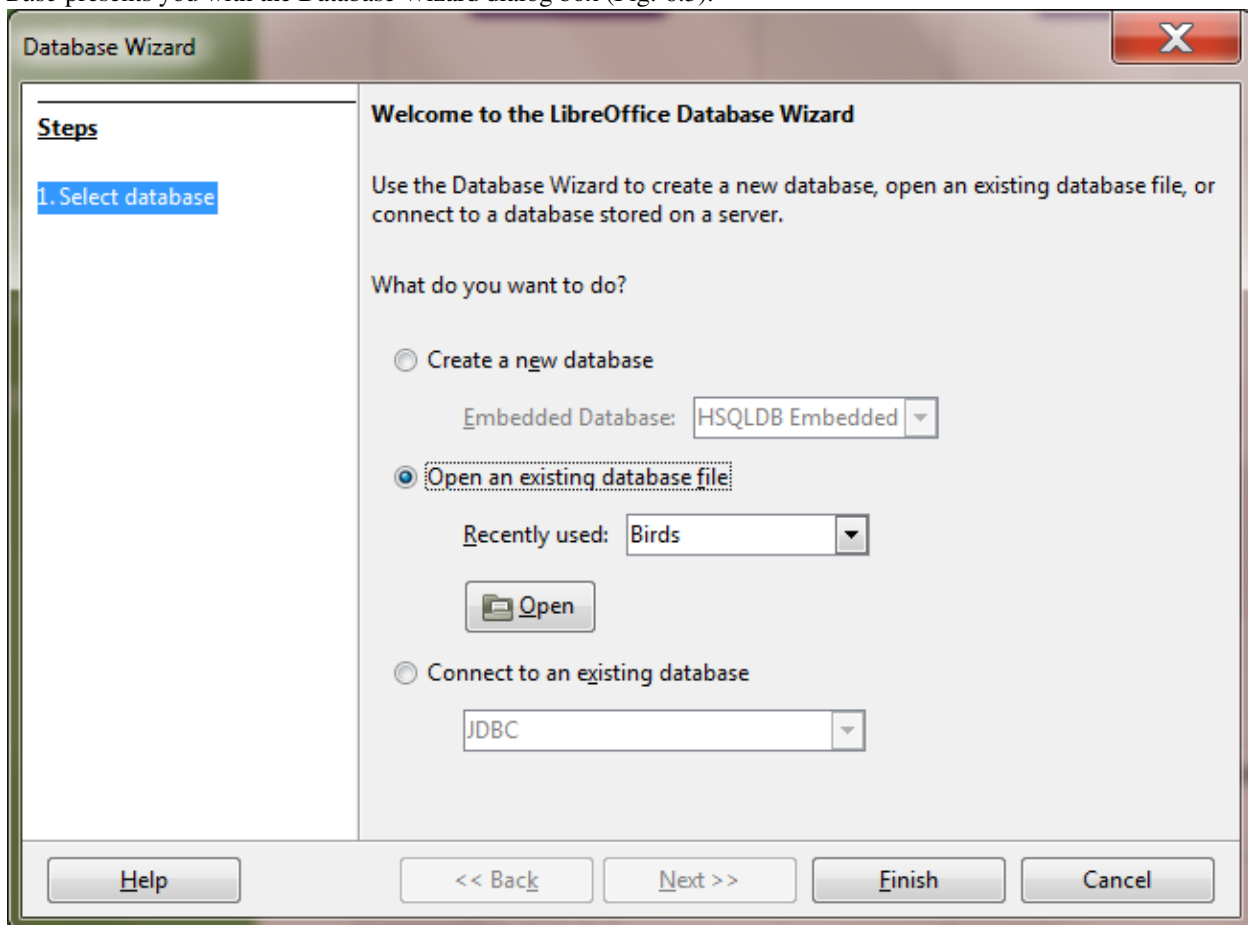


Fig. 6.3 The Database Wizard dialog box

This Wizard will step you through the process of either *creating* a new database or *opening* an existing database or even connecting to an existing database online.

Since you haven't yet opened any *Base* files, you are offered the opportunity to *Create* a new database. But instead you are going to open a database that has already been created for you to work with in this first section of the tutorial.

So, as illustrated in **Fig. 6.3 on the previous page**, click on the **radio button** next to **Open an existing database file**, then click on the **Open** button

This brings up the Open window.

In the **Open window**, navigate to your **USB drive > Work Files for LibreOffice** folder > **Base Files** folder and **double click** on the **Birds** database to **Open** it

In the Birds database dialog box you see the icons for the *LibreOffice Base* database objects (Tables, Queries, Forms, and Reports), which are listed one of top of the other in the *Database* menu on the *left side* of the Birds database window (Fig. 6.4).

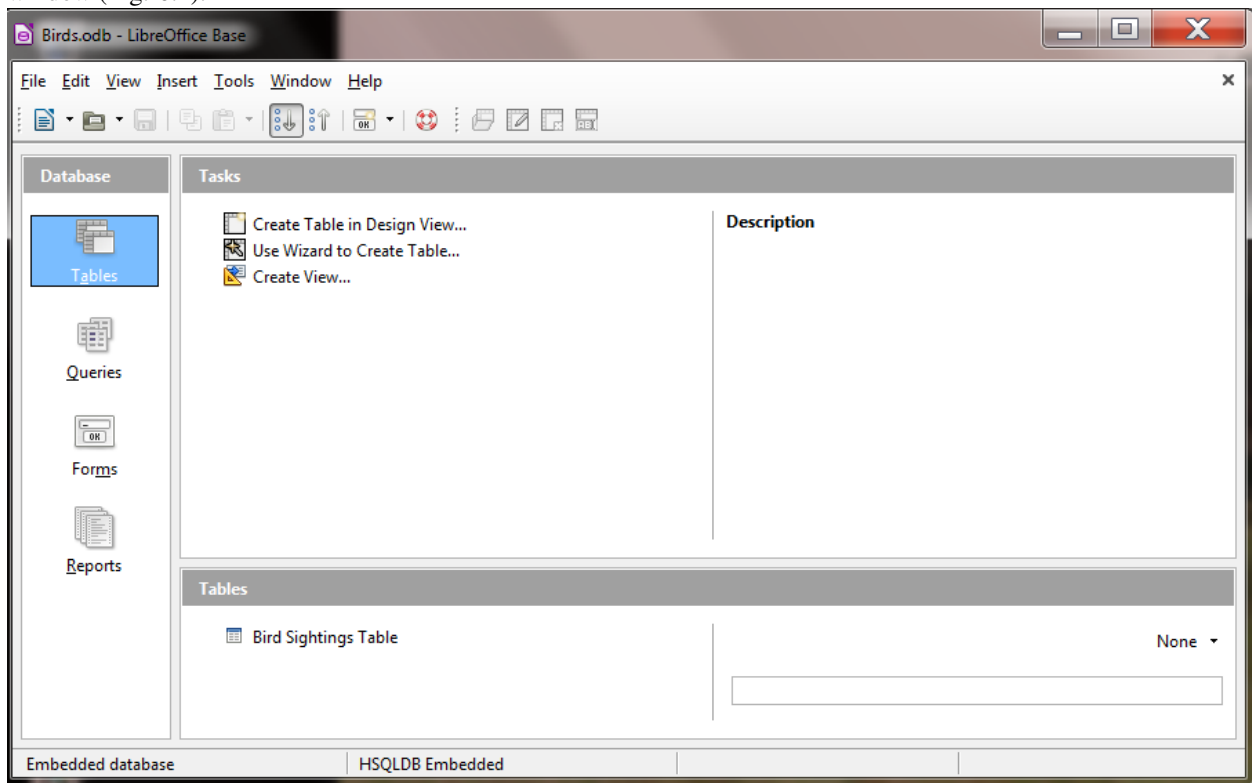


Fig. 6.4 How do you want to view the data in the database?

One way to view the data is as a *Table*, where the data for all the records in the database are displayed in columns or as a list—much like in a spreadsheet (Fig. 6.5).

Common Name	Family	Size	Color1	Color 2	Habitat	Date Sighted	Location Sighted	Weather	Count
Purple Martin	Swallow	medium	blue	black	woods	9/1/1993	woods near home	sunny, warm	2
Redhead	Duck	large	red	black, gray	lakes	9/1/1993	lake	sunny, warm	6
Northern shoveler	Duck	large	green	white, brown	marshes	9/1/1993	lake	sunny, warm	8
Black-crowned Night Heron	Heron	very large	blackish green	gray	freshwater	9/1/1993	lake	sunny, warm	2
Barn Swallow	Swallow	small	bluish black	cinnamon	open country near	9/1/1993	fields near school	sunny, warm	3
American Bittern	Heron	very large	brown	black	marshes	9/1/1993	lake	sunny, warm	5
Ring-necked Duck	Duck	large	black	gray, purple	lakes	9/1/1993	lake	sunny, warm	2
Mallard	Duck	very large	green	white, brown	marshes	9/8/1993	riverbank	sunny, cool	4
Gadwall	Duck	large	gray	brown	marshes	9/8/1993	lake	sunny, cool	10
Green-winged Teal	Duck	large	green	gray	marshes	9/8/1993	lake	sunny, cool	3
American Coot	Rail	large	gray	black	marshes	9/8/1993	riverbank	sunny, cool	2
Pintail	Duck	very large	brown	white, gray	marshes	9/8/1993	lake	sunny, cool	15
Common Snipe	Sandpiper	medium	brown		marshes	10/1/1993	lake	cloudy, cool	1
Solitary Sandpiper	Sandpiper	medium	gray	white	lakes	10/1/1993	lake	cloudy, cool	1
Killdeer	Plover	medium	gray	brown	fields	10/1/1993	fields near school	cloudy, cool	1
Canada Goose	Duck	very large	grayish brown	white	marshes	10/1/1993	lake	cloudy, cool	25
Marsh Hawk	Hawk	large	gray	white, red	marshes	10/3/1993	lake	cloudy, cool	2
Virginia Rail	Rail	medium	gray	cinnamon, white	marshes	10/3/1993	lake	cloudy, cool	50
Common Yellowthroat	Wood Warbler	small	black	green, yellow	meadows	10/10/1995	fields near school	sunny, cool	2
Red-winged Blackbird	Oriole	medium	black	red	marshes	10/16/1996	lake	cloudy, cool	1
Hooded Merganser	Duck	large	black	white, cinnamon	lakes	10/16/1994	lake	cloudy, cool	3
Screech Owl	Owl	medium	gray	brown	woods	10/30/1996	woods near home	sunny, cold	1
Tree Sparrow	Finch	small	brown	white	fields	10/31/1996	fields near school	cloudy, cool	15
Turkey	Turkey	very large	brown	blue	woods	11/1/1995	woods near home	cloudy, cold	4
Ring-necked Pheasant	Pheasant	very large	green	black, brown	woods	11/6/1997	woods near home	cloudy, cold	2
Rock Dove	Pigeon	large	gray	blue, white	cities	12/1/1997	city park	cloudy, cold	5
House Sparrow	Weaver Finch	small	brown	black	cities	12/20/1997	backyard	cloudy, cold	10
Starling	Starling	medium	black	green, purple	cities	2/21/1994	city park	cloudy, cold	20
Common Flicker	Woodpecker	mlarge	brown	white, gray	woods	3/24/1995	backyard	sunny, cold	1
Chimney Swift	Swift	small	brown		woods	3/25/1994	woods near home	sunny, cold	1
Whip-poor-will	Nightjar	medium	gray	brown	woods	3/25/1997	woods near home	sunny, cold	2
American Robin	Thrush	medium	brown	red	cities	4/1/1997	backyard	sunny, cool	6
House Finch	Finch	small	red		woods	4/2/1997	woods near home	cloudy, cool	3
American Redstart	Wood Warbler	small	black	white, orange	woods	4/15/1995	riverbank	sunny, warm	2
Northern Oriole	Oriole	medium	black	orange	woods	4/15/1995	backyard	sunny, warm	2
Cardinal	Finch	medium	red		woods	4/15/1995	backyard	sunny, warm	2
Yellow-breasted Chat	Wood Warbler	medium	brown	gray	meadows	4/15/1996	fields near school	sunny, warm	1
Yellow Warbler	Wood Warbler	small	brown	yellow	woods	4/15/1996	city park	sunny, warm	2
Gray Catbird	Mockingbird	medium	gray	black, brown	woods	4/15/1996	woods near home	sunny, warm	1
Willow Flycatcher	Tyrant Flycatcher	medium	olive	brown	marshes	5/1/1994	lake	sunny, cool	1
Black-capped Chickadee	Titmouse	small	gray	black, white	woods	5/1/1995	woods near home	sunny, cool	4
Warbling Vireo	Vireo	small	olive	gray	woods	5/1/1997	woods near home	sunny, cool	2
Orange-crowned Warbler	Wood Warbler	small	green	orange	woods	5/1/1997	woods near home	sunny, cool	1
Common Grackle	Oriole	large	black	green, purple	marshes	5/21/1994	lake	sunny, warm	25
Bewick's Wren	Wren	small	brown	white, gray	woods	5/21/1995	woods near home	sunny, warm	2
Brown-headed Cowbird	Oriole	medium	green	black	woods	5/21/1996	woods near home	sunny, warm	1
Common Crow	Crow	large	black		rivers, meadows	5/21/1996	backyard	sunny, warm	5
Veery	Thrush	medium	brown	buff	woods	5/21/1997	woods near home	sunny, warm	1
Song Sparrow	Finch	medium	brown	white	marshes	5/21/1997	fields near school	sunny, warm	3
House Wren	Wren	small	gray	brown	woods	5/21/1997	woods near home	sunny, warm	2

Fig. 6.5 The Table View of the database

In the upper left corner of the Table window, in the window's Title bar, you see the Table name—Bird Sightings Table (Fig. 6.5 previous page).

In the lower left of the Table window are tools for you to access specific records in the database (Fig. 6.6).

Common Name	Family	Size	Color1	Color 2	Habitat	Date Sighted	Location Sighted	Weather	Count
Purple Martin	Swallow	medium	blue	black	woods	9/1/1993	woods near home	sunny, warm	2
Redhead	Duck	large	red	black, gray	lakes	9/1/1993	lake	sunny, warm	6
Northern shoveler	Duck	large	green	white, brown	marshes	9/1/1993	lake	sunny, warm	8
Black-crowned Night Heron	Heron	very large	blackish green	gray	freshwater	9/1/1993	lake	sunny, warm	2
Barn Swallow	Swallow	small	bluish black	cinnamon	open country near	9/1/1993	fields near school	sunny, warm	3
American Bittern	Heron	very large	brown	black	marshes	9/1/1993	lake	sunny, warm	5
Ring-necked Duck	Duck	large	black	gray, purple	lakes	9/1/1993	lake	sunny, warm	2
Mallard	Duck	very large	green	white, brown	marshes	9/8/1993	riverbank	sunny, cool	4
Gadwall	Duck	large	gray	brown	marshes	9/8/1993	lake	sunny, cool	10
Green-winged Teal	Duck	large	green	gray	marshes	9/8/1993	lake	sunny, cool	3
American Coot	Rail	large	gray	black	marshes	9/8/1993	riverbank	sunny, cool	2
Pintail	Duck	very large	brown	white, gray	marshes	9/8/1993	lake	sunny, cool	15
Common Snipe	Sandpiper	medium	brown		marshes	10/1/1993	lake	cloudy, cool	1
Solitary Sandpiper	Sandpiper	medium	gray	white	lakes	10/1/1993	lake	cloudy, cool	1
Killdeer	Plover	medium	gray	brown	fields	10/1/1993	fields near school	cloudy, cool	1
Canada Goose	Duck	very large	grayish brown	white	marshes	10/1/1993	lake	cloudy, cool	25
Marsh Hawk	Hawk	large	gray	white, red	marshes	10/3/1993	lake	cloudy, cool	2
Virginia Rail	Rail	medium	gray	cinnamon, white	marshes	10/3/1993	lake	cloudy, cool	50
Common Yellowthroat	Wood Warbler	small	black	green, yellow	meadows	10/10/1995	fields near school	sunny, cool	2
Red-winged Blackbird	Oriole	medium	black	red	marshes	10/16/1996	lake	cloudy, cool	1
Hooded Merganser	Duck	large	black	white, cinnamon	lakes	10/16/1994	lake	cloudy, cool	3
Screech Owl	Owl	medium	gray	brown	woods	10/30/1996	woods near home	sunny, cold	1
Tree Sparrow	Finch	small	brown	white	fields	10/31/1996	fields near school	cloudy, cool	15
Turkey	Turkey	very large	brown	blue	woods	11/1/1995	woods near home	cloudy, cold	4
Ring-necked Pheasant	Pheasant	very large	green	black, brown	woods	11/6/1997	woods near home	cloudy, cold	2
Rock Dove	Pigeon	large	gray	blue, white	cities	12/1/1997	city park	cloudy, cold	5
House Sparrow	Weaver Finch	small	brown	black	cities	12/20/1997	backyard	cloudy, cold	10
Starling	Starling	medium	black	green, purple	cities	2/21/1994	city park	cloudy, cold	20
Common Flicker	Woodpecker	mlarge	brown	white, gray	woods	3/24/1995	backyard	sunny, cold	1
Chimney Swift	Swift	small	brown		woods	3/25/1994	woods near home	sunny, cold	1
Whip-poor-will	Nightjar	medium	gray	brown	woods	3/25/1997	woods near home	sunny, cold	2
American Robin	Thrush	medium	brown	red	cities	4/1/1997	backyard	sunny, cool	6
House Finch	Finch	small	red		woods	4/2/1997	woods near home	cloudy, cool	3
American Redstart	Wood Warbler	small	black	white, orange	woods	4/15/1995	riverbank	sunny, warm	2
Northern Oriole	Oriole	medium	black	orange	woods	4/15/1995	backyard	sunny, warm	2
Cardinal	Finch	medium	red		woods	4/15/1995	backyard	sunny, warm	2
Yellow-breasted Chat	Wood Warbler	medium	brown	gray	meadows	4/15/1996	fields near school	sunny, warm	1
Yellow Warbler	Wood Warbler	small	brown	yellow	woods	4/15/1996	city park	sunny, warm	2
Gray Catbird	Mockingbird	medium	gray	black, brown	woods	4/15/1996	woods near home	sunny, warm	1
Willow Flycatcher	Tyrant Flycatcher	medium	olive	brown	marshes	5/1/1994	lake	sunny, cool	1
Black-capped Chickadee	Titmouse	small	gray	black, white	woods	5/1/1995	woods near home	sunny, cool	4
Warbling Vireo	Vireo	small	olive	gray	woods	5/1/1997	woods near home	sunny, cool	2
Orange-crowned Warbler	Wood Warbler	small	green	orange	woods	5/1/1997	woods near home	sunny, cool	1
Common Grackle	Oriole	large	black	green, purple	marshes	5/21/1994	lake	sunny, warm	25
Bewick's Wren	Wren	small	brown	white, gray	woods	5/21/1995	woods near home	sunny, warm	2
Brown-headed Cowbird	Oriole	medium	green	black	woods	5/21/1996	woods near home	sunny, warm	1
Common Crow	Crow	large	black		rivers, meadows	5/21/1996	backyard	sunny, warm	5
Veery	Thrush	medium	brown	buff	woods	5/21/1997	woods near home	sunny, warm	1
Song Sparrow	Finch	medium	brown	white	marshes	5/21/1997	fields near school	sunny, warm	3
House Wren	Wren	small	gray	brown	woods	5/21/1997	woods near home	sunny, warm	2

Record 1 of 50

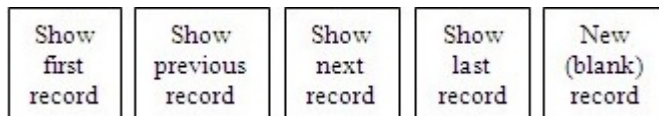


Fig. 6.6 Navigation tools in the *Base* database

There are 50 records in the *Birds* database. The field names (Common Name, Family, Size, etc.) are at the top of each column of data (Fig. 6.5 previous page). As you can see, the screen is not big enough to allow you simultaneously to see *all* the records in the database. If you want to scroll through the records or look at any specific record, you have several options.

You can use the scroll bar on the right of the screen to scroll through the records.

Try this now

To move *one by one* through the records, you can click left or right on the arrows in the navigation tools in the lower left of the window (Fig. 6.6 above).

Try this now

To go directly to a specific record, you can select the number of the record you want to view by typing the number of that record in the small data entry box to the left of the arrows (Fig. 6.6).

Try this now to select record **12** (type the number **12** in the box then hit **Enter**) and you'll see a small green arrow head pointing at the **record #12** in the database table (it's a bird called a **Pintail**)

6.3 planning A NEW DATABASE

So much for the nuts and bolts of databases. You are now ready to get your feet wet planning your own database of student records.

Click on the **Table's File menu** and select **Close** to close the **Bird Sightings Table**, then in the **Birds Database File menu** select **Close** again

Points to ponder when planning a database

There are three rules of database design:

Rule 1—Plan;

Rule 2—Plan;

Rule 3—Plan!

The more complex the data, the more you need to plan. But even the simplest database should be thought through on paper before being created in *Base*. Poor planning often results in a database that fails to meet longer term needs.

So think about your database ahead of time—and PLAN!!

6.4 CREATing the DATABASE TEMPLATE

You are going to start a new database for Student Records, which initially will be a *template* for a database of student records because it won't contain any actual records right away. This way you'll be able to use this template database for future groups of students you may have.

Open **LibreOffice > Base Database** then, in the **Database Wizard** which pops up on the screen, make sure the **radio button** next to **Create a new database** is **on** and click on ****Next**

**** (Fig. 6.7)**

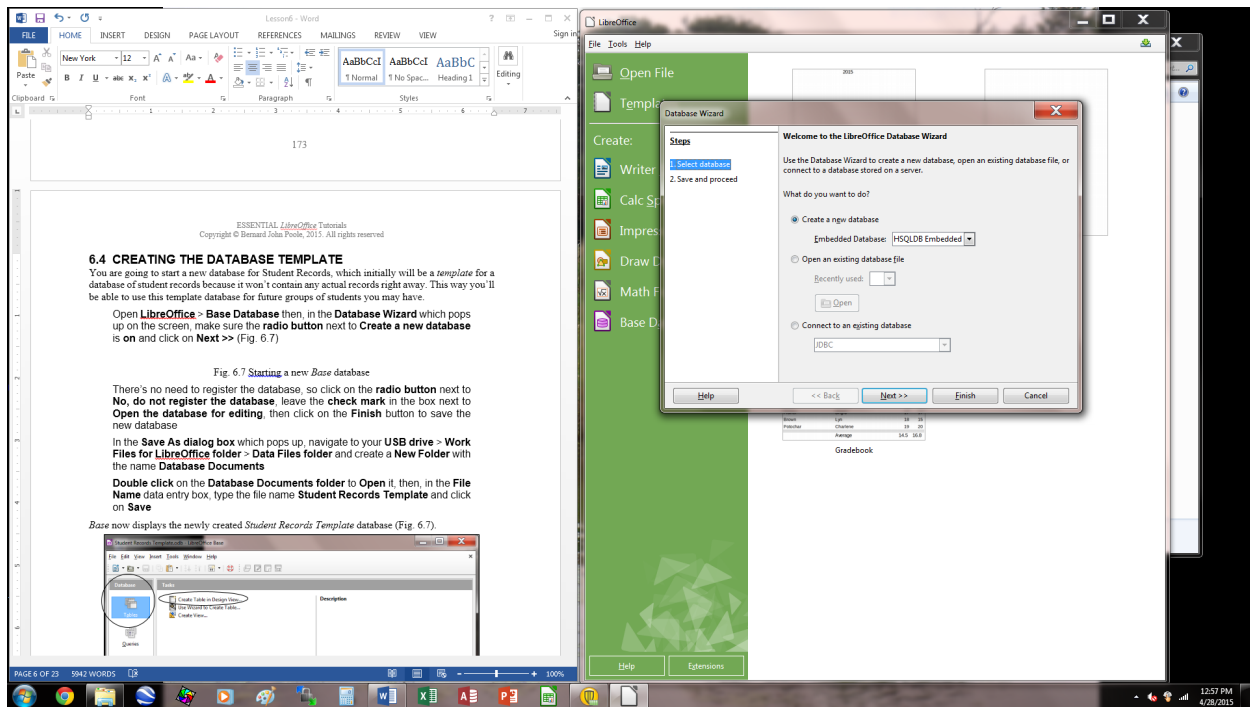


Fig. 6.7 Starting a new *Base* database

There's no need to register the database, so click on the **radio button** next to **No, do not register the database**, leave the **check mark** in the box next to **Open the database for editing**, then click on the **Finish** button to save the new database

In the **Save As** dialog box which pops up, navigate to your **USB drive > Work Files for LibreOffice folder > Data Files folder** and create a **New Folder** with the name **Database Documents**

Double click on the **Database Documents folder** to **Open** it, then, in the **File Name** data entry box, type the file name **Student Records Template** and click on **Save**

Base now displays the newly created *Student Records Template* database (Fig. 6.8).

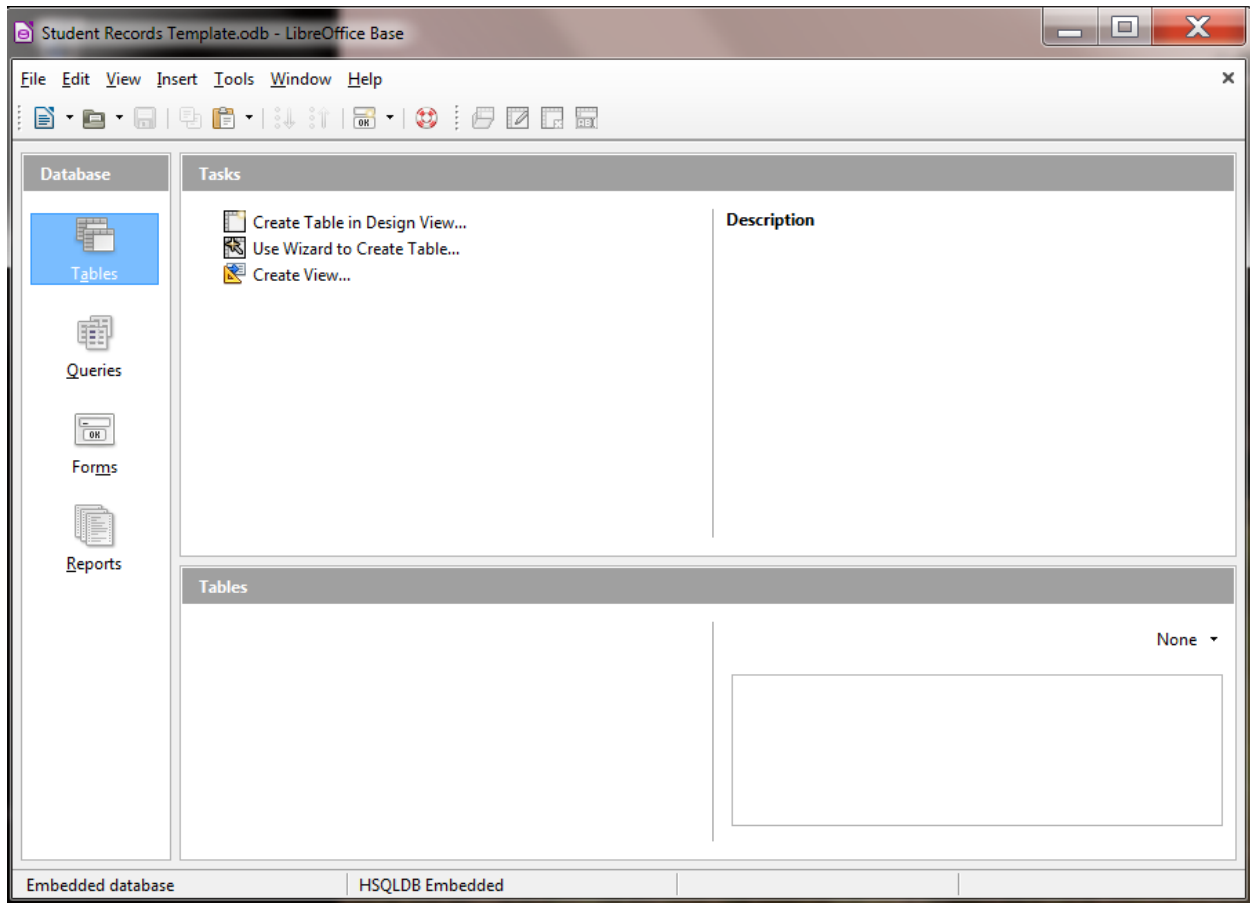


Fig. 6.8 The new Student Records Template database

Notice, in the *Database* frame on the left side of the *Base* window, that the *Tables* object is selected (highlighted in blue). A Table is the default object in a new *Base* database. To the *immediate right* of the Database frame, in the *Tasks* frame, there are *three options*, the first of which is what we want.

Click once on the **Create Table in Design View** option (Fig. 6.8 above)

Immediately you are presented with the Table Design dialog box (Fig. 6.9)

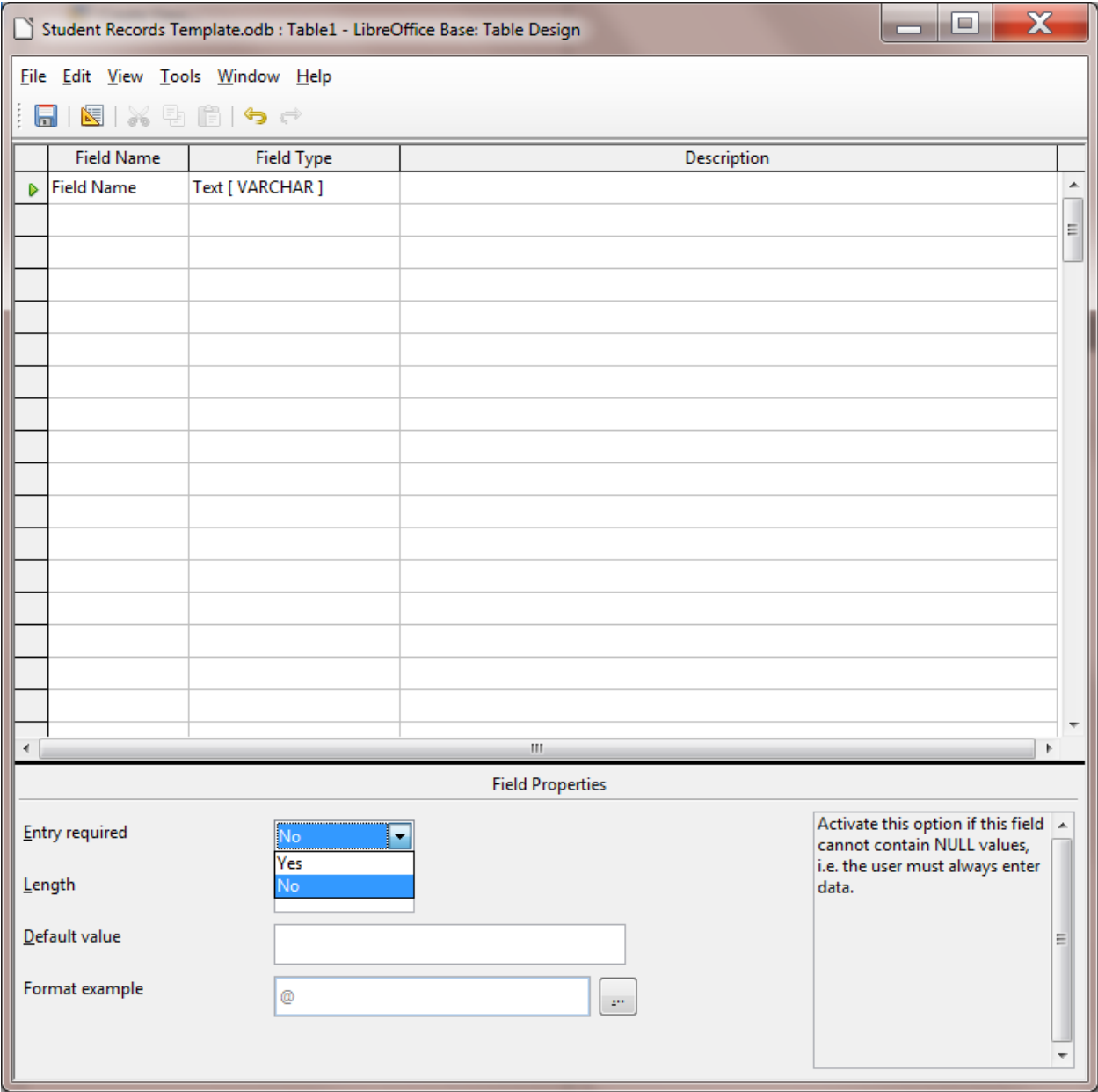


Fig. 6.9 Table Design dialog box, waiting for you to fill out Field entries

On the screen, *Base* is waiting for you to begin typing in the field names. Before you enter the field names, however, read what follows.

Editing field names Remember, you’re building a template so that you can use it for other student record databases at a future date. You can easily change, add or delete fields at any time, though the purpose of planning is to try your best to avoid having to make significant changes after the database has been created.

Selecting the data type of a field As illustrated in Fig. 6.9 (previous page), after typing in the field name in the first column, you’ll need to enter the *field’s data type* in the second column. Table 6.1 below has all this information, too.

Entering field names for the database

Table 6.1 contains the complete list of field names for the Student Records Template database.

Field Name	>	Field Type	Required	Length	Format	Example
First Name	>	Text	Yes	15		
Middle Name	>	Text	Yes	15		
Last Name	>	Text	Yes	15		
Home Contact	>	Text	Yes	30		
Nick Name	>	Text	No	15		
Gender	>	Text	Yes	6		
Address Line 1	>	Text	Yes	50		
City	>	Text	Yes	25		
State	>	Text	Yes	2		
Zip Code	>	Text	Yes	10		
Phone Number	>	Text	No	12		
Email Address	>	Text	No	40		
Date of Birth	>	Text	Yes		- January 1, 1998	
Brothers	>	Number	Yes	2		
Sisters	>	Number	Yes	2		
Place in Family	>	Number	Yes	2		
Clubs	>	Memo	No			
Hobbies	>	Memo	No			
Favorite Sports	>	Memo	No			
Favorite Subjects	>	Memo	No			

Table 6.1 Template Field Name listing

You'll be referring to this Table frequently as you work your way through the next several pages, so you might like to bookmark Table 6.1 in order to easily find the Table whenever you need to.

Type only the Field Names that appear in the *first column* of Table 6.1 (there are 20 field names in all). The second column tells you what Data Type to choose (from a drop down list that pops up when you click on the down arrow at the right side of the entry box).

The other columns in the table (Required, Length, and Format Example columns) are there to help you as you enter each field name and data type and explain whether data is to be "Required" for that field and what size (in text characters) and format the field is allowed to be.

Now you're ready to begin entering the data listed in Table 6.1 above into the Table Design dialog box

Click in the **first** entry box in the **Field Name** column, then type **First Name** for the field name (Fig. 6.10)

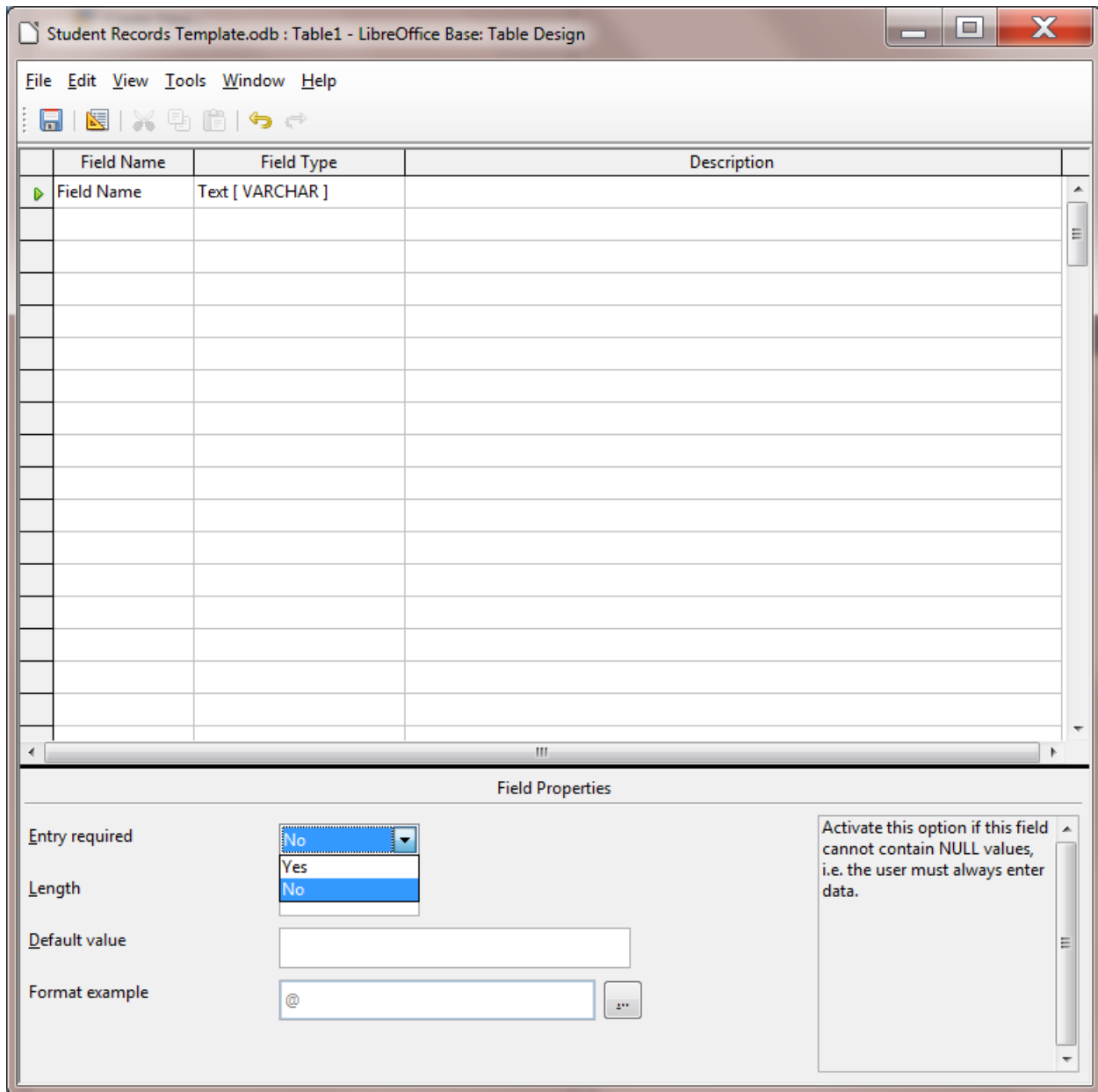


Fig. 6.10 Field Properties and Help

Notice that, in the *lower right* section of the Student Records Table window (Fig. 6.10 above), *Base* provides help to guide you as you enter the data for each part of each field. Read this help as you go along. In the *lower left* you can see the *Field Properties* dialog area.

If you take a look at Table 6.1 on page 176, the *Length* column specifies the number of characters required for several of the fields in the database.

Check **Table 6.1** to find out whether an entry is **required** for the **First Name** field (the answer is **Yes**) and the **correct size** for the **First Name** field (the answer is **15** characters)

Now, look down at the **lower left corner** of the **Table Design window** (Fig. 6.9 again), where you can see a list of **Field Properties**, along with data entry boxes to specify whether an entry is **required**, the entry's **Length**, **Format example**, and so forth

In the **Entry Required** box select **Yes**, and in the **Length** box type **15** (so as to allow up to 15 characters

for the **First Name**)

Hit the **Tab** key to move the cursor over to the **Field Type** column, click on the **down arrow** to the **right** of the box and select **Text [VARCHAR]** as the data type

Now click in the **second Field Name box** (below the **First Name** box) so you can enter the next database field name

Enter the field names **Middle Name (15 characters)**, **Last Name (15 characters)**, **Home Contact (30 characters)**, in each case making sure you have **Yes** in the **Entry Required** Field Property for each of these fields

Now enter the field name **Nick Name (15 characters)**, but leave **No** in the **Required** Field Property box, since a Nick Name is **optional**

Next enter the following field names, in each case making sure you have **Yes** in the **Entry Required** Field Property for each of the fields:

Gender (M/F) (1 character)

Address Line 1 (50 characters)

City (25 characters)

State (2 characters)

Zip Code (10 characters),

Now enter the field name **Phone Number (12 characters)**, and **Email Address (40 characters)** but leave **No** in the **Required** Field Property box in case a student's family does not have a phone or email address

Using a Format example to control the format for a field

You want to make sure that certain fields have a consistent format, such as the Date of Birth field, which is next in the listing in Table 6.1 on page 176, you want to select *[DATE]* as the data type for the field, and select a **Format example** for it, too.

Here's how you do this.

Enter the next field name **Date of Birth**, then in the **Field Type** column click on the **arrow** to bring down the **menu of Field Types**

Select the Field Type **Date [Date]** then, in the **Field Properties** area click on the **ellipses** at the end of the **Format example** option (Fig. 6.11)

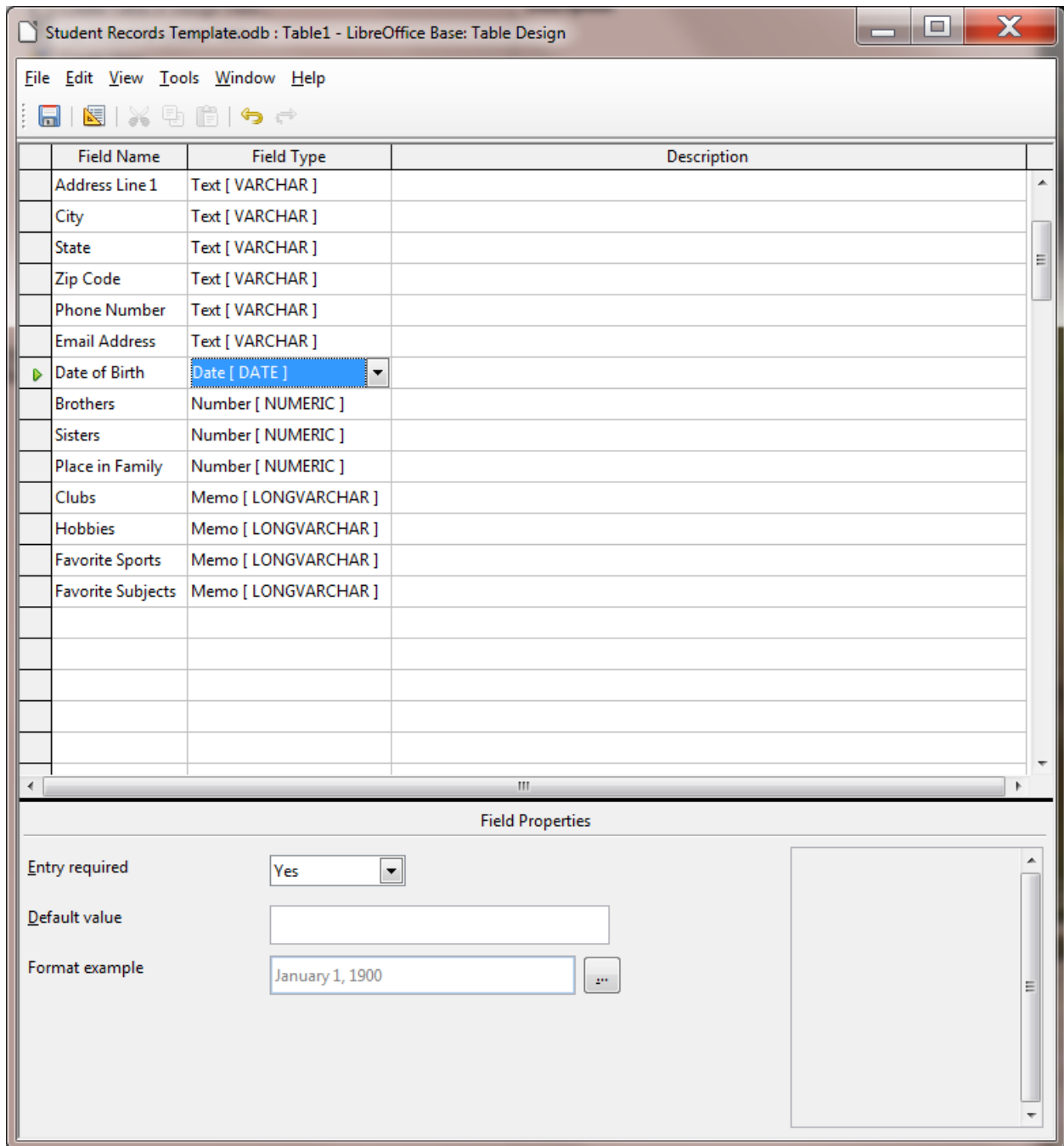


Fig. 6.11 Click on the ellipses to specify a Format example for the Date of Birth field

In the **Format** tab > **Category** select **Date**, then under **Format** select the option (December 31, 1999) highlighted in Fig. 6.12

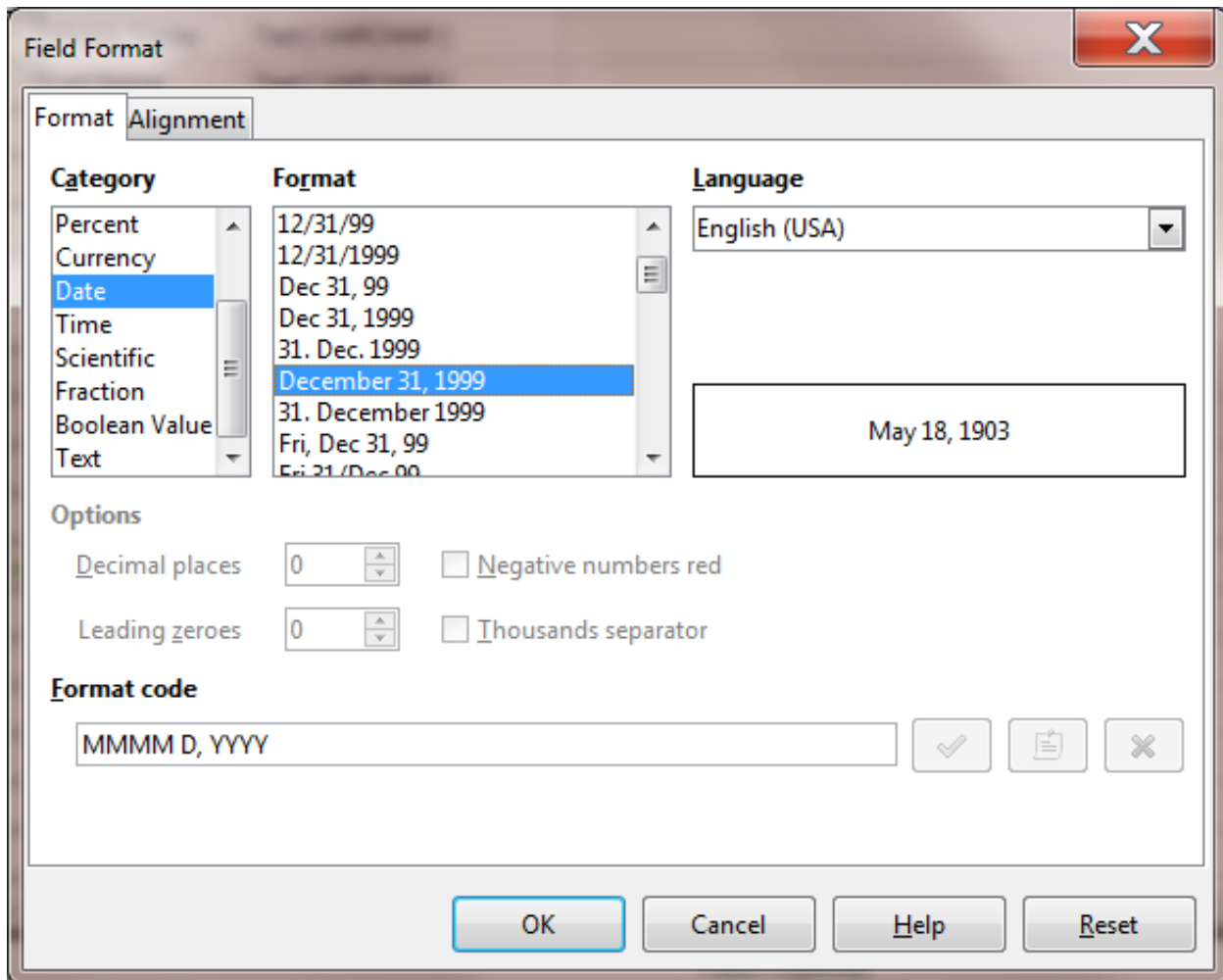


Fig. 6.12 Selecting a Format example in the Field Format dialog box

The remaining fields in the database (Clubs, Hobbies, Favorite Sports, and Favorite Subjects) will all be *Memo* data type to allow the user to type a longer entry if desired. Notice, in the Table on page 188, that data entries for these memo fields are optional, so *No* will be the answer to *Entry required*.

For each of the **last four database field names** (Clubs, Hobbies, Favorite Sports, and Favorite Subjects) select the Field type **Memo** and select **NO** for **Entry required**

When you have completed the entries for **all 20 field names**, select **File > Save As...** (Fig. 6.13), and, in the **Save As dialog box** type the name **Student Records Table** and click on **OK**

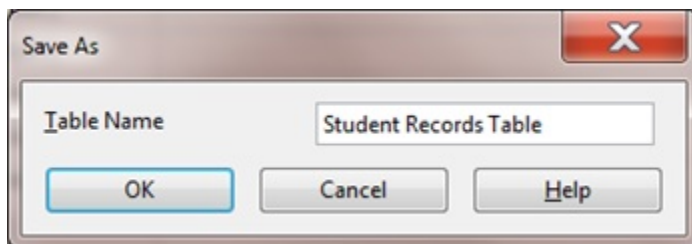


Fig. 6.13 Naming the Table

Whenever you attempt to save a *new LibreOffice Base* table for the first time, you are asked to define a *Primary Key* for the Table (Fig. 6.14).

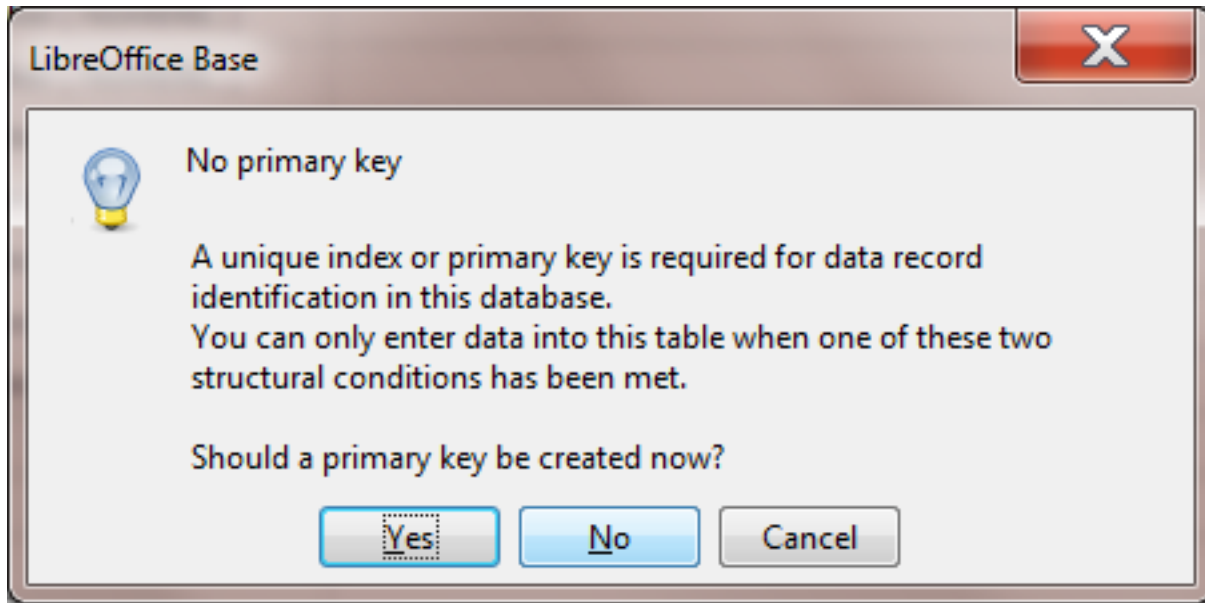


Fig. 6.14 Prompt to define a Primary Key

So what is a Primary Key in a database?

The purpose of a Primary Key is to enable easy manipulation of the data across multiple database objects. If, for example, you were designing a database for an administrative application in the Principal's or Superintendent's office, or for a sizable company, this would be an important consideration, because your database would be large, and there would be many ways of looking at the data in the database (called "views" on the data) represented by different tables.

Click on **Yes** to tell *Base* that you *do* need a **Primary Key field** in the database, then go to **File > Close** to close the **Table Design window**

6.5 COMPLETING PREPARATION OF THE DATABASE TEMPLATE

Creating a Form for the new database

The following exercises will help you learn how to prepare a database Form.

A Form is a database object which allows you to view the data one record at a time, unlike a Table where you can view the data as a continuous list of records—recall how the Table looked in the Birds database you checked out at the beginning of this tutorial.

A Form is a convenient tool for data entry purposes because it allows the user to see all the Field entries *in a single record* at one time, unlike the Table view, which will often be unable to show all the data fields of a single record across the screen.

Let's create a Form for our Student Records Template database now. First you need to bring up the Create Ribbon at the top of the database window.

Click on the **Create** tab to show the **Create Ribbon** at the top of the *Base* window and, in the **Forms** group, click on the **Form Wizard** dialog box (Fig. 6.15)

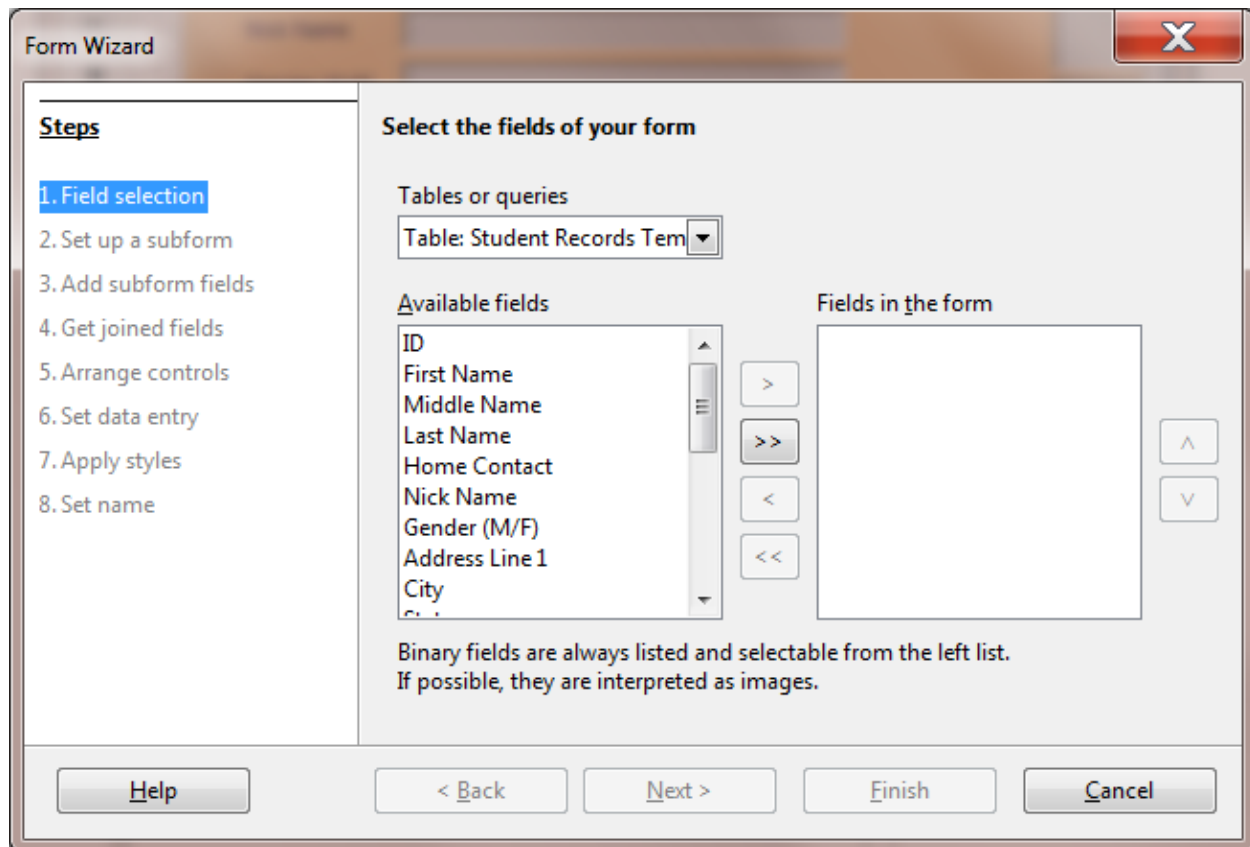


Fig. 6.15 Step 1 in the Form Wizard dialog box

As you see in Fig. 6.15 above, the Form Wizard dialog box steps you through the 8 step process of creating a Form for the Student Records Template database. Not all of the 8 Steps are relevant for our purposes, but most of them are. **Step 1** in designing a new form for the Student Records database is devoted to selecting all the fields for the new Form.

In the “**Select the fields of your form**” section (see Fig. 6.15 above), click on the **double arrow (>>)** symbol

This moves **all 20** of the fields in the **Student Records Template database**—that is to say, **All the Available fields**—over to the **Fields in the Form** box (Fig. 6.16).

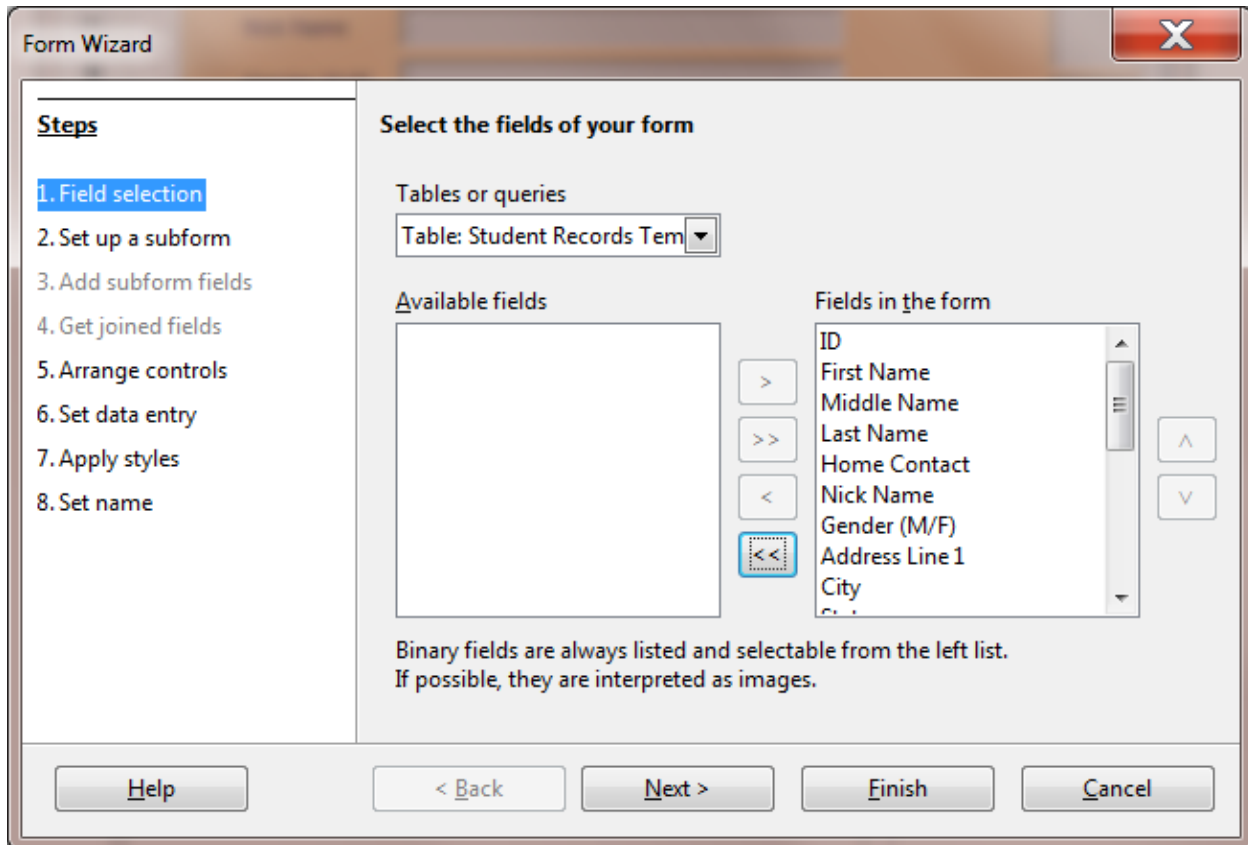


Fig. 6.16 The result of Step 1 in the Form Wizard dialog box

Step 2—Set up a Subform—this is irrelevant to our purposes in this tutorial, as are also Steps 3 and 4, so just click on **Next** and **Next** to move on to **Step 5**, where you decide on the **design controls** on your database **Form** (Fig. 6.17)

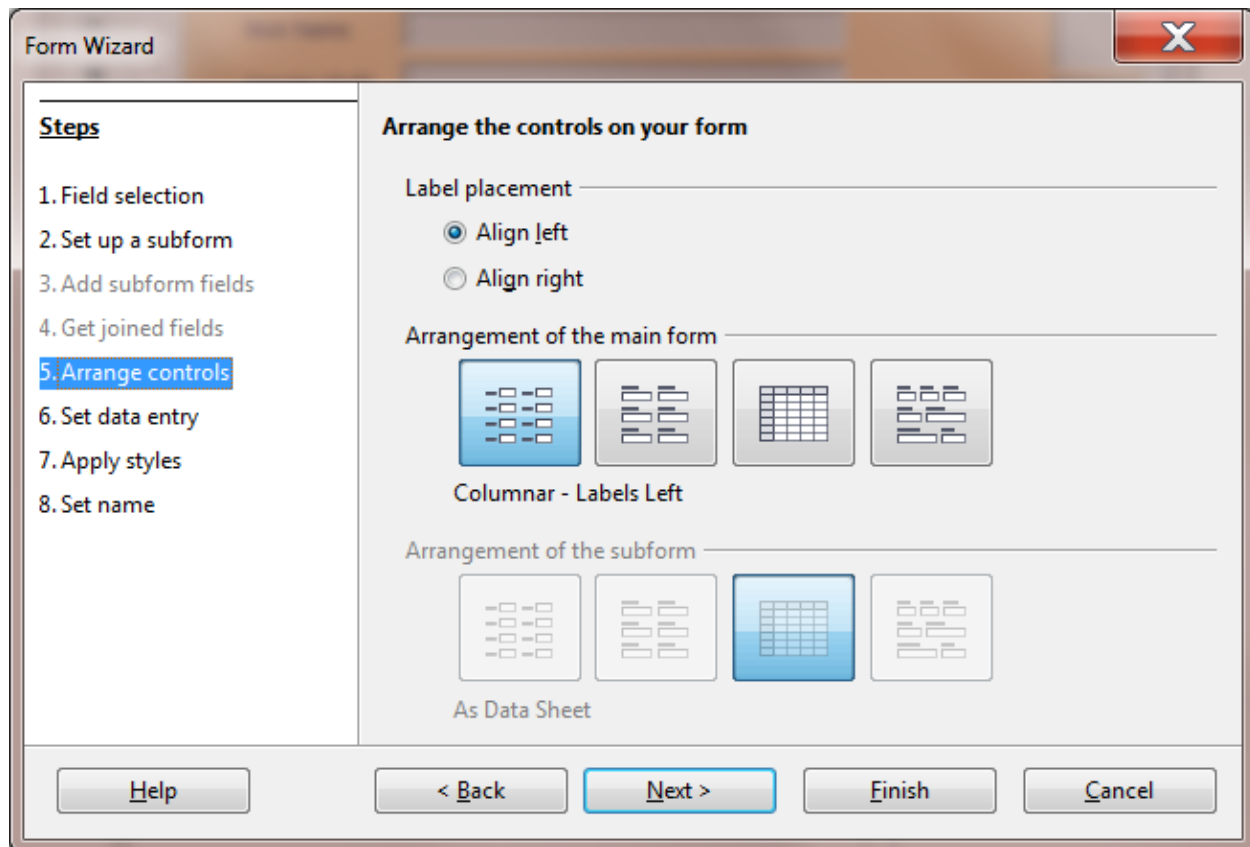


Fig. 6.17 Selecting the Arrangement of the main form

Step 5—select the **first of the four Arrangements of the main form (Columnnar – Labels left)**—Fig. 6.17 above

In **Step 6**, accept the default **data entry** for the **Form to Display all data** and click on **Next** to go to **Step 7**, where you can choose any **color and border** you like for the **Form Style** (Fig. 6.18)

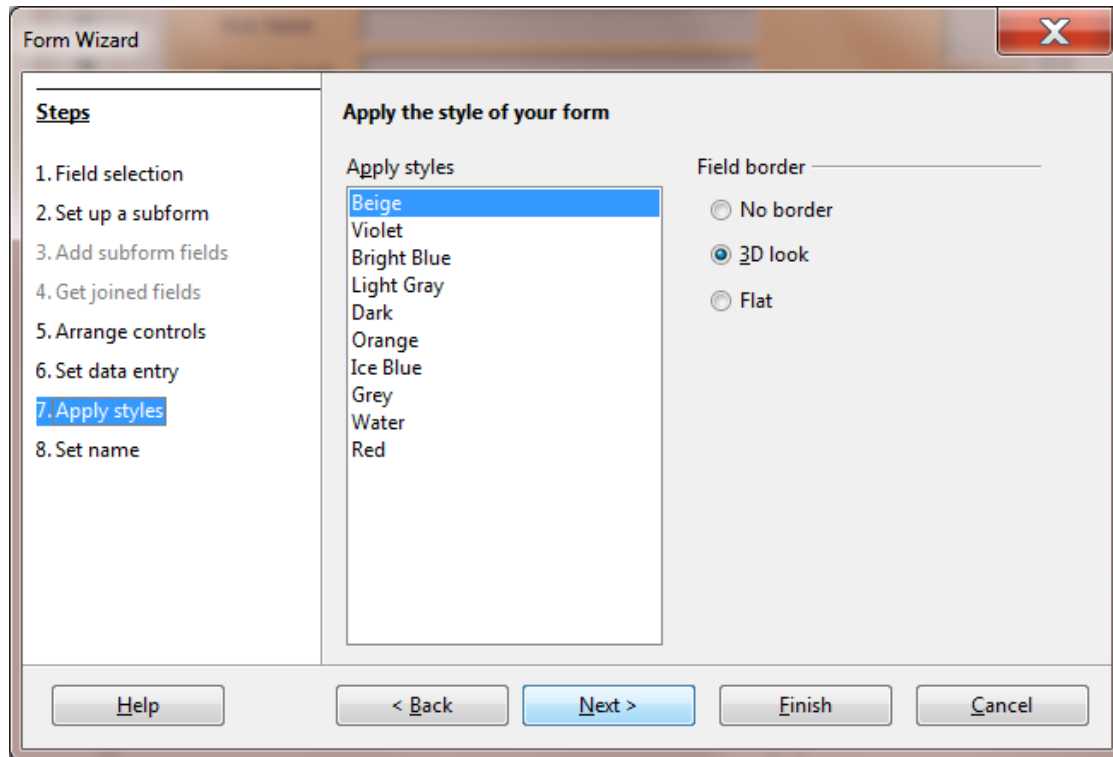


Fig. 6.18 Selecting the Style for the Form background

All that remains—**Step 8**—is to **name** the Form (**Student Records Form**) and make sure the **radio button** next to **Work with the form** is selected, then click on **Finish** (Fig. 6.19)

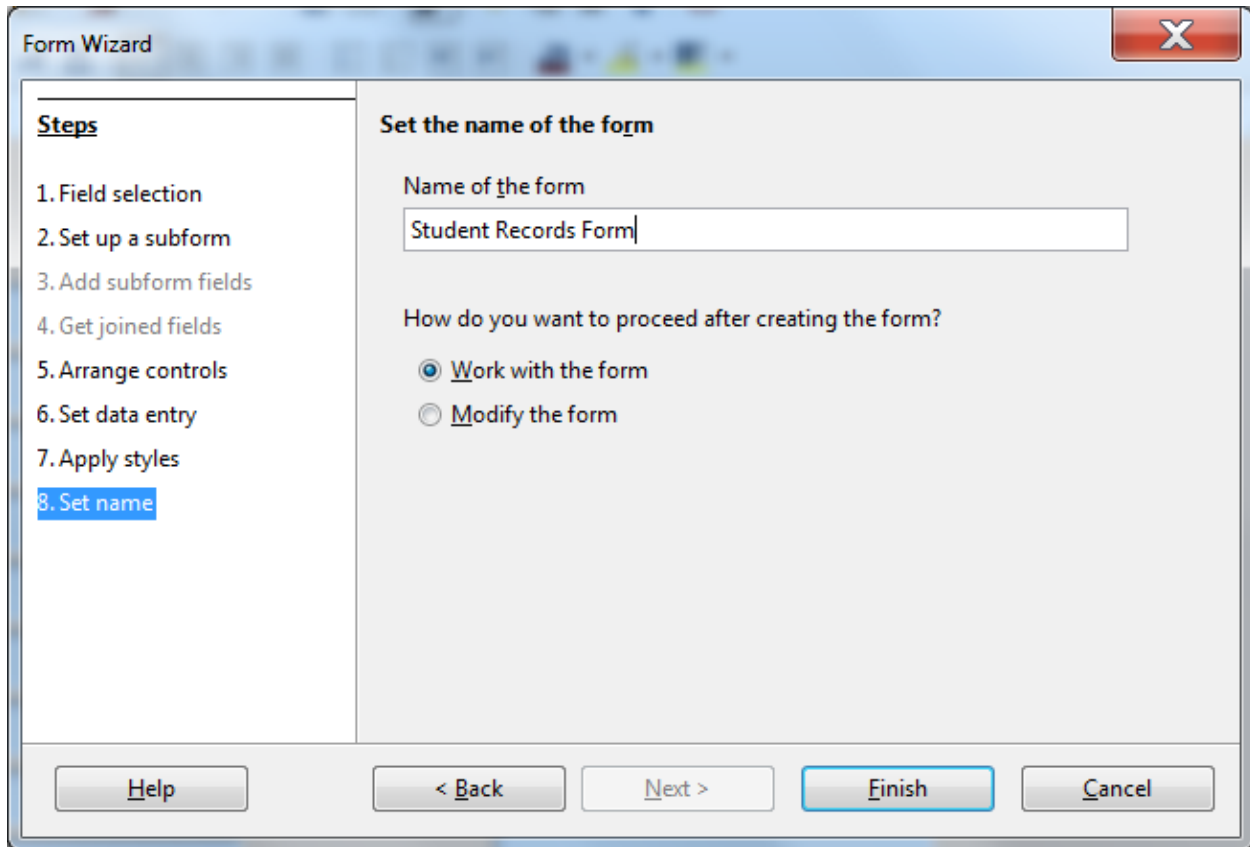


Fig. 6.19 Naming the database Form

Base finally presents the Student Records Database window, ready for you to start filling out the individual records with student data (Fig. 6.20)

Fig. 6.20 The final look of the Student Records Database form

6.6 adding records to A NEW or existing DATABASE

Creating a new database based on a Template database

The Student Records Template is so named because you want to use this same template document (with its table *Student Records Table*) and data entry form (*Student Records Form*) over and over for class records in the years ahead.

Before you start adding data about this year's students, you need to create a new database using this template as the model. For the sake of this exercise, you're going to call the new database *Fall Roster 2015* (or some other appropriate name if you prefer). The name indicates that the document will contain the database of student records for a Fall 2015 class.

The Template database should still be displayed on your screen. All you need to do is *Save* the template with the new name *Fall Roster 2015* and you're ready to add the data for the new class of students.

In the **File menu** select **Save As...** and, in the **Save As dialog box**, type the file name **Fall Roster 2015** and click on the **Save** button

Entering the data for the records in the database

The **Fall Roster 2015** database is open on your screen, so **click** in the **left hand frame** on **Forms** then, in the **Forms frame**, **double click** on **Student Records Form** to open it

Remember that each record in the Fall Roster 2015 database has a full set of 19 entries for each student. You must enter a few records at this stage (five will do for now) so that you can complete the rest of this tutorial.

Begin by selecting the **ID field** for **record #1** and enter the number **1** as the **Primary Key** for the record (the next record will have the Primary Key of **2**, and so on—the **Primary Key field must be unique**) and hit the **Tab key** to move to the next field's data entry box—the **First Name** field of **record #1**

Type in a **First Name** of a hypothetical student

The names don't have to be in any particular order since you can quickly sort them later on. Check the name you just typed. Is it correct?

If so, hit the **Tab** key again to proceed to the next field (you'd press **Shift-Tab** if you wanted to move to a previous field)

Notice that the data are now stored in the data entry box for the First Name field in Record #1. If you wanted to correct the data, you would do so by clicking in the data entry box and then make any changes as if you were in the word processor.

Continue entering data for **Record #1** (the data for the first student in a class roster); make up the data as you go along if you don't have actual students in mind

Adding a New Record to the database

After you type the **last field entry** for each record, press **Tab**, and *Base* will automatically present a **new record Form**

Base will also automatically save each completed record into the database on your disk, so you don't have to worry about losing your work as you go along, and you also won't need to save the database at the end.

Type the entries into each field one by one, starting with the ID field which will contain the next number in sequence—**2**, if it's the **second record** and so on; be sure to press the **Tab** key after each entry to get to the next field (eventually you should have **at least 5 records** in the **Fall Roster 2015** database)

Adding a record to an existing database is just the same. New records are always added at the end of the database. If you want the new record to appear in a specific place in the Datasheet view you would use the Sort function. You'll learn how to do this in Lesson 7.

The new record will always have the same layout and format characteristics as the others in the database. Also, remember that *Base* automatically saves a new record in the database after you have filled in the data for every entry.

6.7 VIEWING THE DATA IN THE DATABASE

Here are some of the ways to move about in a database. *Base* makes it easy for you to get around. Take a few moments to move from field to field and from record to record. Try these exercises.

Click anywhere in the **data box** next to a **field name**

This allows you to edit or add data if needed.

Hit the **Tab** key to move to the **next field** in the **same record**

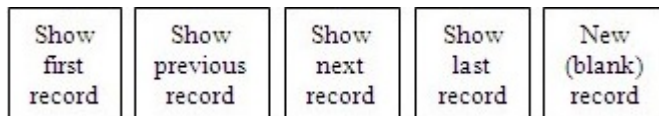
To move to the **same field** in the **next** or **previous record**, click on the left or right arrows in the **Navigation tools** at the bottom of the Form window (Fig. 6.21)

Bird Sightings Table - Birds - LibreOffice Base: Table Data View

File Edit View Insert Tools Window Help

Common Name	Family	Size	Color1	Color 2	Habitat	Date Sighted	Location Sighted	Weather	Count
Purple Martin	Swallow	medium	blue	black	woods	9/1/1993	woods near home	sunny, warm	2
Redhead	Duck	large	red	black, gray	lakes	9/1/1993	lake	sunny, warm	6
Northern shoveler	Duck	large	green	white, brown	marshes	9/1/1993	lake	sunny, warm	8
Black-crowned Night Heron	Heron	very large	blackish green	gray	freshwater	9/1/1993	lake	sunny, warm	2
Barn Swallow	Swallow	small	bluish black	cinnamon	open country near	9/1/1993	fields near school	sunny, warm	3
American Bittern	Heron	very large	brown	black	marshes	9/1/1993	lake	sunny, warm	5
Ring-necked Duck	Duck	large	black	gray, purple	lakes	9/1/1993	lake	sunny, warm	2
Mallard	Duck	very large	green	white, brown	marshes	9/8/1993	riverbank	sunny, cool	4
Gadwall	Duck	large	gray	brown	marshes	9/8/1993	lake	sunny, cool	10
Green-winged Teal	Duck	large	green	gray	marshes	9/8/1993	lake	sunny, cool	3
American Coot	Rail	large	gray	black	marshes	9/8/1993	riverbank	sunny, cool	2
Pintail	Duck	very large	brown	white, gray	marshes	9/8/1993	lake	sunny, cool	15
Common Snipe	Sandpiper	medium	brown		marshes	10/1/1993	lake	cloudy, cool	1
Solitary Sandpiper	Sandpiper	medium	gray	white	lakes	10/1/1993	lake	cloudy, cool	1
Killdeer	Plover	medium	gray	brown	fields	10/1/1993	fields near school	cloudy, cool	1
Canada Goose	Duck	very large	grayish brown	white	marshes	10/1/1993	lake	cloudy, cool	25
Marsh Hawk	Hawk	large	gray	white, red	marshes	10/3/1993	lake	cloudy, cool	2
Virginia Rail	Rail	medium	gray	cinnamon, white	marshes	10/3/1993	lake	cloudy, cool	50
Common Yellowthroat	Wood Warbler	small	black	green, yellow	meadows	10/10/1995	fields near school	sunny, cool	2
Red-winged Blackbird	Oriole	medium	black	red	marshes	10/16/1996	lake	cloudy, cool	1
Hooded Merganser	Duck	large	black	white, cinnamon	lakes	10/16/1994	lake	cloudy, cool	3
Screech Owl	Owl	medium	gray	brown	woods	10/30/1996	woods near home	sunny, cold	1
Tree Sparrow	Finch	small	brown	white	fields	10/31/1996	fields near school	cloudy, cool	15
Turkey	Turkey	very large	brown	blue	woods	11/1/1995	woods near home	cloudy, cold	4
Ring-necked Pheasant	Pheasant	very large	green	black, brown	woods	11/6/1997	woods near home	cloudy, cold	2
Rock Dove	Pigeon	large	gray	blue, white	cities	12/1/1997	city park	cloudy, cold	5
House Sparrow	Weaver Finch	small	brown	black	cities	12/20/1997	backyard	cloudy, cold	10
Starling	Starling	medium	black	green, purple	cities	2/21/1994	city park	cloudy, cold	20
Common Flicker	Woodpecker	mlarge	brown	white, gray	woods	3/24/1995	backyard	sunny, cold	1
Chimney Swift	Swift	small	brown		woods	3/25/1994	woods near home	sunny, cold	1
Whip-poor-will	Nightjar	medium	gray	brown	woods	3/25/1997	woods near home	sunny, cold	2
American Robin	Thrush	medium	brown	red	cities	4/1/1997	backyard	sunny, cool	6
House Finch	Finch	small	red		woods	4/2/1997	woods near home	cloudy, cool	3
American Redstart	Wood Warbler	small	black	white, orange	woods	4/15/1995	riverbank	sunny, warm	2
Northern Oriole	Oriole	medium	black	orange	woods	4/15/1995	backyard	sunny, warm	2
Cardinal	Finch	medium	red		woods	4/15/1995	backyard	sunny, warm	2
Yellow-breasted Chat	Wood Warbler	medium	brown	gray	meadows	4/15/1996	fields near school	sunny, warm	1
Yellow Warbler	Wood Warbler	small	brown	yellow	woods	4/15/1996	city park	sunny, warm	2
Gray Catbird	Mockingbird	medium	gray	black, brown	woods	4/15/1996	woods near home	sunny, warm	1
Willow Flycatcher	Tyrant Flycatcher	medium	olive	brown	marshes	5/1/1994	lake	sunny, cool	1
Black-capped Chickadee	Titmouse	small	gray	black, white	woods	5/1/1995	woods near home	sunny, cool	4
Warbling Vireo	Vireo	small	olive	gray	woods	5/1/1997	woods near home	sunny, cool	2
Orange-crowned Warbler	Wood Warbler	small	green	orange	woods	5/1/1997	woods near home	sunny, cool	1
Common Grackle	Oriole	large	black	green, purple	marshes	5/21/1994	lake	sunny, warm	25
Bewick's Wren	Wren	small	brown	white, gray	woods	5/21/1995	woods near home	sunny, warm	2
Brown-headed Cowbird	Oriole	medium	green	black	woods	5/21/1996	woods near home	sunny, warm	1
Common Crow	Crow	large	black		rivers, meadows	5/21/1996	backyard	sunny, warm	5
Veery	Thrush	medium	brown	buff	woods	5/21/1997	woods near home	sunny, warm	1
Song Sparrow	Finch	medium	brown	white	marshes	5/21/1997	fields near school	sunny, warm	3
House Wren	Wren	small	gray	brown	woods	5/21/1997	woods near home	sunny, warm	2

Record 1 of 50

Fig. 6.21 The *Base* database navigation tools

In Lesson 7 you will learn other ways of searching through the database, along with other ways of selecting sets of records from the database, and so forth. For now, as a final exercise in Lesson 7, let's just learn how to update the data in a Base database.

6.8 UPDATING ENTRIES AND records IN the DATABASE

The following exercises will give you the opportunity to practice working with the data in the database.

Updating the contents of a field (one item of data in a student record)

You should still be looking at the **Student Records Form**

To delete, or otherwise change, the contents of a field in a record, click on the field data entry box, then erase characters or words in the same way as you would if you were in the word processor.

Deleting (clearing) a record

In order to delete a single record from a database, you need the Form Navigation toolbar, which should already be open at the bottom of the database Form, along with the other toolbars relevant to a *Base* database Form (Fig. 6.22).

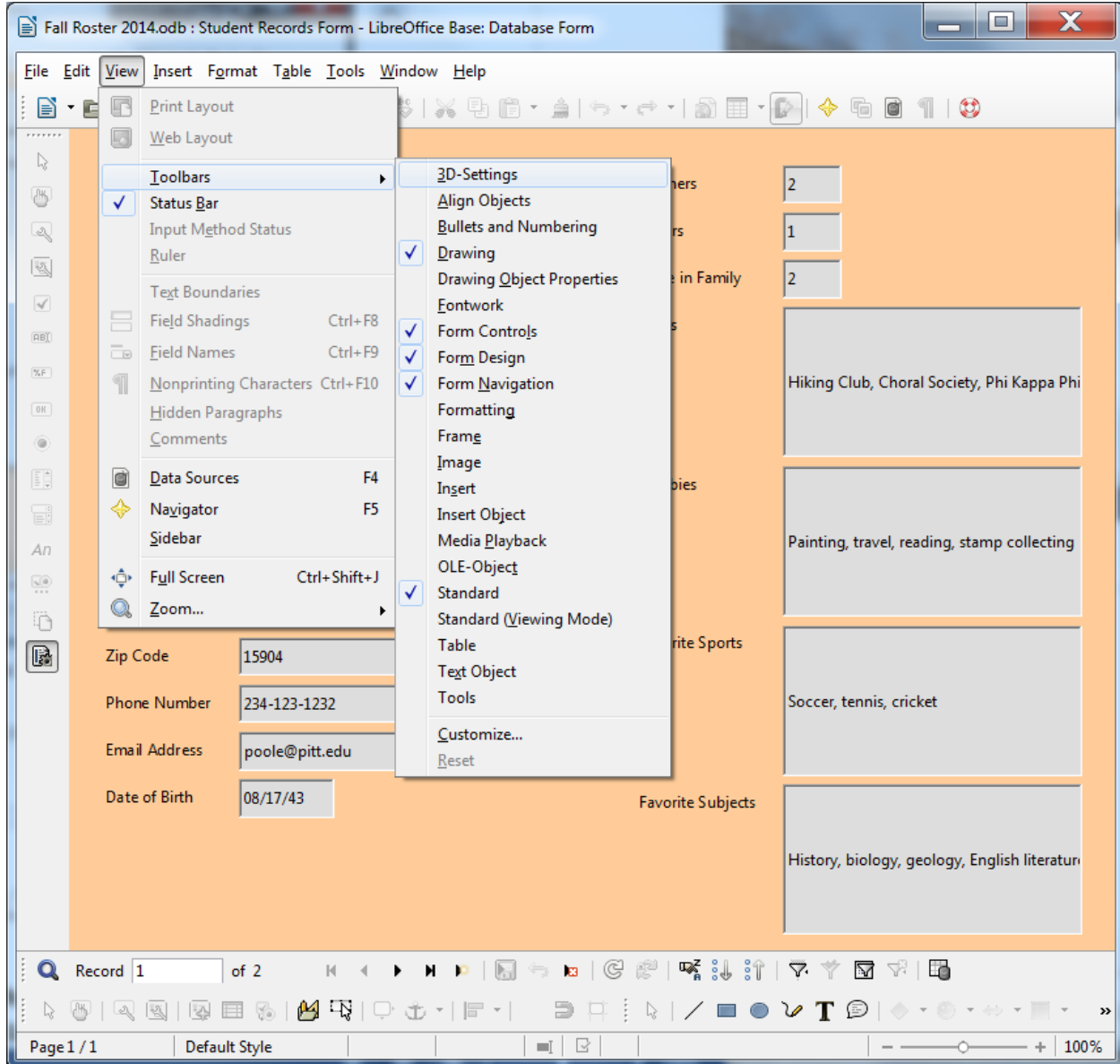


Fig. 6.22 The Form toolbars

If these toolbars are not available in the Fall Roster 2015 database Form, go to the **View menu > Toolbars** and make sure you select each of the **Form toolbars** in turn—the **Form Controls** toolbar, the **Form Design** toolbar, and the **Form Navigation** toolbar (click to put a **check mark** next to each of them, as illustrated in Fig. 6.21 on the previous page)

Now try this to practice deleting a record from the database.

The screenshot shows the 'Fall Roster 2014.odb : Student Records Form - LibreOffice Base: Database Form' window. The form is divided into two columns of input fields. The left column contains fields for ID, First Name, Middle Name, Last Name, Home Contact, Nick Name, Gender (M/F), Address Line 1, City, State, Zip Code, Phone Number, Email Address, and Date of Birth. The right column contains fields for Brothers, Sisters, Place in Family, Clubs, Hobbies, Favorite Sports, and Favorite Subjects. The 'ID' field is set to '2'. The 'First Name' field is set to 'asdfads'. The 'Middle Name' field is set to 'jhg'. The 'Last Name' field is set to 'kjhg'. The 'Home Contact' field is set to 'kjhg'. The 'Nick Name' field is set to 'kjhg'. The 'Gender (M/F)' field is set to 'f'. The 'Address Line 1' field is set to 'lkjh'. The 'City' field is set to 'lkjh'. The 'State' field is set to 'ge'. The 'Zip Code' field is set to '12345'. The 'Phone Number' field is set to '1234567890'. The 'Email Address' field is set to 'kahjf@lakjf.com'. The 'Date of Birth' field is set to '03/14/15'. The 'Brothers' field is set to '6'. The 'Sisters' field is set to '4'. The 'Place in Family' field is set to '5'. The 'Clubs', 'Hobbies', 'Favorite Sports', and 'Favorite Subjects' fields are empty. The bottom navigation toolbar shows 'Record 2 of 2' and a tooltip for 'Next Record (Ctrl+Alt+Right)'.

In the **Navigation toolbar** (the upper of the two toolbars at the bottom of the Form window), click on the **record control tools** to select **Record #2** in the **Fall Roster 2015** database (Fig. 6.23)

Fig. 6.23 Selecting a specific record in the database

In the **Navigation toolbar**, click on the **Delete Record** tool

Base will warn you that you are about to delete a record (Fig. 6.24).

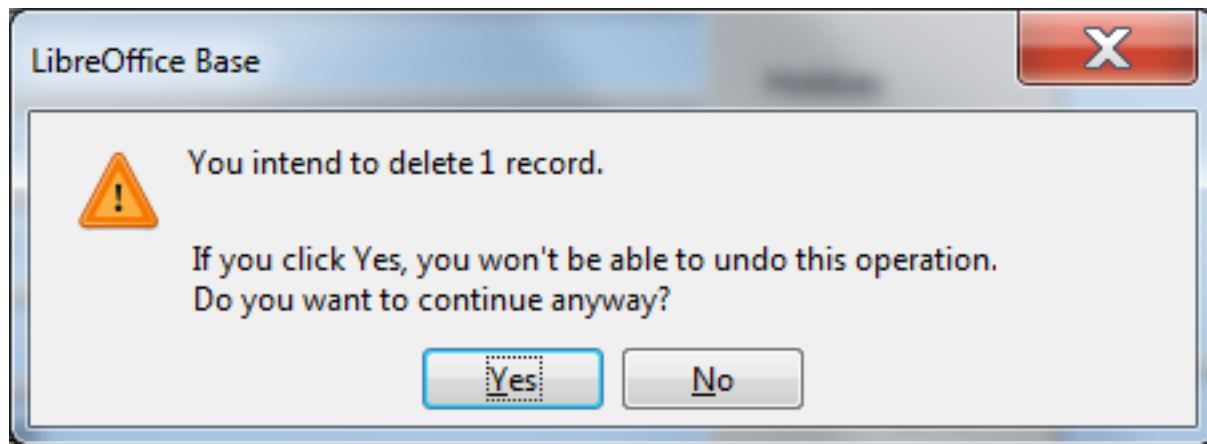


Fig. 6.24 Alert to inform you that deleting a record is undoable

This gives you the opportunity to change your mind, which you need to do in this case. *Base* will otherwise immediately permanently remove the record if you click on *Yes*.

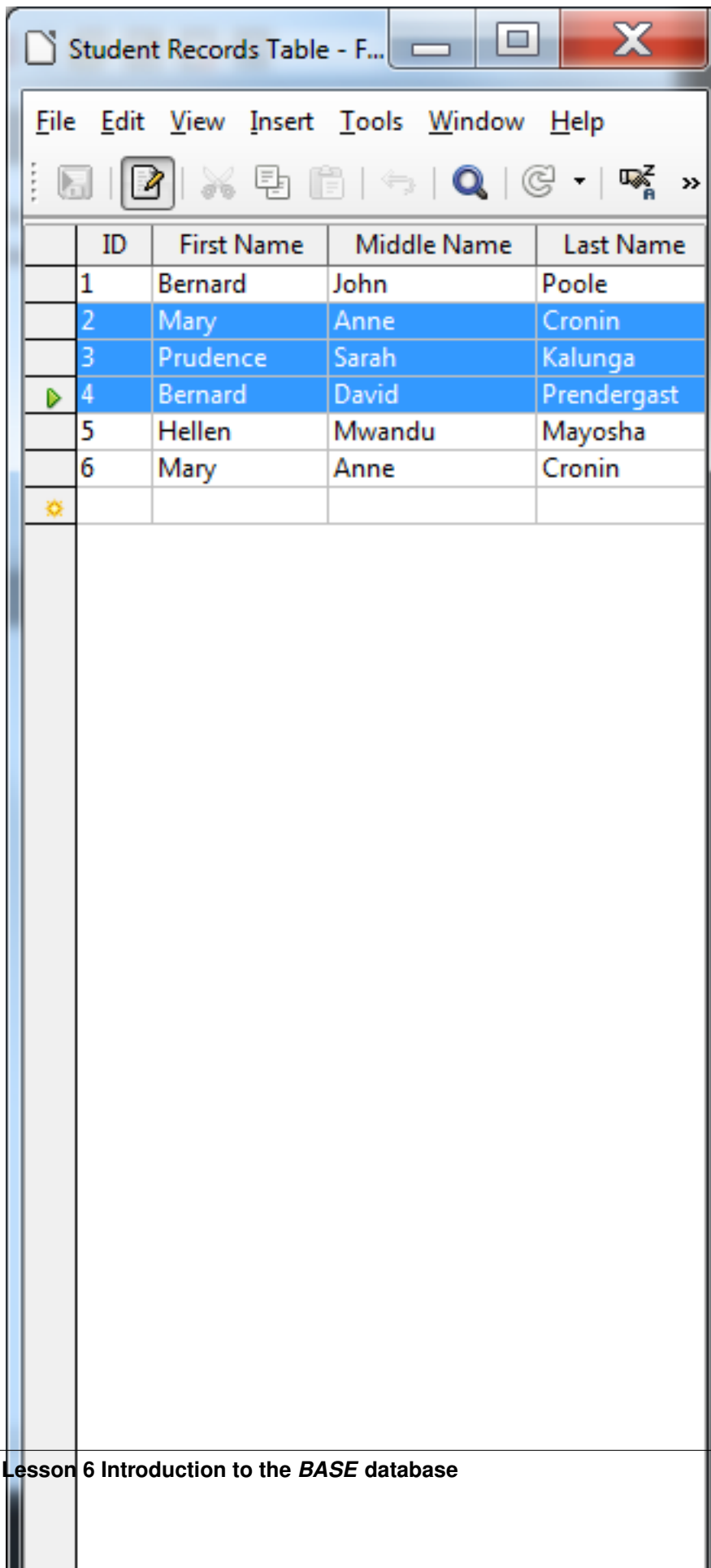
Click on **No** in the dialog box

Deleting several records at once

It's easiest to use the Table View to clear several records that are listed next to each other. To delete a block of records at one time here's what you do.

In the **File menu** select **Close** to close the Fall Roster 2015 database Form, then, in the **Database frame** on the **left hand side** of the Fall Roster 2015 window, click on the **Tables icon**, and then **double click** in the Tables section on **Student Records Table**

Now, in the **left hand margin** of the Table, click to select **Record #2**, then hold down the **Shift key** while you click in the left hand margin to select **Record #4** (**Records 2, 3, and 4** should now be highlighted—Fig. 6.25)



	ID	First Name	Middle Name	Last Name
	1	Bernard	John	Poole
	2	Mary	Anne	Cronin
	3	Prudence	Sarah	Kalunga
▶	4	Bernard	David	Prendergast
	5	Hellen	Mwandu	Mayosha
	6	Mary	Anne	Cronin
☀				

Fig. 6.25 Selecting several records for deletion

In the **Navigation toolbar**, click on the **Delete Record** tool

Again you will get a warning (see Fig. 6.24 above) that you are about to delete however many records you have selected, and will ask you if you are sure you want to do this.

You don't, so click on **No** in the dialog box

Bear in mind that the Delete Record command completely removes a record, such that it is irretrievable once deleted.

SKILL CONSOLIDATION

Complete these exercises to reinforce what you have learned in Lesson 6.

1. Design and create a database for the names, addresses, and telephone numbers you have in your address book. Enter as many names and addresses as you like (as long as you have at least 6). Don't forget to save the database records as you go along.
2. Add a couple of records to the database you created in exercise 1. Clear a record.
3. Add a field to the address book database—say Association (how are the people associated to you—friend, colleague, etc.). Then enter the data for each record for the new field.
4. Imagine you are teaching a class and you want your students to do research on a topic. Design and create a database around that topic. You could discuss the fields with your students. The students would then go off, do the research, and enter the data into the database as a basis for a paper they must prepare. This would be a nice group (team) exercise.
5. Design and create a database for a Birthday List of your family and friends. Include fields such as Name, Birthday, Greek sign, Favorite color, Clothes sizes, Hobby, etc. Have at least 6 records in the database, with each record containing at least 5 fields. Create a Form for the database as well as a Table.
6. Open the *Base* database Fall Roster 2015 and enter a complete new record for a student named Jane Doe.
7. Open the *Base* database named Template. Change the name to Grade X.2015 so you won't lose the template, and add three (3) records. Then save the updated database.

3.7 Lesson 7 Mail Merge and Related Operations

7 MAIL MERGE AND RELATED OPERATIONS

Form Letters and Mailing Labels

LEARNING OUTCOMES

In this tutorial you will complete the following Mail Merge tasks^[^1]:

- prepare a data source document (a *LibreOffice Base* database) for a form letter;
- create the form letter;
- prepare a set of field trip notices;
- prepare mailing labels;
- prepare a new form letter using a macro and an existing data source document (a *LibreOffice Base* database).

BEFORE YOU BEGIN

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (*7.1 Preparing an Address List in Calc—next page*). If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 7.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by **double clicking** on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 7.1).

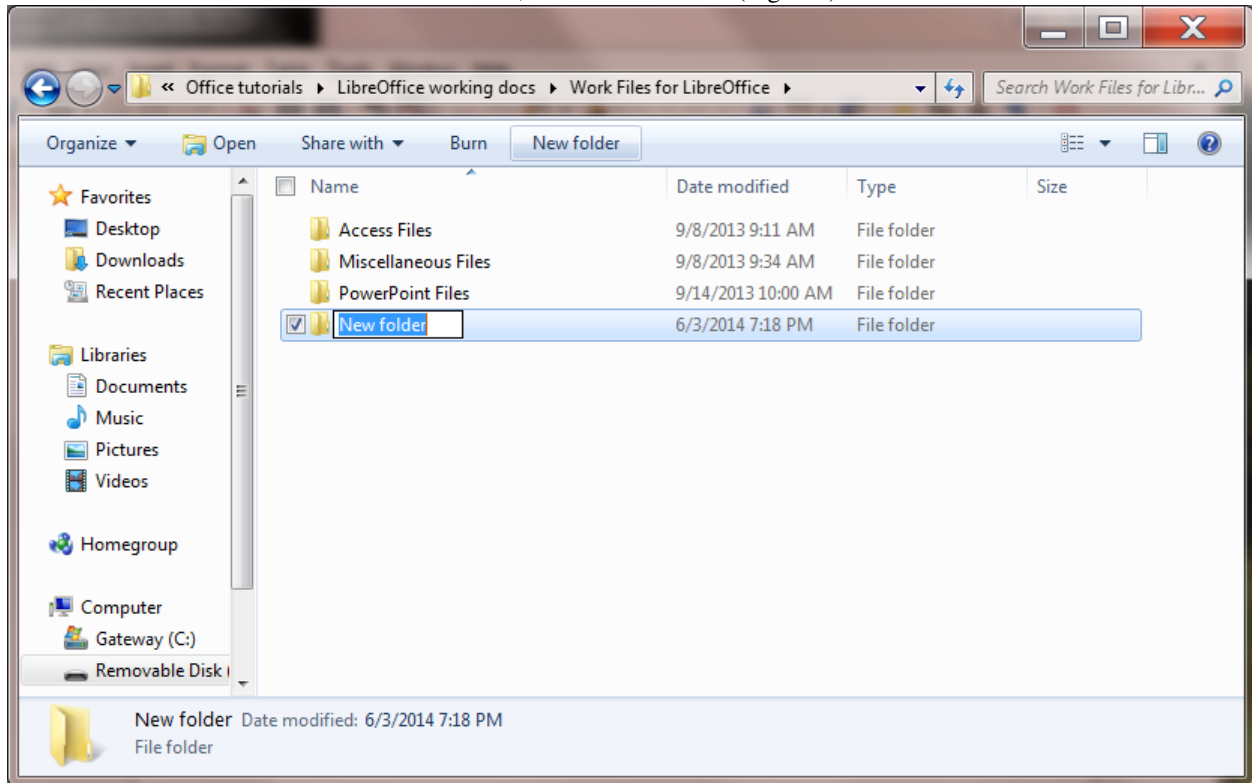


Fig. 7.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 7.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

****7.1 PREPARING aN Address List IN CALC ****

This exercise will show you how to create an address list data source document using the *Calc* spreadsheet, which you will then convert into a *Base* database for the purpose of merging the data with a form letter.

Entering the data for the Address List spreadsheet

Start by **opening** a new *LibreOffice Calc* spreadsheet

Now go to **File > Save As...**, navigate to your **USB drive**

LibreOffice Work Files > Data Files > Spreadsheet Documents and **Save** the spreadsheet with the name **Address List**

In the new **Address List spreadsheet**, across the **first row (row 1)** enter the following **eight (8) column headers**:

Header for **row 1, Column A: ID**

Header for **row 1, Column B: Home Contact**

Header for **row 1, Column C: Student First Name**

Header for **row 1, Column D: Student Last Name**

Header for **row 1, Column E: Address Line 1**

Header for **row 1, Column F: City**

Header for **row 1, Column G: State**

Header for **row 1, Column H: Zip Code**

When you are done, the column headers in your spreadsheet should look like Figure 7.2.

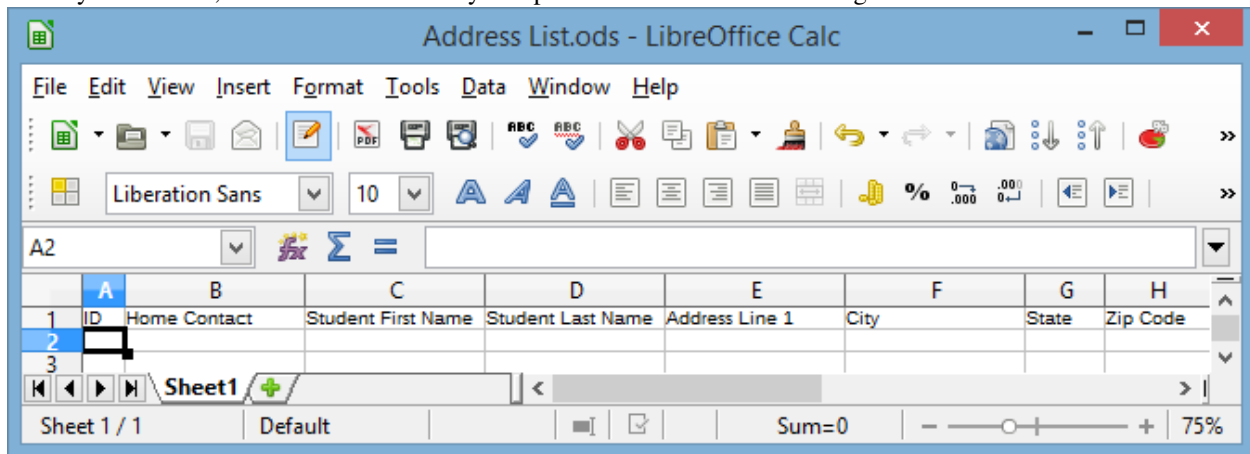


Fig. 7.2 Naming the column headers for the data source document

In lessons 4 and 5 you learned how to widen columns. If your columns are too narrow for the column headers here and there, go ahead and make them wider, as in Fig. 7.2 on the previous page.

The ID field (column A) will start with the value 1 (one) and increase by 1 for each record (this will be the *Primary Key* when you convert the spreadsheet into a *Base* database).

Type in the data for the **first record**—starting with the value **1** for the **ID**; then make up data for each of the other fields in the appropriate column of the spreadsheet, starting in **column B** with the **Home Contact** (the name of the student's parents or other guardian—Mr. and Mrs. Brown, for example)

After the first (Home Contact) entry, hit **Tab**, then type a **Student First Name**, and so on across the spreadsheet row

After you type in the **Zip Code**, the last entry for the **first record**, click in the **ID** field for **record #2**, enter the ID value **2**, and carry on entering appropriate data till you have entered the data for **all 10 records** (or for as many students as you have in your class if you are a practicing teacher)

After you have entered the data for at least **ten** records, **Save** the spreadsheet

7.2 converting the *Calc* spreadsheet to a *base* database

The next step in our mail merge process involves converting the Address List spreadsheet, which you just created, into a *Base* database data source object—which is necessary if you want to merge the data source with a *Writer* form letter. Here are the steps to do this.

In the **File** menu select **New** and, in the menu of *LibreOffice* applications, select **Database** (Fig. 7.3)

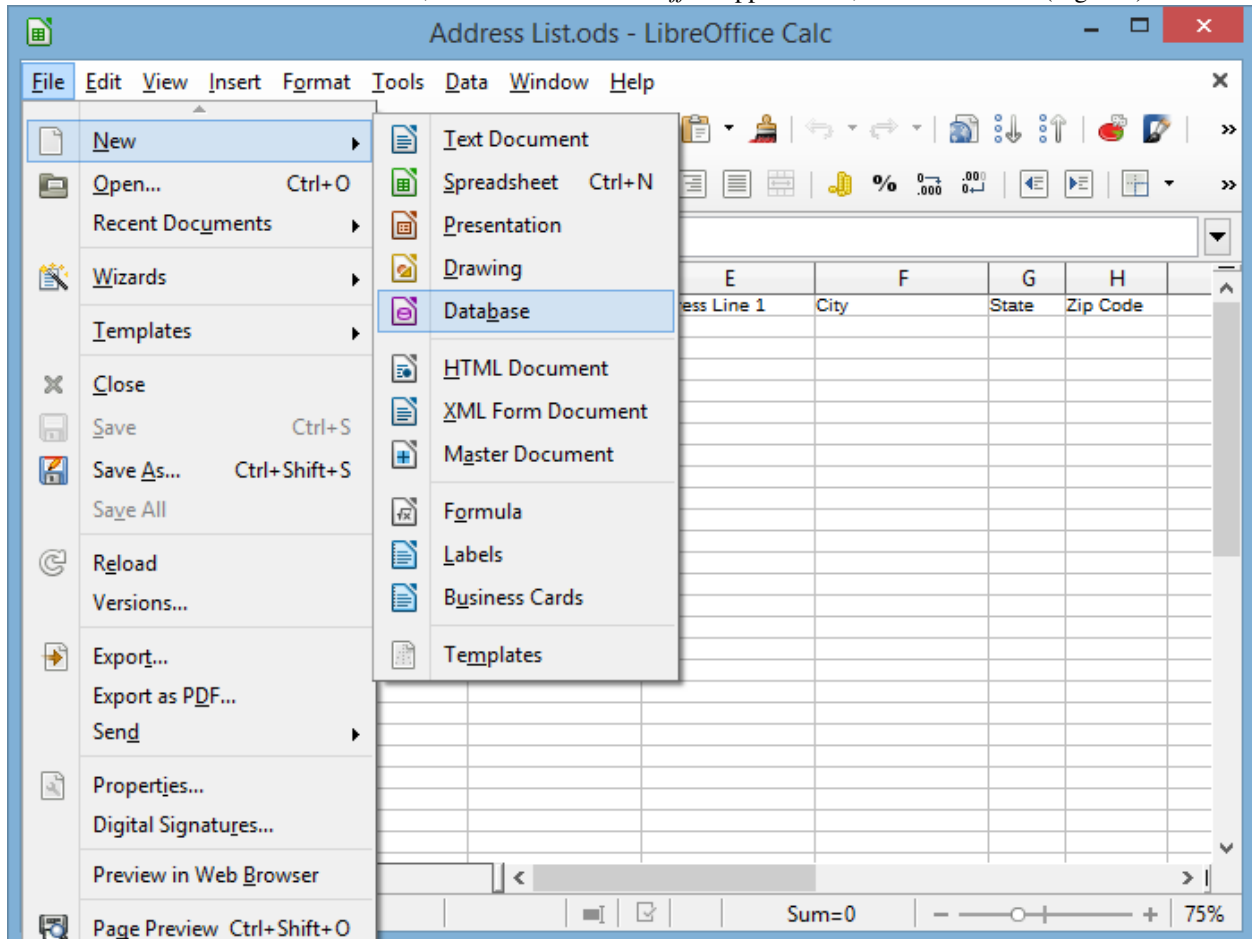


Fig. 7.3 Opening a new database

This will bring up the Database Wizard (Fig. 7.4).

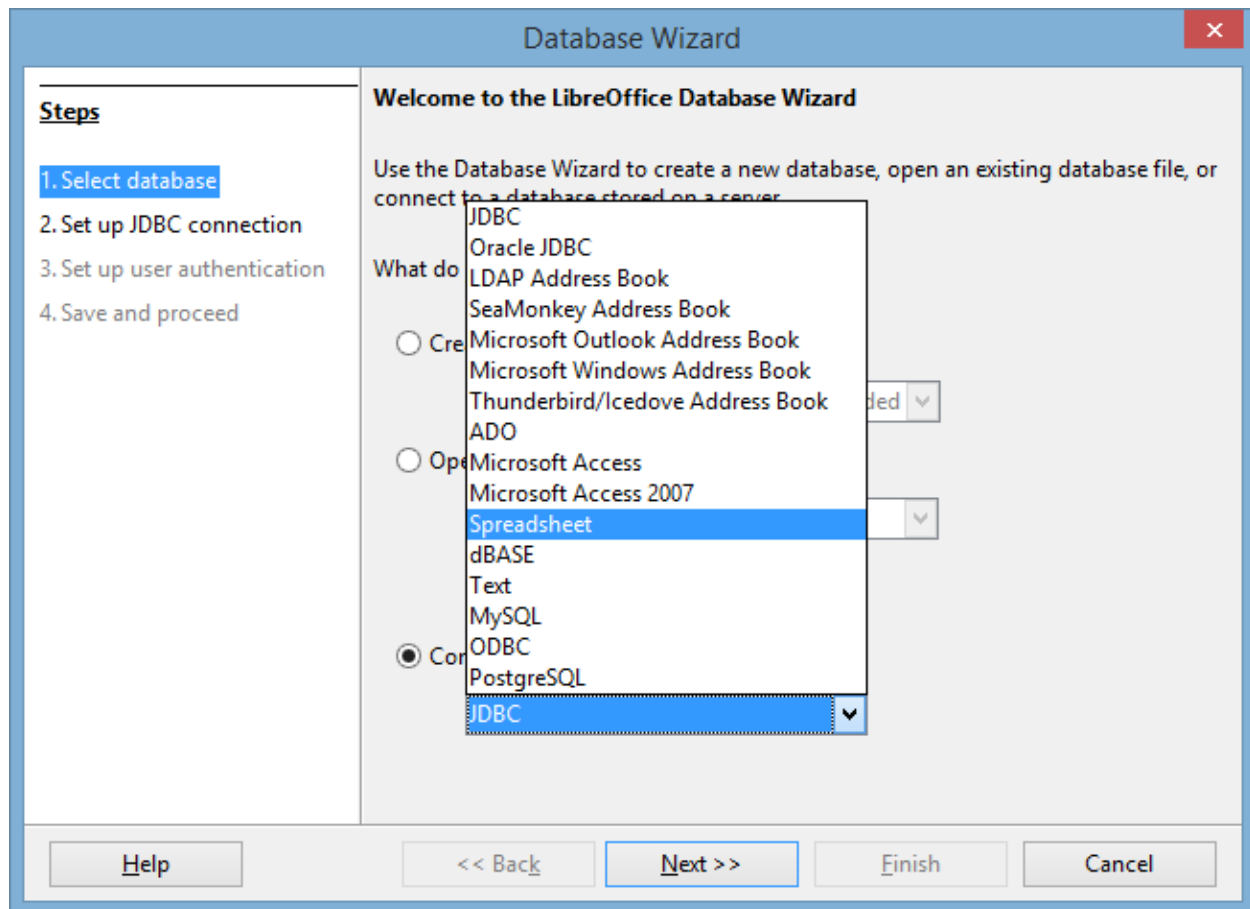


Fig. 7.4 The *LibreOffice* Database Wizard

In **Step 1** of the Wizard (**Select Database**), click to select the **radio button** next to **Connect to an existing database** (Fig. 7.4 above), then click on the **down arrow** in the accompanying data box and, from the list of **different application types** that pops up, select **Spreadsheet** (Fig. 7.4 above) and click on **Next>>** to go to Step 2 of the Database Wizard

In **Step 2**, click on **Browse** and, in the **Open** dialog box that pops up, in your **Work Files for LibreOffice > Data Files > Spreadsheet Documents** folder, **double click** on **Address List** to put it in the **Location and file name** data box (Fig. 7.5)

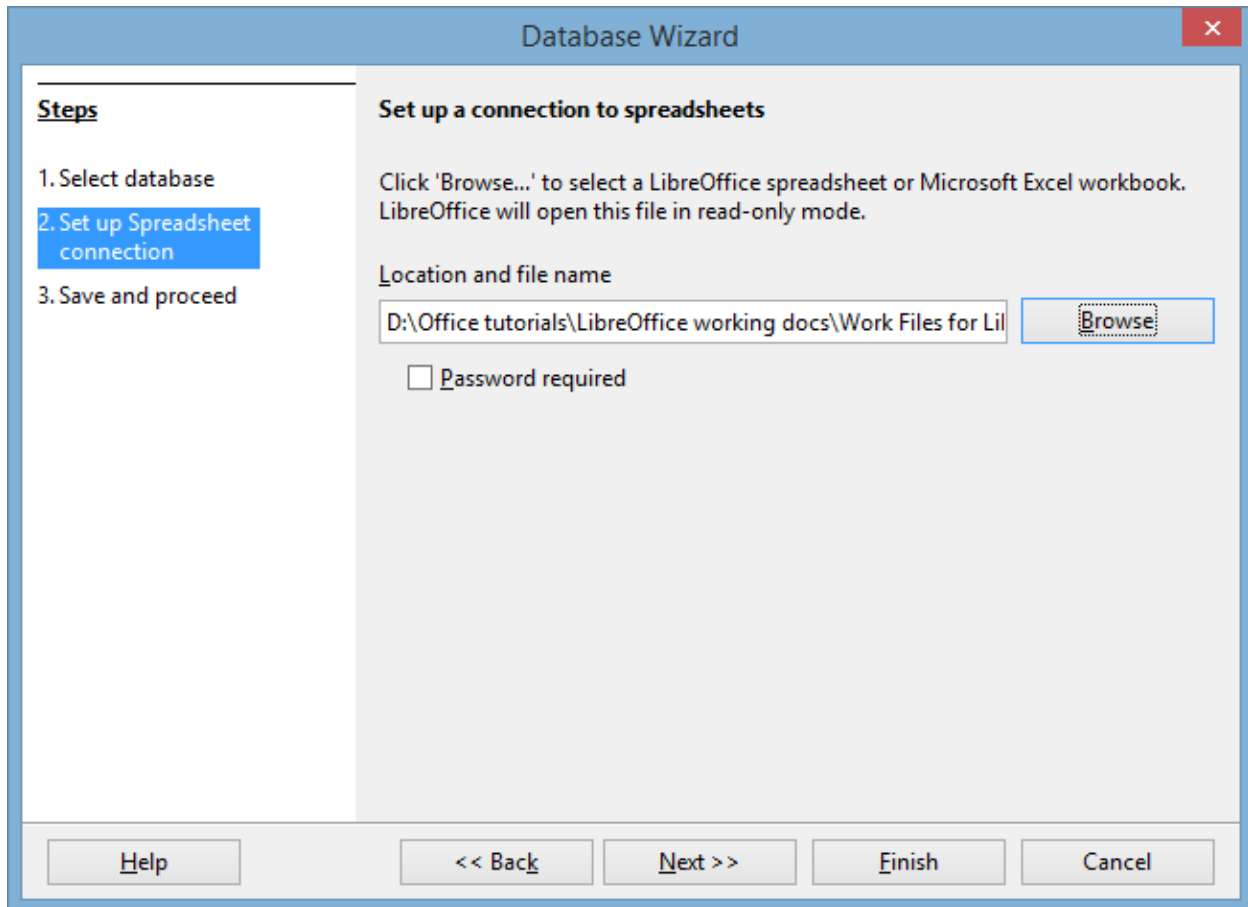


Fig. 7.5 Setting up a Spreadsheet connection

Click on **Next >>**, then in **Step 3** of the Wizard, leave the selections as they are (Fig. 7.6), leave the **radio button** next to **Yes, register the database for me** checked, and also leave checked the box next to **Open the database for editing**, then click on **Finish**

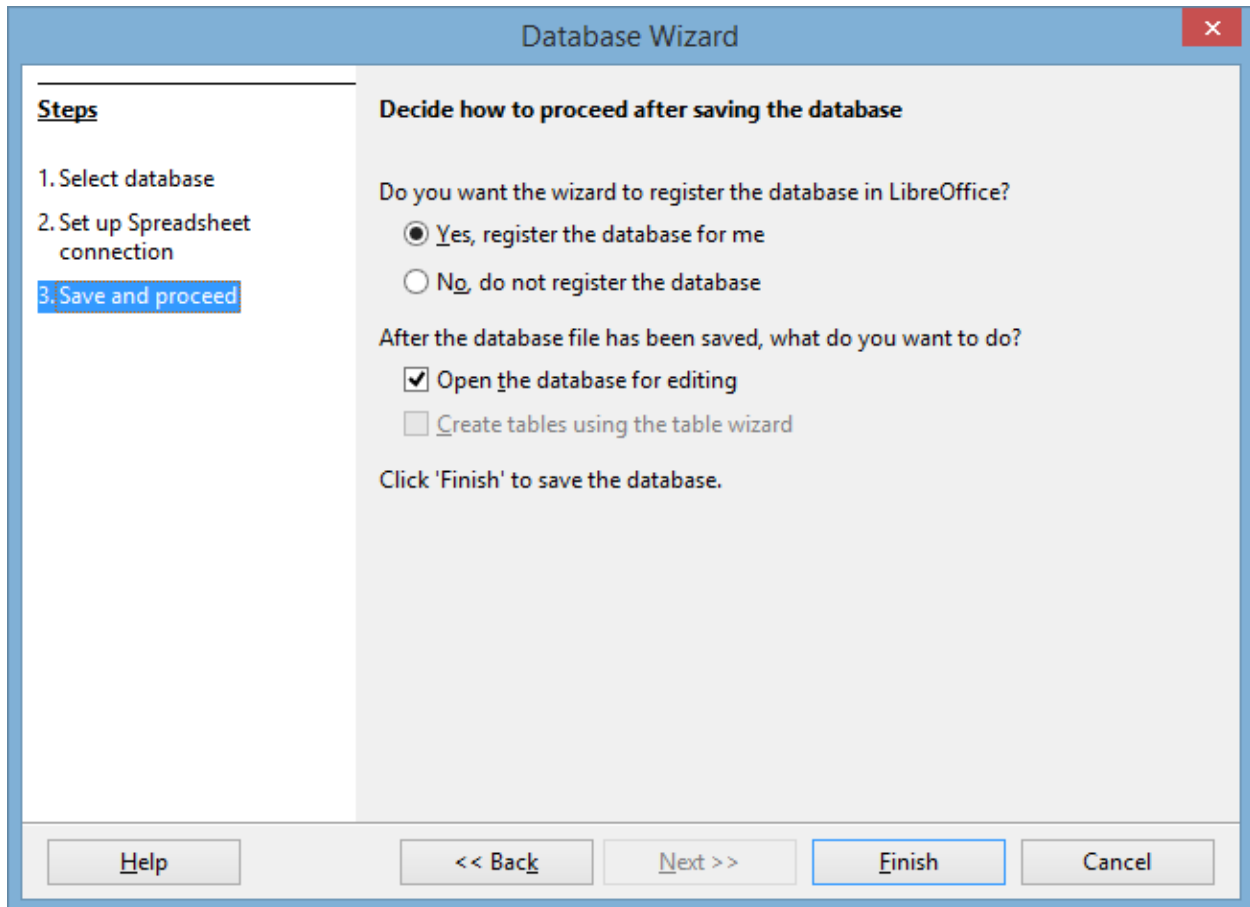


Fig. 7.6 Final step in converting the Address List data source to a *Base* database

The Wizard will ask you to **Save** the new database, so click on **Save**, navigate to your **USB drive > Work Files for LibreOffice > Data Files > Database Documents folder**, name the database **Address List**, and click on **Save** again

The new *Base* database will open on your screen (Fig. 7.7).

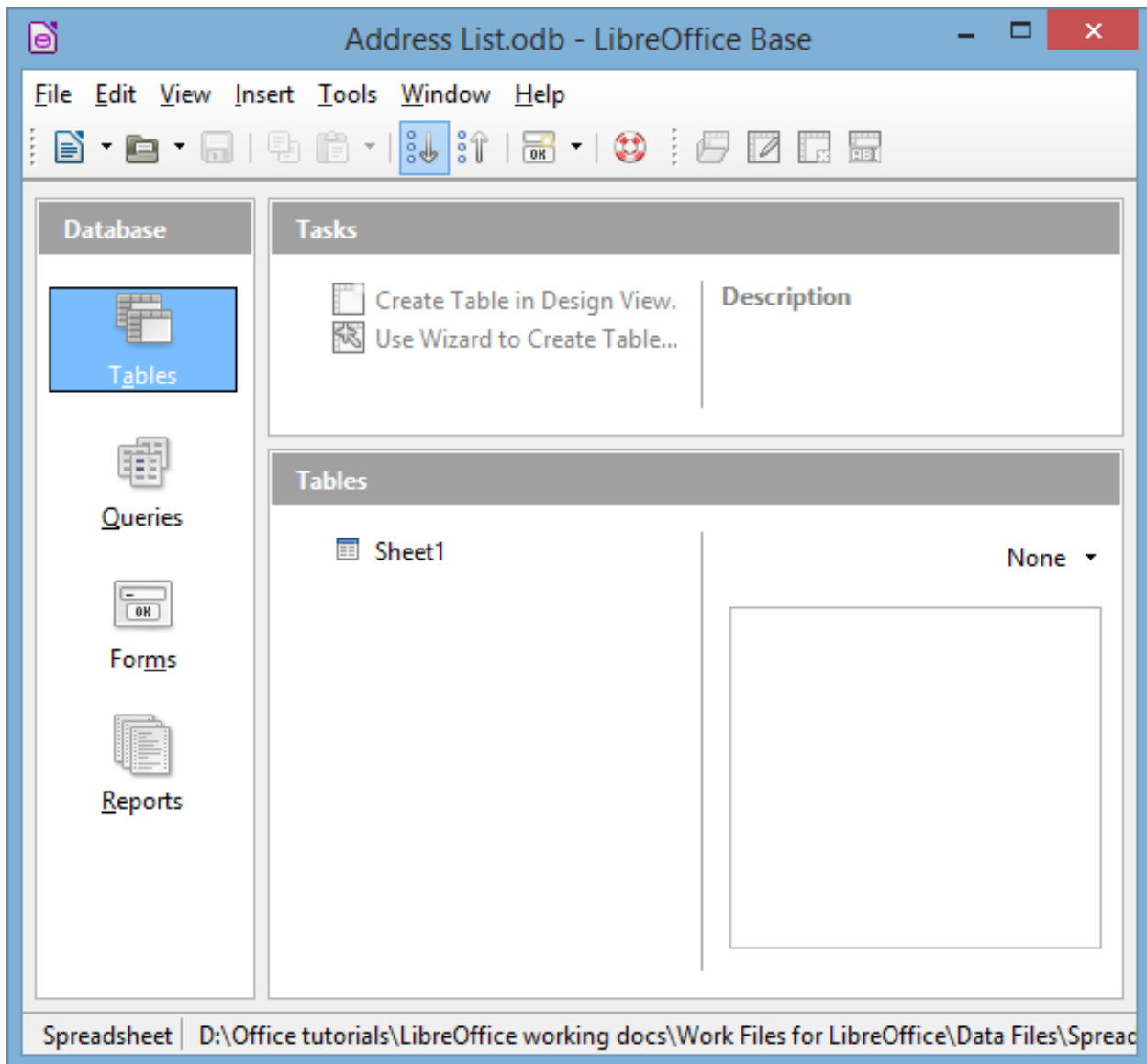


Fig. 7.7 The new *Base* database data source

Make sure **Tables** is selected in the **Database frame** (see Fig. 7.7 above), then **double click** on **Sheet1** to open the **Table** so that you can check that the **Address List data** has been correctly **imported** from the **spreadsheet** you created at the beginning of this exercise (Fig. 7.8 shows data created for this lesson by the author; yours will be different)

ID	Home Contact	Student First Name	Student Last Name	Address Line 1	City	State	ZIP
1	Mr. and Mrs. Brown	Jerome	Brown	36 Summers Lane	Johnsto	PA	15904
2	Ms. Myers	Amanda	Myers	163 Windber Gard	Johnsto	PA	15905
3	Mr. and Mrs. Johns	Courtney	Johnston	1 Main St.	Johnsto	PA	15904
4	Mr. and Mrs. Kline	Melissa	Kline	146 Hermitage Cir	Windbe	PA	15907
5	Mr. and Mrs. Keirn	Jessica	Keirn	219 Holly Crescent	Richlan	PA	15904
6	Mr. Hershberger	Jessica	Darltan	45 Brindle Lane	Johnsto	PA	15905
7	Dr. and Mrs. Schm	Susan	Schmidt	2113 Coverdale Bl	Johnsto	PA	15905
8	Mr. and Dr. Suvak	Amber	Suvak	Gondola Mansion	Meyers	PA	15945
9	Mr. and Mrs. Herte	Desiree	Herter	43 Hermes Court	Johnsto	PA	15906
10	Mr. and Mrs. Plum	Ashley	Plummer	32 Maple Ave.	Johnsto	PA	15905

Fig. 7.8 The Address List imported to the *Base* database

Assuming everything looks good, you are ready to proceed with the next step in the mail merge process, which involves the creation of the Form Letter.

7.3 CREATING the form letter (THE FIELD TRIP notice)

Step 4: creating the Field Trip Notice into which will be merged the records that you have prepared in the Address List database.

Fig. 7.9 on the next page shows the complete contents of this Field Trip Notice letter.

Don't start typing it just yet—follow the directions on the ensuing pages in order to avoid making mistakes.

You're going to begin by opening, and renaming, a *Writer* template document called *Letters*, which is already stored in the *Work Files for LibreOffice* folder on your USB drive.

In the **File** menu select **Open**, then navigate to your **USB drive > Work Files for LibreOffice > Miscellaneous Files > Merge Documents**, and **double click** on the **Letters** document to open it

Now, in the **File** menu select **Save As...**, navigate to the **Work Files for LibreOffice > Data Files > Writer Documents** folder, type **Field Trip Notice** for the new document name, then click on **Save**

You are now ready to use *Writer's* mail merge tools to produce a customized, that is to say *individualized*, letter to send to the parents or guardians of each student in your class.

In Fig. 7.9, the placeholders (where the field names are enclosed by the **< ... >** symbols) indicate the place in the form letter where data from the Address List database, which you created in the previous exercise, will be merged with each of the letters in order to personalize them.

DO NOT START TYPING YET! Bookmark this page. The exercises on the next page explain how to proceed. Follow the steps carefully.

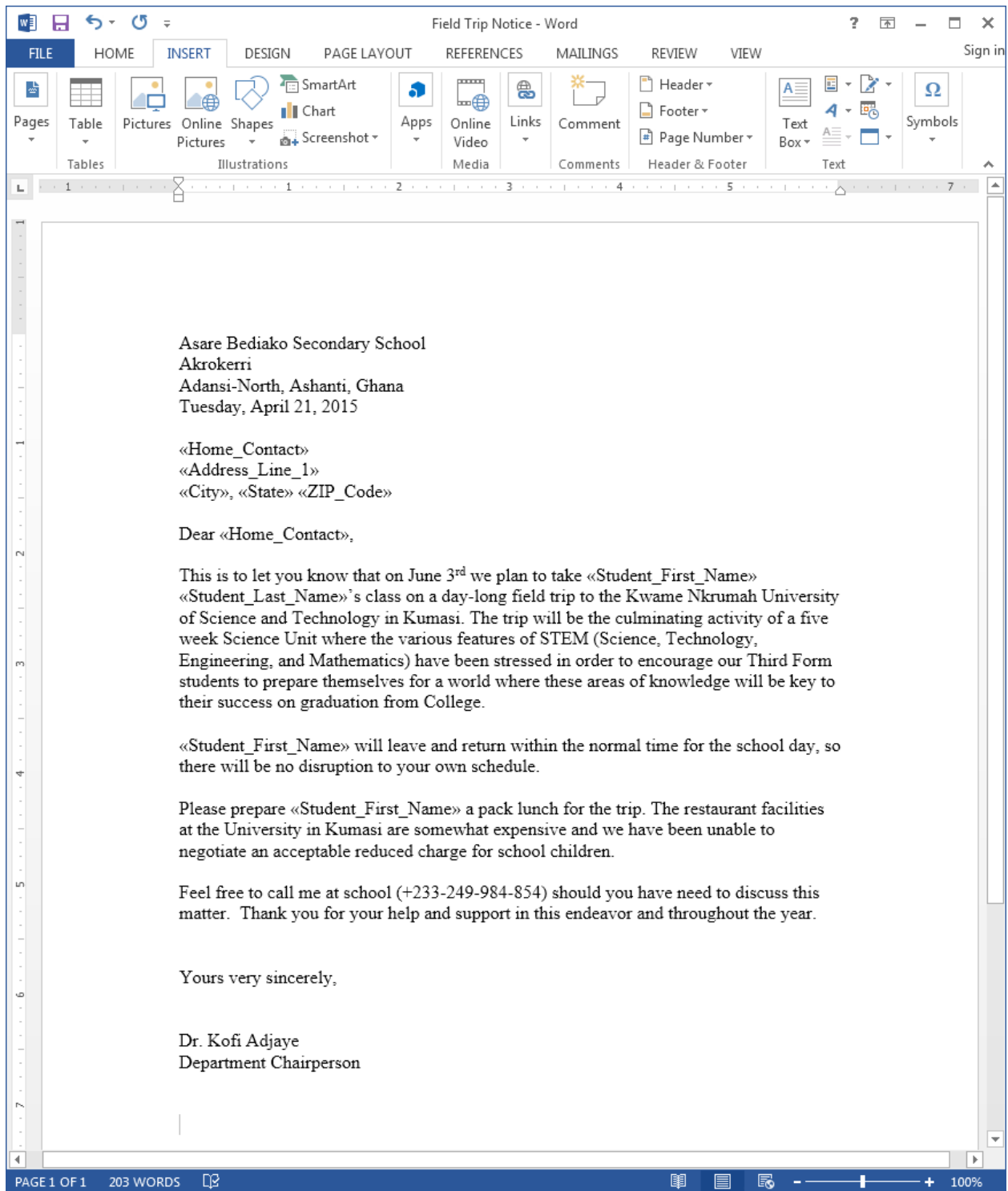


Fig. 7.9 The final version of the Field Trip Notice form letter

Inserting the date

The unedited Field Trip Notice document is open on your screen with the bare bones of the form letter (the school address at the top, the beginning of the salutation “Dear”, and the conclusion (Yours sincerely, etc.).

You need to put the date at the top of your *Field Trip Notice* document, immediately after the address, which, in a real

situation, would be the official address of the school where you are a teacher.

Position the cursor on the **blank line** immediately **after** the **address** at the top of the page, then, in the **Insert** menu select **Fields > Date**

You should now have the date displayed in your form letter right after the school address at the top of the page. You'll maybe recall from Lesson 1 that the default all-numeric format for the date can be confusing in other countries, so you need to select a style that is unambiguous.

Right click on the inserted date and, in the **context menu**, select **Fields...** then, in the **Edit Fields dialog box**, click on the **date format** that looks like **Friday, December 31, 1999** and click on **OK** (Fig. 7.10)

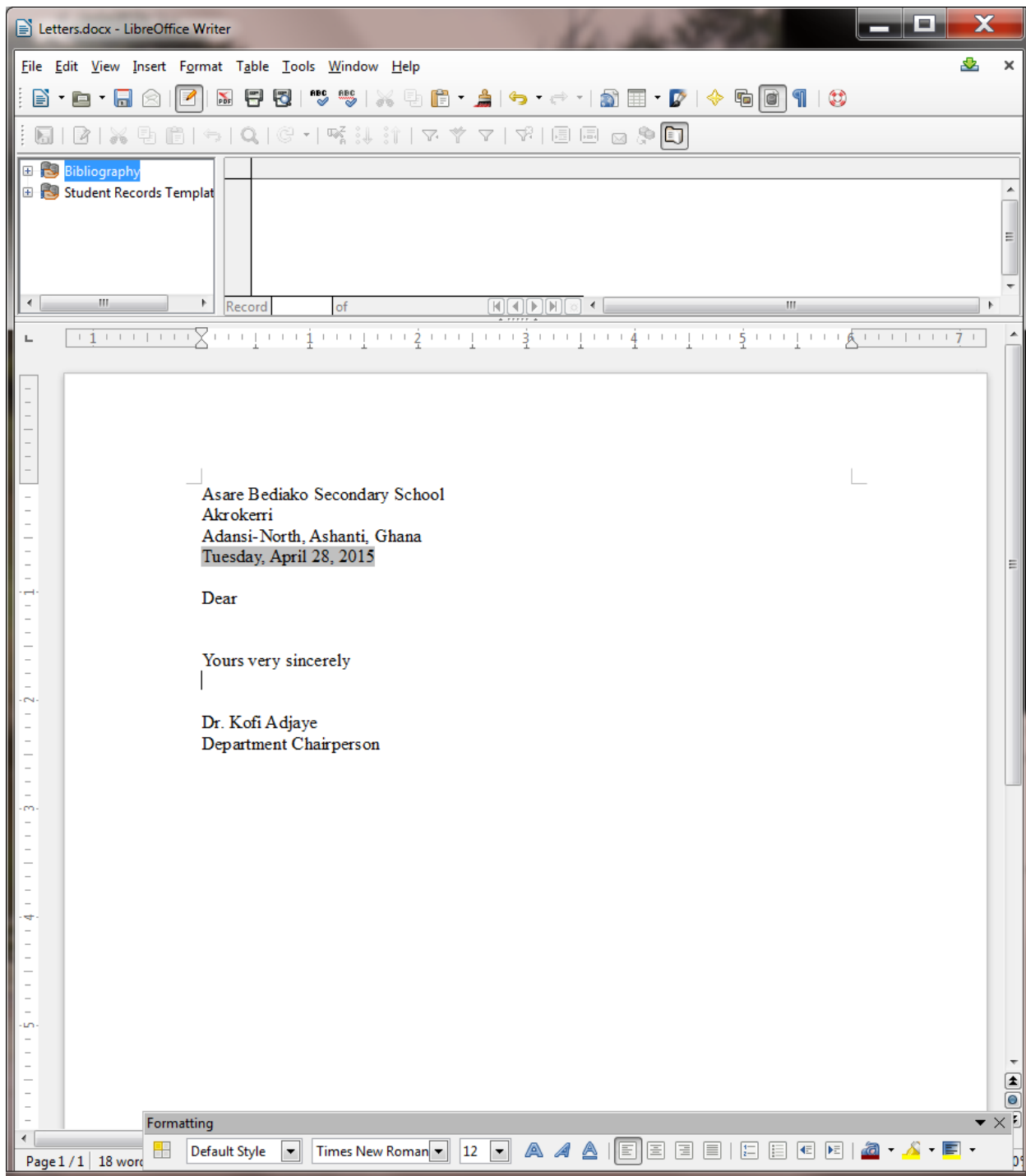


Fig. 7.10 Insert Date feature of LibreOffice

That takes care of the date format.

Viewing the Data Source for the Field Trip Notice

Now it's time to connect your Field Trip Notice to the Address List database that you created in the previous exercise (Section 7.3 of this tutorial).

In the **View** menu, select **Data Sources**

You should now have a new window right at the top of your screen, at the top of the page, showing, on the left, a list of the databases you have registered with *LibreOffice*.

The *Address List* is the database you want to use with the Field Trip Notice.

In the list of registered databases, click on the **small + (plus sign)** to the immediate **left** of **Address List** to show **Queries** and **Tables** (Fig. 7.11 on the next page)

Now click on the **small + (plus sign)** to the immediate **left** of **Tables** to show **Sheet1**

Sheet1 contains the data that you imported into the database from the Address List spreadsheet you created in Section 7.3 of this tutorial.

Click on **Sheet1** and wait while *LibreOffice* fetches all the data **from the Sheet1 table** and displays the data as a table in the window **above** the form letter and **to the right** of the list of registered databases (Fig. 7.11, again your data will be different)

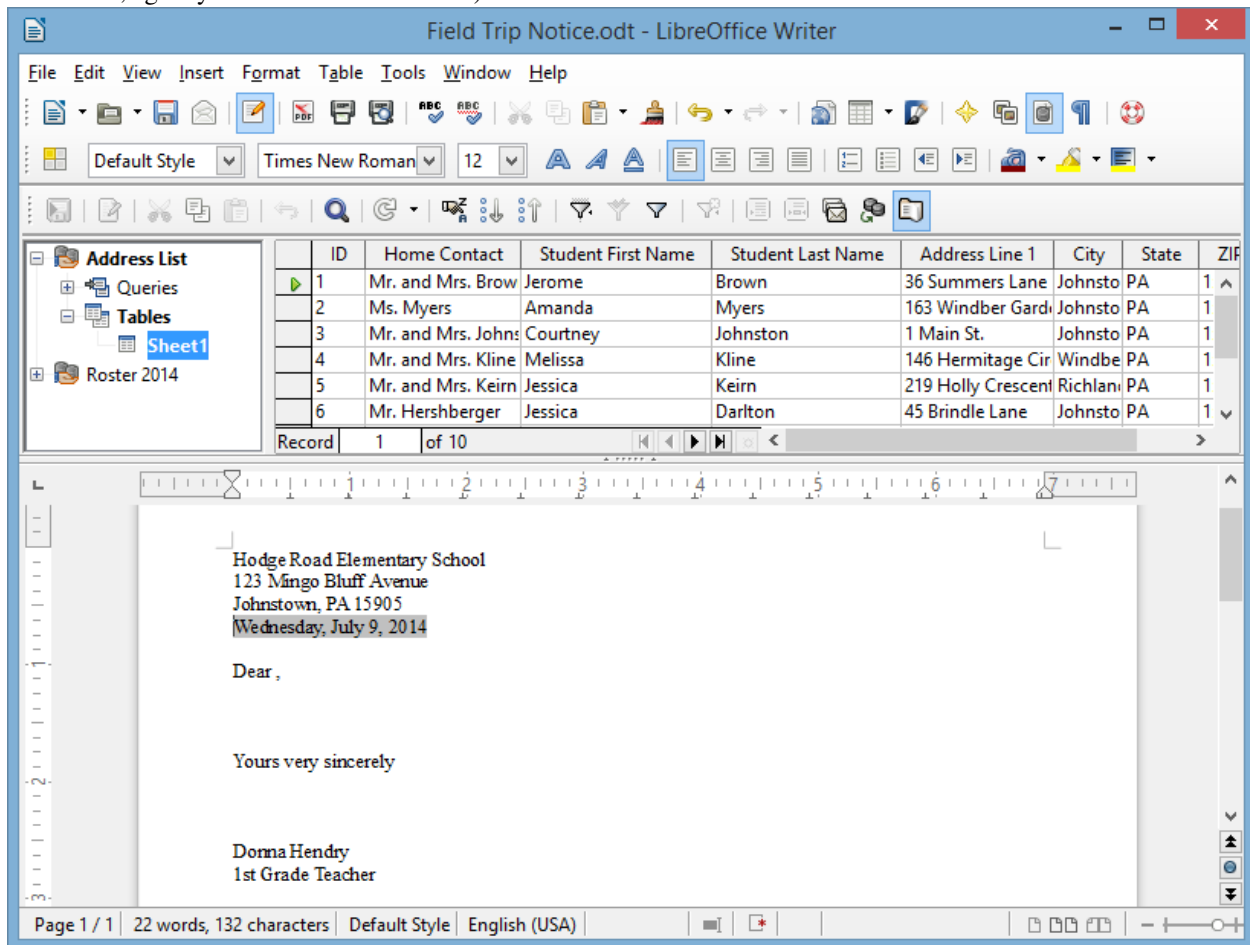


Fig. 7.11 Viewing the *LibreOffice* Data Sources

****Inserting fields (placeholders) into your form letter ****

In the Figures that follow, ignore the data you see because yours will be different.

You are now going to insert into the form letter the first set of placeholders—for the receiver's (recipient's) name and address—the receiver is the parent or guardian of one of your students.

The receiver's address, after your own (school) address at the top of the letter, will start with the **Home Contact** field. So you need to tell *Writer* to merge the form letter with the corresponding data from the *Address List* database. Here is how you do this.

In the form letter, use the mouse to position the cursor on the empty line *immediately above* the salutation: “Dear” and press **Enter** to space down **one line**

Use the mouse to drag the *title* **Home Contact** down to the correct position for the **Home Contact** in the first line of the recipient’s address (Fig. 7.12)

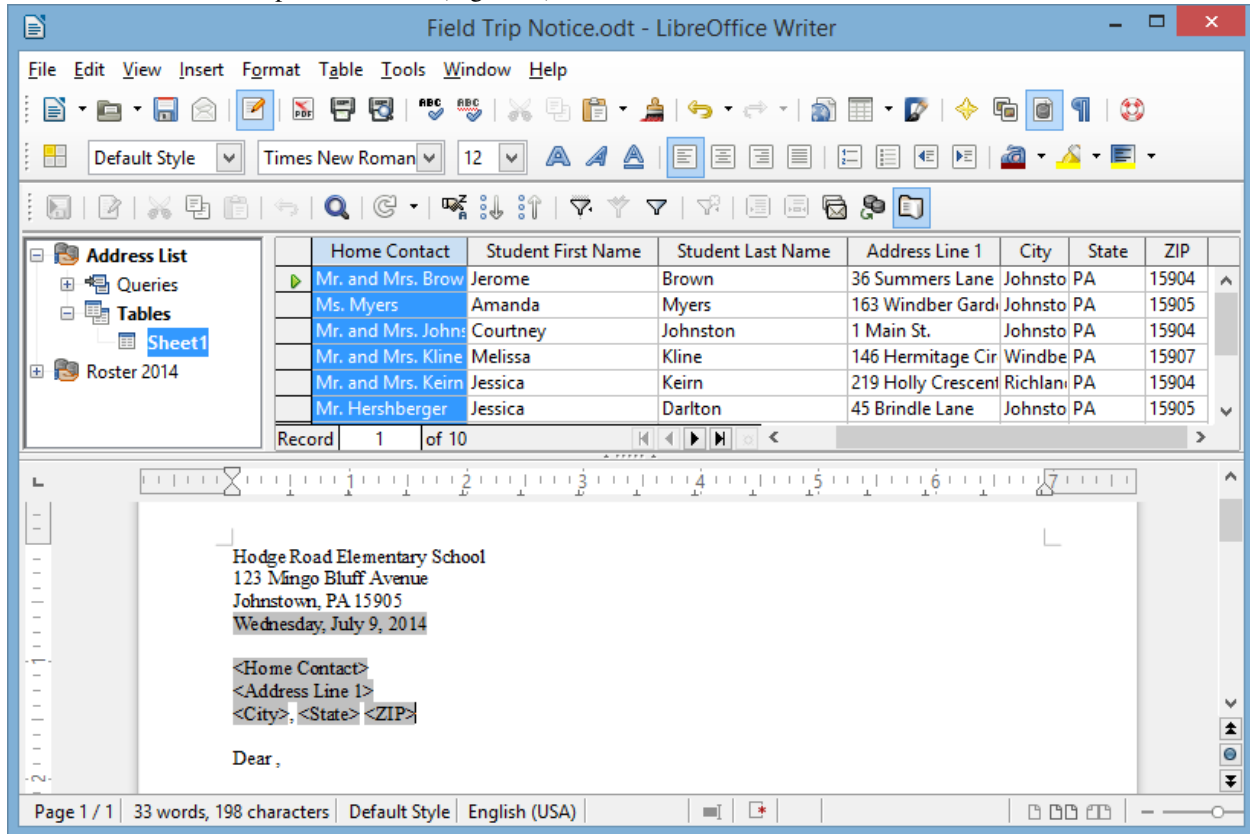


Fig. 7.12 Dragging the Home Contact merge field down into the form letter

Writer quickly displays **<Home Contact>** in the body of the form letter immediately above the salutation “Dear” (with the brackets around it as you see here—you never need to type the brackets with Mail Merge). Now, when eventually the letters (all ten of them) are printed out, the correct name of each student’s parent or guardian will be copied from the Address List database and inserted into this position in the letter.

Next you need to add the remaining placeholders for the Home Contact’s address (see Fig. 7.12 previous page).

The cursor should be waiting **at the end of <Home Contact>**, so press the **Enter** key to move to a new line

Once again, use the mouse to drag the *title* **Address Line 1** down to the correct position on the **new line** after **<Home Contact>** (which will be the second line of the form letter recipient’s address)

Writer adds the new merge field to the address.

Press the **Enter** key to move to a new line, use the mouse to drag the *title* **City** down to the correct position on the **new line** after **<Address Line 1>** (which will be the third and last line of the form letter recipient’s address)

Now **stay on the same line**, type a **comma (,)** followed by a **space**, and use the mouse to drag the *title* **State** down to the correct position on the **last line** of the recipient’s (Home Contact’s) address

Hit the **space bar once**, then use the mouse to drag the *title* **Zip** down to the correct position at the end the **last line** of the recipient’s (Home Contact’s) address

This rounds off the address that is to be merged with the Field Trip Notice form letter, which should now look like Fig. 7.13.

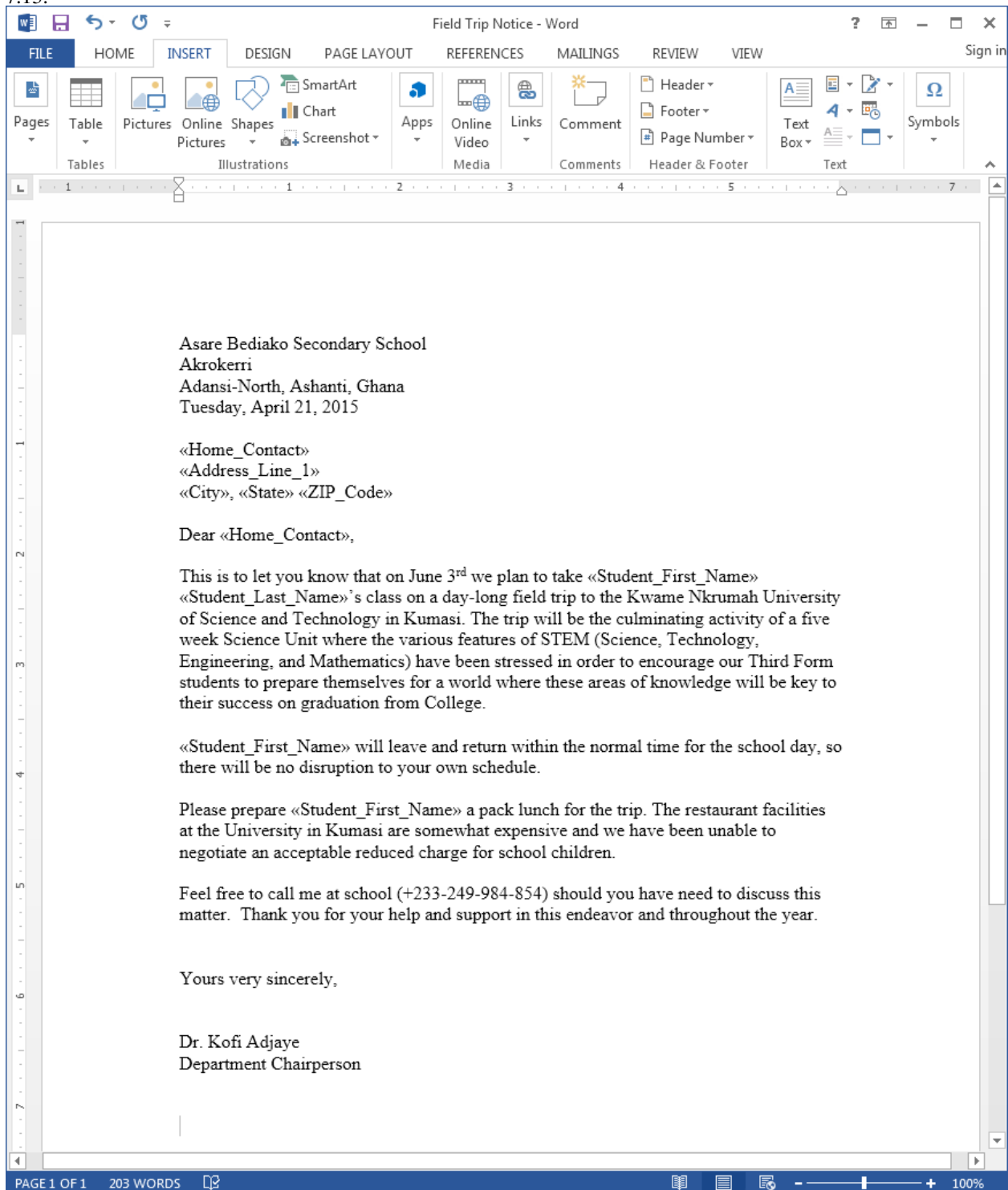


Fig. 7.13 Form letter after merging the recipient's address and salutation

Press the **Enter** key to space down after the address

So far, so good. Next you need to put a placeholder for the **Home Contact** after the salutation **Dear...** at the beginning of the letter (Fig. 7.13 above).

Put the cursor *right after* the word **Dear**, then press the **Space bar** to space over **one space** and use the mouse to drag the *title* **Home Contact** down to the correct position after the salutation **Dear...**

By now you should be getting the idea of how to insert merge fields into the Field Trip Notice as you go along.

Refer to the **Field Trip Notice letter** (Fig. 7.9 on page 196) as you complete the form letter.

Type the remaining text of the **Field Trip Notice** letter illustrated in Fig. 7.9, inserting the merge placeholders where indicated

Be sure to put a **space before** and/or **after each Placeholder** so that the data will be correctly spaced grammatically in the final version of the letter

When you have finished, **Save** the **Field Trip Notice** form letter once more

7.4 Printing the FIELD TRIP NOTICE

Before printing your Field Trip Notice letters on paper (hard copy), it's always a good idea to preview them on the screen (soft copy), with the appropriate data filled in for each version of the letter, so that you can confirm that the data from the Address List source document has been correctly merged with the form letter. In *LibreOffice*, this is all part of the Print function.

From the **File** menu select **Print**

LibreOffice immediately recognizes that the Field Trip Notice document contains Address List database fields and asks you to confirm that you want to print a form letter (Fig. 7.14).

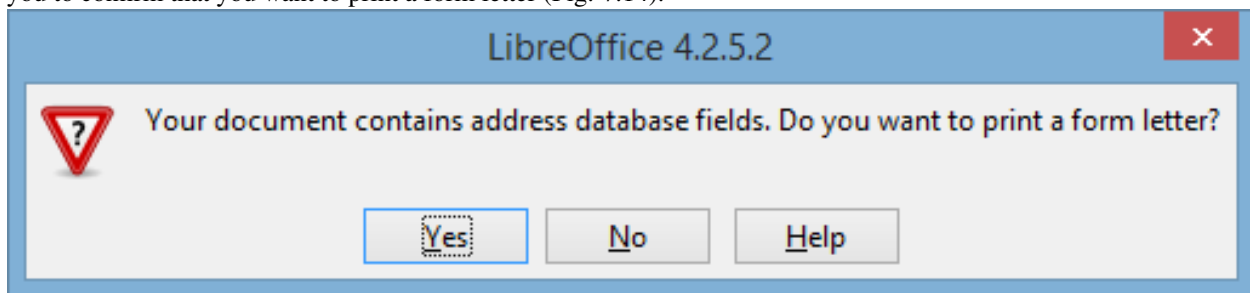


Fig. 7.14 Prompt to confirm form letter

Click on **Yes**

After a few seconds, you are presented with the Mail Merge dialog box (Fig. 7.15).

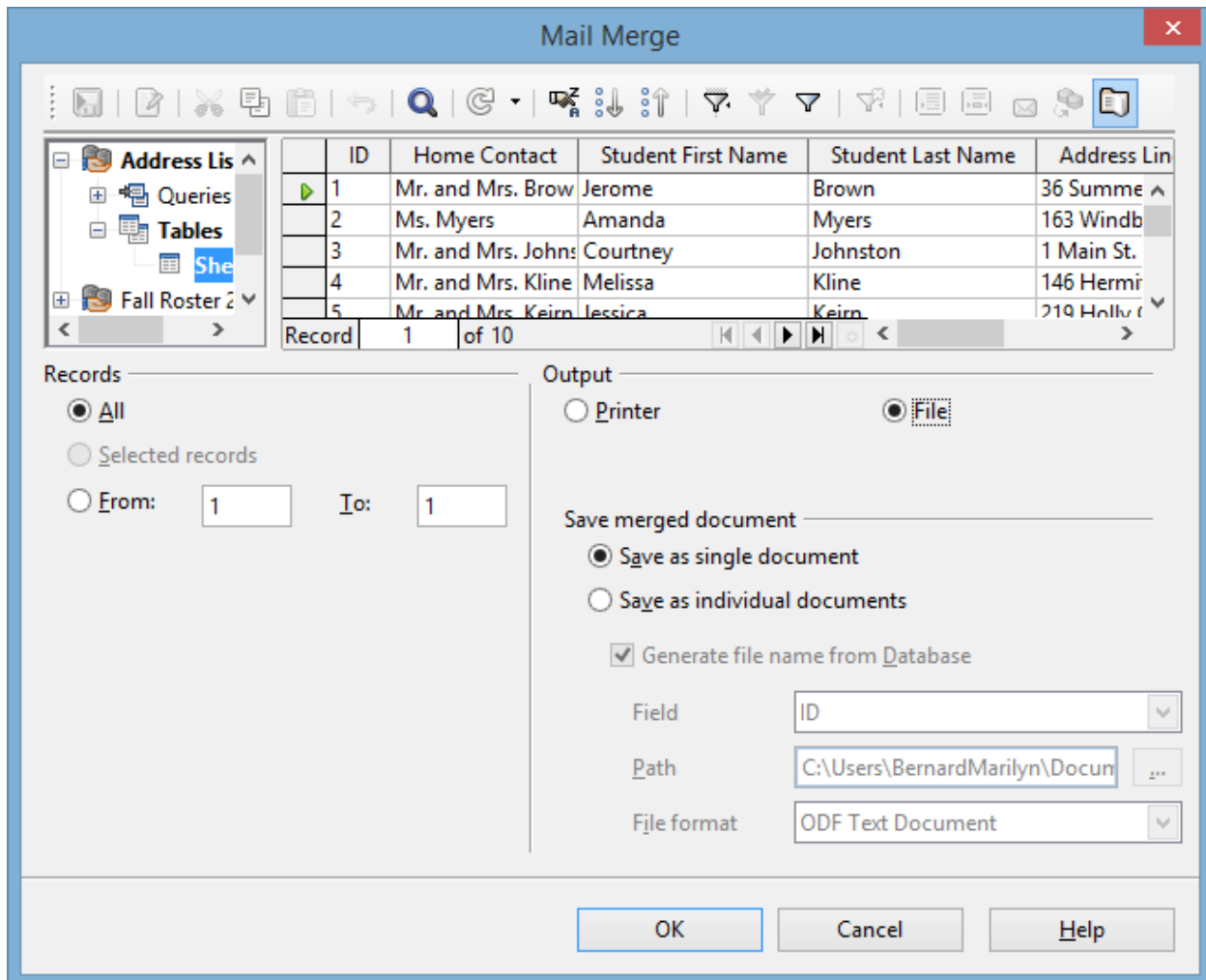


Fig. 7.15 Mail Merge dialog box

You want the output to go to a File. You also want to save the merged document as a *single document* which will contain all 10 of the Field Trip Notices, each one individually tailored to the *Home Contact* of a different student in the class.

Click on the **radio button** next to **File** to **select** that option and leave the **radio button** next to **Save as single document** selected (Fig. 7.15 on the previous page) then click on **OK**

LibreOffice now displays the *Save As* dialog box, prompting you to *Name* the Field Trip Notice merge file and decide where you want to save it.

In the **Save As** dialog box, navigate on your **USB drive**, to your **LibreOffice Work Files > Data Files > Writer Documents** folder, then, in the **File name:** data entry box, type **Field Trip Notice Merge Letters** and click on the **Save** button

The document *Field Trip Notice Merged Letters* is several pages long—at least 10 if each letter fits on one page, but 20 if each letter flows over onto a second page. Saving the merged letters is a good idea. It means that you have a copy of the final version of the updated letters for your records—a customary practice with regard to professional correspondence.

Previewing your letters on screen

You're nearly there. But first you need to take a look at the Field Trip Notice Merge Letters to check that the data from the Address List has been correctly merged with the file.

Go to **File > Open** and **double click** on the **Field Trip Notice Merge Letters** file to **Open** it

This a long document, containing **all ten** of the field trip notices, so **scroll through to the end** to check **(a)** that there are indeed 10 letters (or however many you records you entered into the Address List database) and **(b)** that each letter has the appropriate merged data

Notice how the data from the Address List has been merged into each of the letters, giving each letter a personalized appearance (Fig. 7.16 on the next page).

Editing (further customizing) the recipients' letters

At this stage, you could do some final editing of the individual letters (the Field Trip Notices), prior to printing them as hard copy. The set of notices are all saved in one file and you can “visit” each letter and add a comment here or there which pertains to a particular student or the Home Contact.

For example, you could add a sentence to each letter saying something special about the student. This would further individualize the letters, giving parents the sense that the letter they receive is unique to them. In this way you can further personalize what is, in fact, a form letter. This is always a good thing to do, if you have the time.

After you have checked **all ten** of the Field Trip notices, and made any final edits or personal touches you want, **Save** the **Field Trip Notice Merge Letters** document

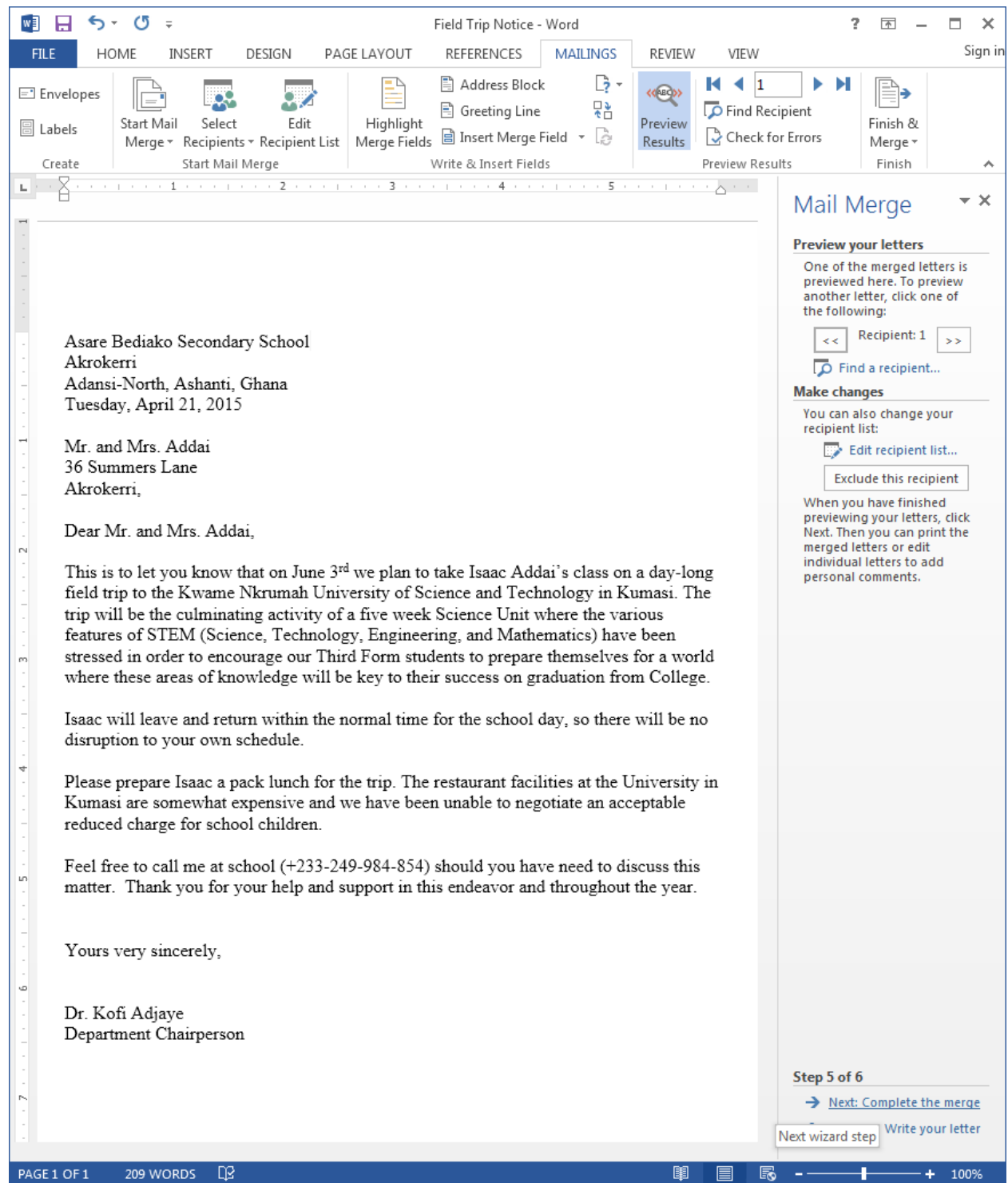


Fig. 7.16 The Field Trip Notice Merged Letters

Saving a PDF version of the merged Field Trip Notices

Now is the time to convert the merged Field Trip Notices to PDF format.

At this stage, you have the Field Trip Notice merged with the Address List database and safely saved as a *LibreOffice Writer* document. But it would be a good idea to save the document as a PDF file, before going on to print the letters

as hard copy (on paper) or soft copy (on the screen).

PDF stands for “Portable Document Format” and it was designed to allow for easy sharing a documents across different computers and operating systems. In other words, a PDF file, once saved, keeps its formatting/layout no matter where it might be viewed or printed. It is a more reliable format for all kinds of different types of documents.

Converting a document to PDF format is very easy to do. Essentially, you’re going to repeat the steps you took when you completed the merge of the Address List data into the Field Trip Notices merged document.

The **Field Trip Notice** merge document should still be open on your screen, but if it is not, from the **File** menu select **Open** and **double click** on the file **Field Trip Notice** to **open** it

Go to **File > Print** and, in the dialog box that pops up asking you to confirm that this is a **form letter** that you want to **print**, click on **Yes**

In the **Mail Merge dialog box** that comes up next, click on the **radio button** next to **File** to **select** that option

Leave the **radio button** next to **Save as single document** selected (Fig. 7.15 on page 200 above) then click on **OK**

The **Save As** dialog box comes up on the screen and you are asked to name the document and decide where you want to save it. This time you’re going to save the document as a **PDF file**, so here is how you do that.

In the **Save As Type:** data entry box, click on the **down arrow** next to **Save as type:** and, in the **menu of file types** that pops up, click on the option for **PDF - Portable Document Format (.pdf)** (Fig. 7.17)

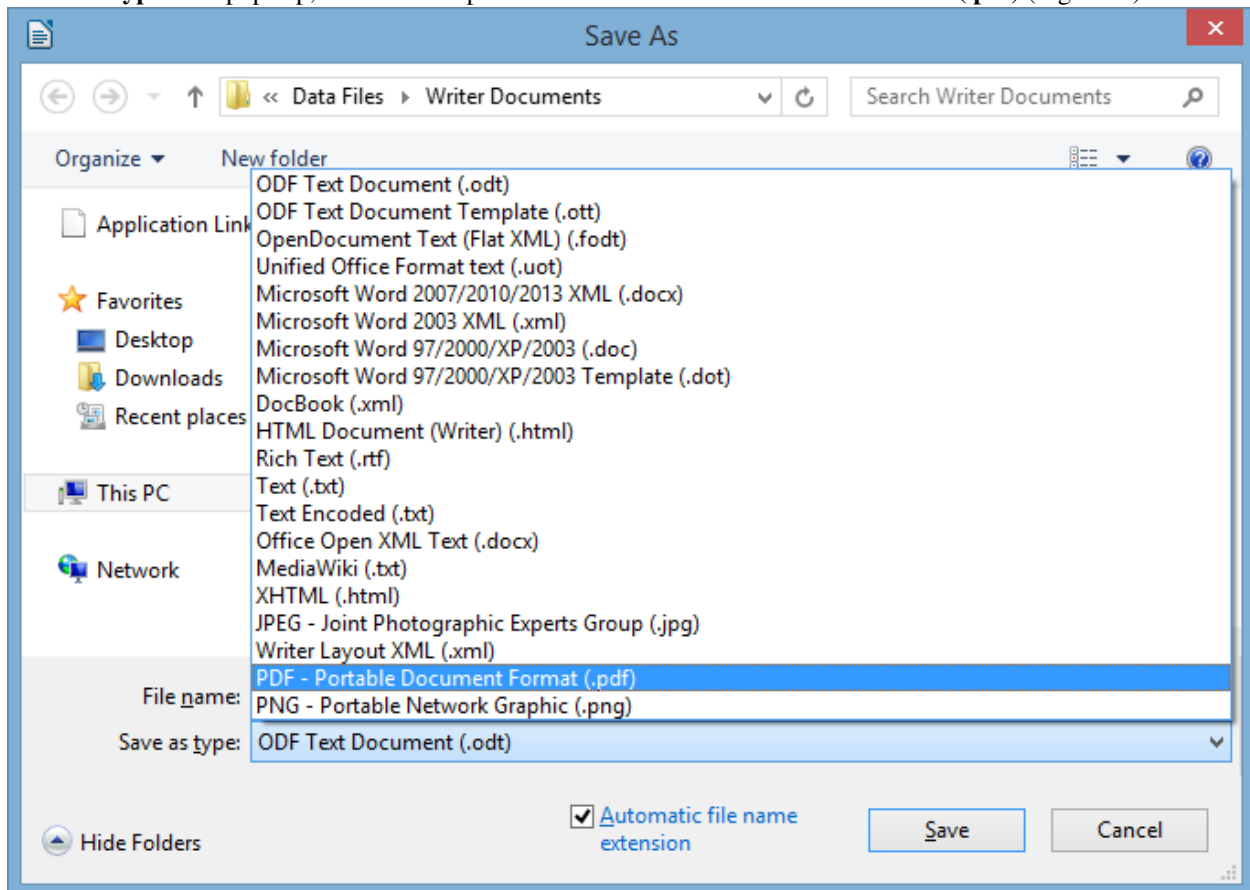


Fig. 7.17 Selecting the PDF file type for the Field Trip Notice merged document

Make sure you are saving to your **LibreOffice Work Files > Data Files > Writer Documents** folder (Fig. 7.17 above)

Now, in the **File name:** data entry box, type **Field Trip Notice Merge Docs** and click on **Save**, then wait while the Mail Merge Wizard's **Print Monitor** saves the ten Field Trip Notices in PDF format (Fig. 7.18)

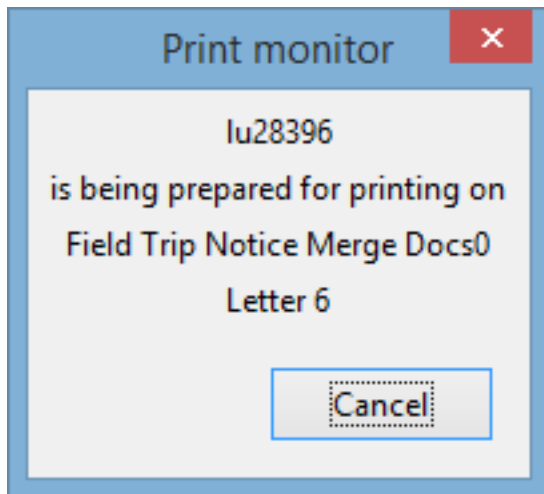


Fig. 7.18 Saving the PDF version of the Field Trip Notices

Printing the PDF version of the Field Trip Notices

You no longer need the **Field Trip Notice Writer** document, so **close** it, then go to **File > Open** and **open** the **Field Trip Notices Merge Docs** document (the **PDF** file)

In the left hand frame of the PDF window, you are now presented with thumbnails for each of the ten Field Trip Notices. On the right hand side of the window, you can see the *first* of the 10 Field Trip Notices containing all the merge field data from the first record in the Address List database (Fig. 7.19).

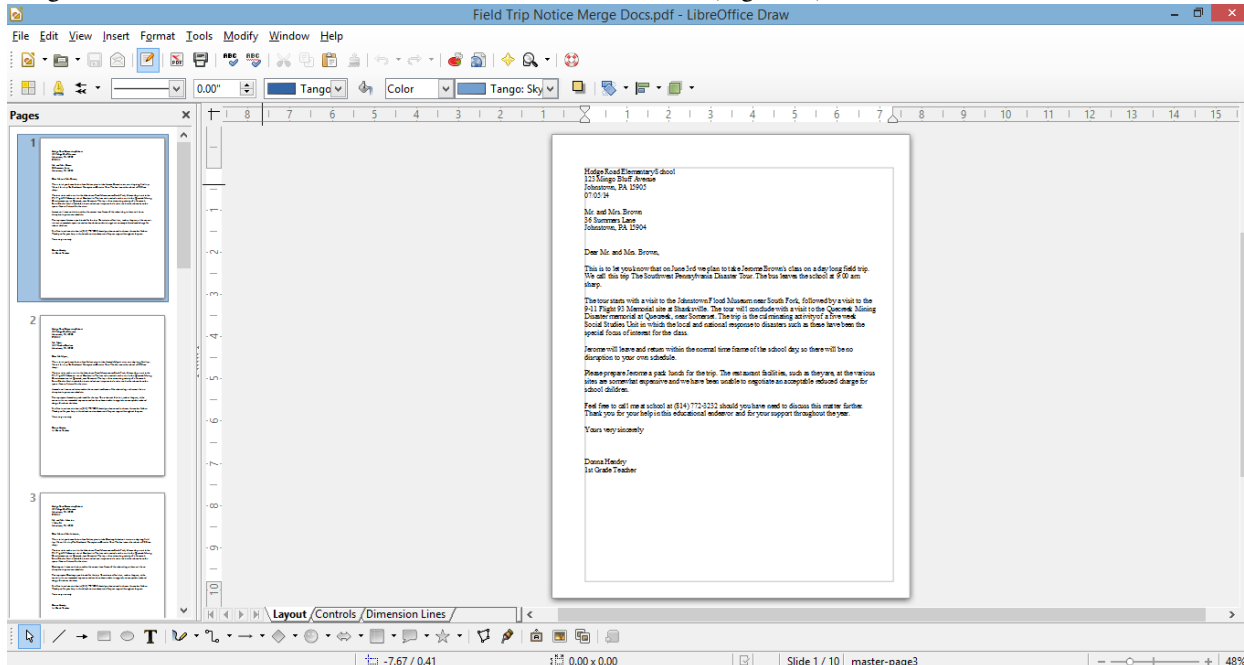


Fig. 7.19 Printing the PDF version of the letters with the Merge Fields filled in

In the **left hand frame** of the **PDF document** (Fig. 7.19 above), click in turn on each of the **thumbnails** of all **ten versions** of the **Field Trip Notice** to scan through the recipients' letters and confirm that the correct data has been merged with each one

If you intend to print out the Notices on paper, assuming all is well, and assuming you have a printer connected to your computer and turned on (with paper in the hopper), go ahead and click on **File > Print...** and *Writer* will print the 10 form letters

Close the **Field Trip Notice Merge Docs** PDF document when you are done

7.5 Preparing mailing labels

Mailing labels are like those Return-Address stickers you put on the outside of your envelopes, or those address stickers that you sometimes find on mass-mailed items that you perhaps have received in the mail. Producing them is simple enough, especially if you have completed all the tutorials up to this point.

Deciding on the data for the mailing label

Writer Merge documents, such as mailing labels, are always linked to a database. We'll keep it simple for now, so you'll use the *Address List* database you created for the *Field Trip Notice* form letter. You know by now how to create your own database of addresses, so you could create an address list of your own; in fact you probably have an electronic address list which you could, if you wanted, use for this exercise.

First you need to open a new *Labels* document.

Go to **File > New > Labels**

You should see the Labels dialog box on your screen (Fig. 7.20).

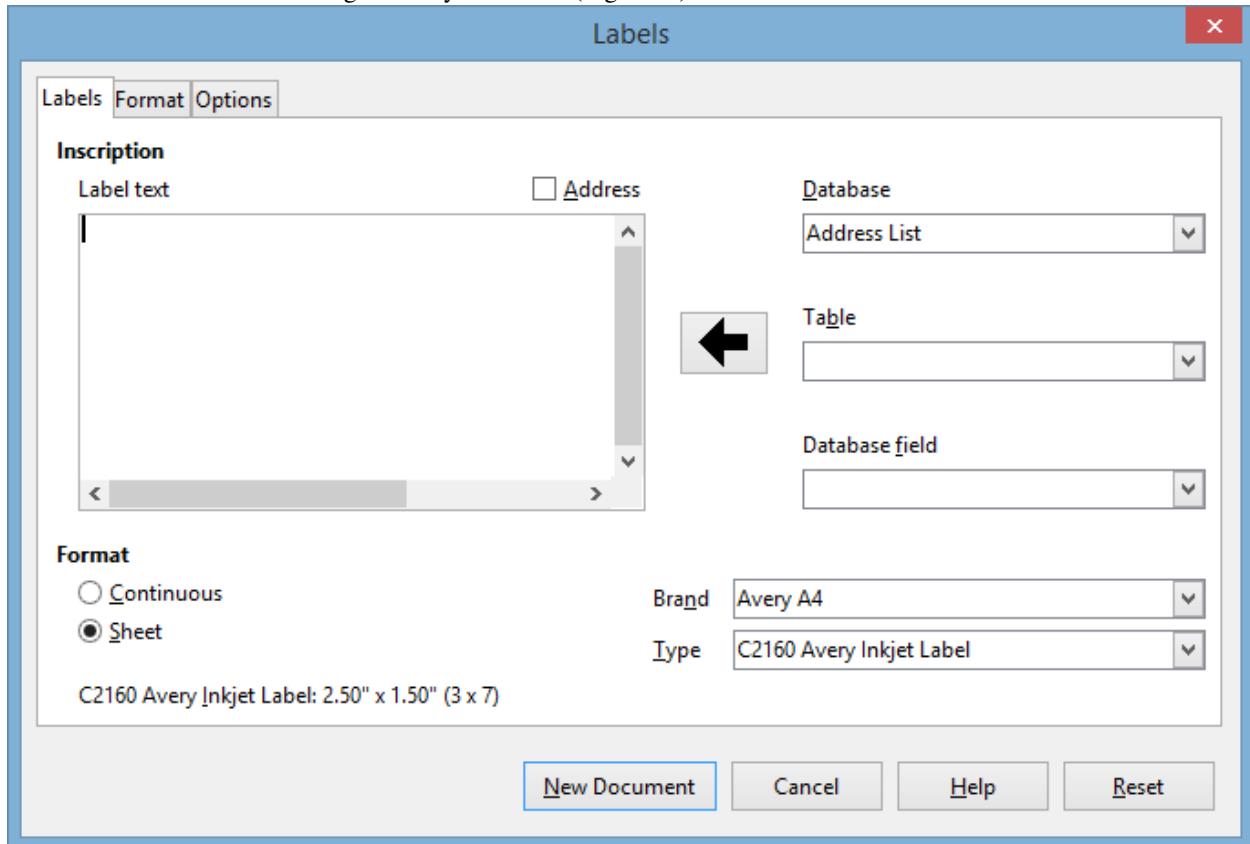


Fig. 7.20 The new Labels dialog box

You now need to make selections in the *Database*, *Table*, and *Database field* data entry boxes. You will also move into the Label Text box a complete set of *Address List* database fields for the Home Contact address, and you have to select the *Brand* and *Type* of mailing label you want to use (Fig. 7.20 previous page).

Fig. 7.21 shows the Labels dialog box after you have completed these tasks.

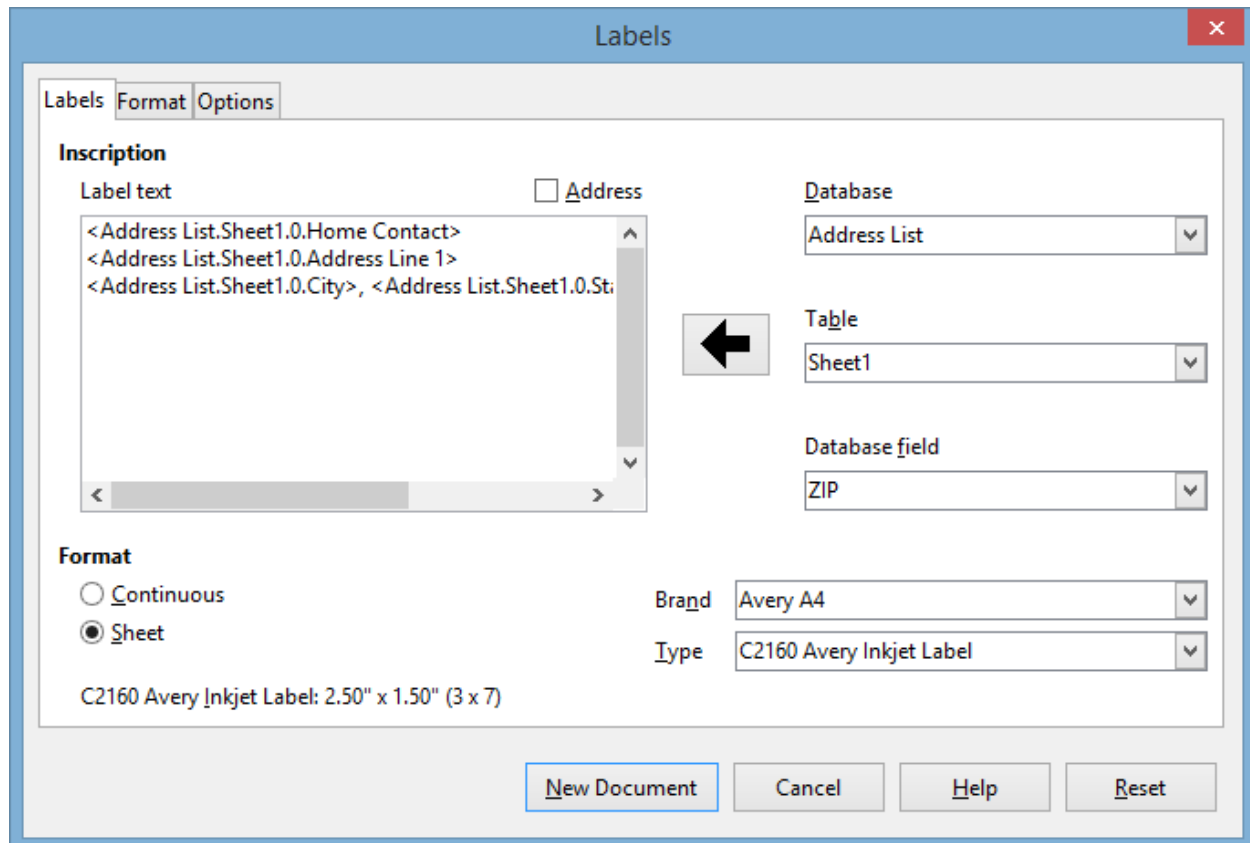


Fig. 7.21 The Labels dialog box after filling out the various entries

The following directions will step you through this process of filling out the Labels dialog box; follow them carefully. Notice, in Fig. 7.21, that you are going to lay out the Recipient address as it would appear on an envelope—as a *mailing label*.

In the **Database entry box**, click on the **down arrow** at the end of the data entry box and, from the list of **databases**, select **Address List**

Now, in the **Table entry box**, click on the **down arrow** at the end of the data entry box and, from the list of **Tables**, select **Sheet1**

Next you have to set up the layout for the recipient (Home Contact) address for the mailing label.

In the **Database field entry box**, click on the **down arrow** at the end of the data entry box and, from the list of **database fields**, select **Home Contact**, then click on the large arrow to **transfer the Home Contact field** across to the **Label Text area**

Click on the **Enter** key to move the cursor to a **new line**

Again, in the **Database field entry box**, click on the **down arrow** at the end of the data entry box and, from the list of **database fields**, select **Address Line 1**, then click on the large arrow to transfer the **Address Line 1 field** across to the **Label Text area**

Click on the **Enter** key to move the cursor to a **new line**

In the **Database field entry box**, click on the **down arrow** and, from the list of **database fields**, select **City**, then click on the large arrow to transfer the **City field** across to the **Label Text area**

Type a **comma** after the **City** field, then hit the ****space bar****

In the **Database field entry box**, click on the **down arrow** and, from the list of **database fields**, select **State**, then click on the large arrow to transfer the **State** field across to the **Label Text area**

Hit the **space bar** to space after the **State** field

Finally, in the **Database field entry box**, click on the **down arrow** and, from the list of **database fields**, select **Zip**, then click on the large arrow one last time to transfer the **Zip** field across to the **Label Text area**

Selecting the standard format for the mailing label

The mailing labels are now filled with the database fields; all that remains is to tell *LibreOffice* what standard *format* you want them to have for your Field Trip Notices envelopes.

We're going to go with *Avery A4* for the *Brand* and *C2160 Avery Inkjet Label* for the *Type*. But the label format doesn't have to be *Avery A4*, of course.

If you already have sheets of mailing labels that you intend to use for this exercise, check out the box they come in and look for the Company Brand and Type of label. Then look up the appropriate Brand and Label Type in the menus that pop up when you click on the down arrows for the respective data entry boxes.

So, for your own purposes you can select any option you like; otherwise, for the sake of this tutorial go with the selections that follow for now.

In the **Format area** of the **Labels** dialog box (Fig. 7.20 previous page), leave the **Sheet** option already selected

In the **Brand** data entry box, click on the **down arrow** to bring up the menu of **standard** company mailing label formats and select the **Avery A4** option

Then, in the **Type** data entry box, select **C2160 Avery Inkjet Label**

In the **Labels** dialog box, click on the **Options** tab, and be sure to click to put a **check mark** next to **Synchronize contents** to ensure that all the labels are merged with the **Address List database**

Finally click on **New Document**

Immediately, *LibreOffice* presents a sheet of mailing labels with all the database fields laid out as per the design you specified in the Labels dialog box (Fig. 7.22).

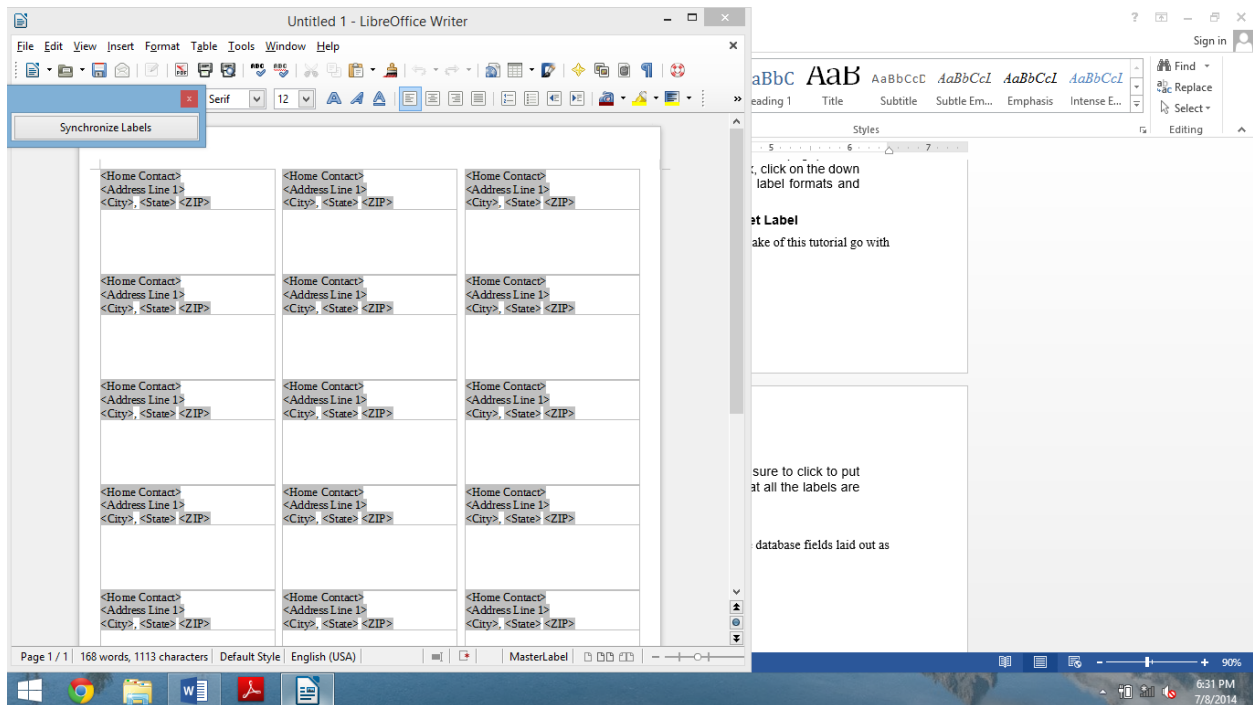


Fig. 7.22 The template mailing labels sheet

Click on the **Synchronize Labels** button (Fig 7.22), then go to **File > Save As...**, navigate to your **USB drive > Work Files for LibreOffice > Data Files > Writer Documents** folder and **save** the new document with the name **Field Trip Notice Merged Mailing Labels**

Previewing your mailing labels on screen

Now you are ready to go ahead and *preview* the sheet of mailing labels with all the data from the database, which you should always do before sending them to the printer.

From the **File** menu select **Print**

As before, *LibreOffice* immediately recognizes that the *Field Trip Notice Merged Mailing Labels* document contains *Address List* database fields and asks you to confirm that you want to print a form letter.

Click on **Yes**

After a few seconds, you are presented with the Mail Merge dialog box (Fig. 7.23).

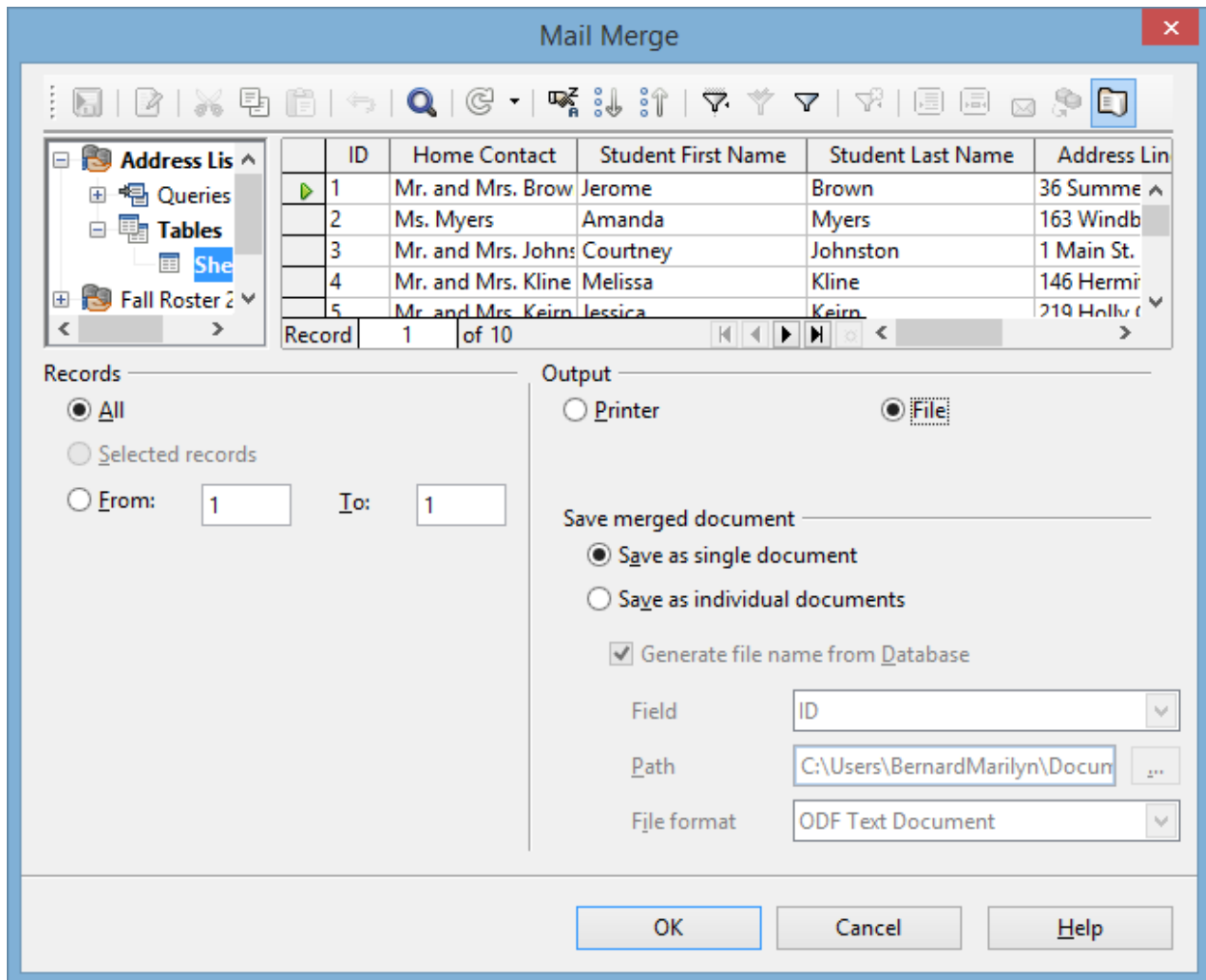


Fig. 7.23 Mail Merge dialog box

You want the output to go to a File. You also want to save the merged document as a *single document* which will contain all 10 of the Field Trip Notice Mailing Labels, each one individually tailored to the *Home Contact* of a different student in the class.

Click on the **radio button** next to **File** to send the **output** to a **File**, and leave the **radio button** next to **Save as single document** selected (Fig. 7.23 above) then click on **OK**

LibreOffice now displays the *Save As* dialog box, prompting you to *Name* the merge file and decide where you want to save it.

In the **Save As** dialog box, navigate, on your **USB drive**, to your **LibreOffice Work Files > Data Files > Writer Documents** folder, then, in the **File name:** data entry box, type **Field Trip Notice Merged Mailing Labels** as before and click on the **Save** button

LibreOffice will ask you if you want to save the file with the same name as the existing file, which you do, so click on **Yes** then **Close** the **Field Trip Notice Merged Mailing Labels**

As noted above, it's always a good idea to take a look at the Field Trip Notice Mailing Labels to check that the data from the Address List has been correctly merged with the file.

Go to **File > Open** and **double click** on the **Field Trip Notice Merged Mailing Labels** file to **Open** it

Notice how the data from the Address List has been merged into each of the mailing labels, giving each label a

customized look.

Check out the layout and content of the mailing labels. If you had many addresses in your Address List you might need to scroll to check them all out, or you could check out individual addresses by clicking on *Ctrl-f* to *Find* a recipient. . . This isn't necessary for this exercise since you have only a few (10) names and addresses in your Address List.

You don't need the **Field Trip Notice Mailing Labels** file for the exercise that follows, so go ahead and **Close** it, but keep open the **Field Trip Notice Merged Mailing Labels** document

Saving a PDF version of the merged Field Trip Notice Mailing Labels

Now is the time to convert the Field Trip Notice Merged Mailing Labels to PDF format so that you will have a version in that format for printing purposes. You'll recall that PDF stands for "Portable Document Format" and it was designed to allow for easy sharing a documents across different computers and operating systems. In other words, a PDF file, once saved, keeps its formatting/layout no matter where it might be viewed or printed. It is a more reliable format for all kinds of different types of documents.

Converting a document to PDF format is very easy to do. Essentially, you're going to repeat the steps you took when you completed the merge of the Address List database into the Field Trip Notice Merged Mailing Labels document. Here's a reminder of the steps to do this.

The **Field Trip Notice Merged Mailing Labels** document should still be open on your screen, but if it is not, from the **File** menu select **Open** and **double click** on the file **Field Trip Notice Merged Mailing Labels** to **open** it

Go to **File > Print** and, in the dialog box that pops up asking you to confirm that this is a **form letter** that you want to **print**, click on **Yes**

In the **Mail Merge dialog box** that comes up next, click on the **radio button** next to **File** to **select** that option

Leave the **radio button** next to **Save as single document** selected (Fig. 7.23 on page 209 above) then click on **OK**

The *Save As* dialog box comes up on the screen and you are asked to name the document and decide where you want to save it. This time you're going to save the document as a **PDF file**, so here is how you do that.

In the **Save As Type:** data entry box, click on the **down arrow** next to **Save as type:** and, in the **menu of file types** that pops up, click on the option for **PDF - Portable Document Format (.pdf)** (Fig. 7.24)

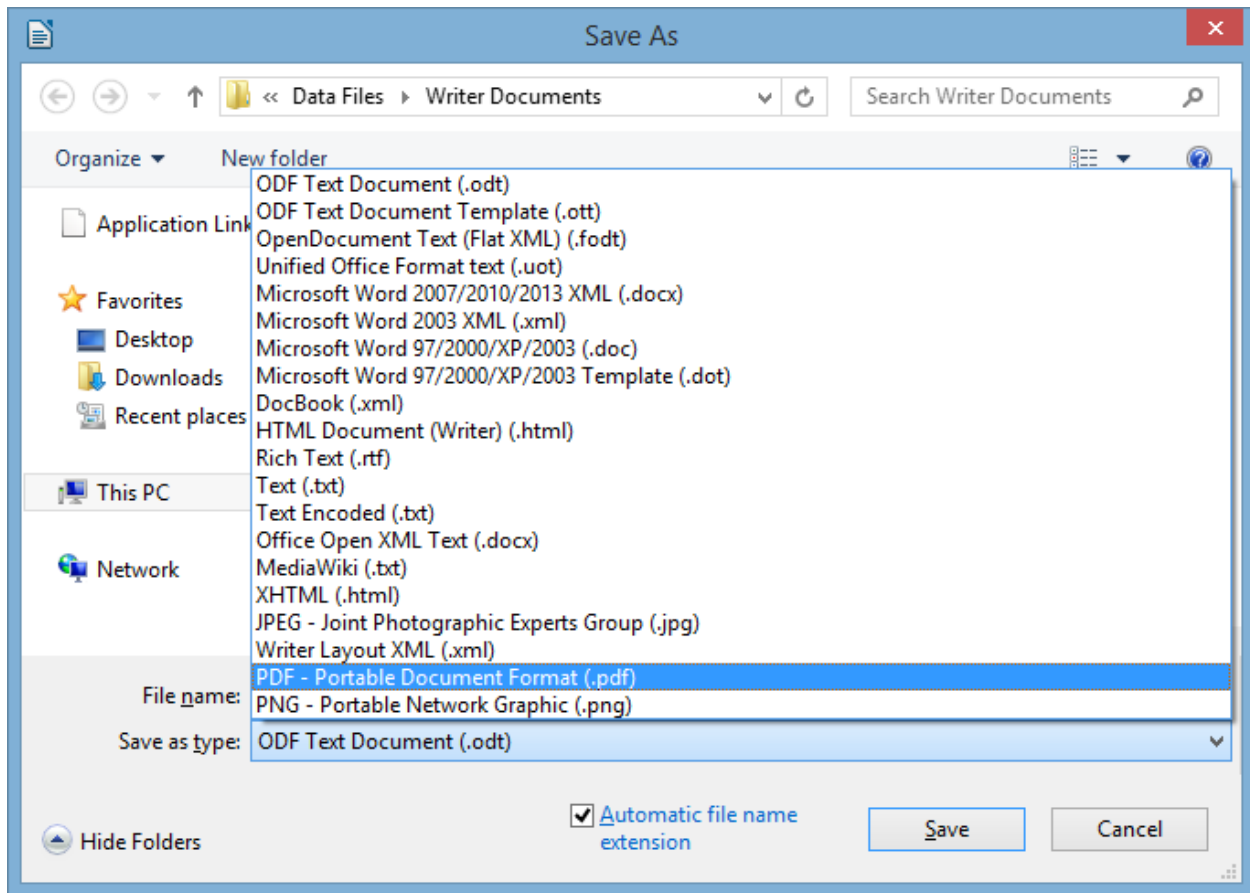


Fig. 7.24 Selecting the PDF file type for the Field Trip Notice merged document

Make sure you are saving to your **LibreOffice Work Files > Data Files > Writer Documents** folder (Fig. 7.24 above)

Now, in the **File name:** data entry box, type **Field Trip Notice Merged Mailing Labels** (you can keep the same name since it's a different **file type (PDF)** than the *Writer* version) and click on **Save**, then wait while the Mail Merge Wizard's **Print Monitor** saves the mailing labels in **PDF format**

Printing the PDF version of the mailing labels

Go to **File > Open** and **open** the **Field Trip Notice Merged Mailing Labels** document (the **.pdf** version)

In the **right hand frame** of the **PDF document**, scan through the recipients' address on each of the labels and confirm that the correct data has been merged with each one

If you intend to print out the mailing labels on paper, and assuming you have a printer connected to your computer, go ahead and click on **File > Print...** and *Writer* will print the mailing label sheet(s) for you

Close the **Field Trip Notice Merged Mailing Labels** PDF document when you are done

7.6 PREPARING A NEW FORM LETTER USING AN EXISTING DATABASE

By way of reinforcement of what you have learned in this lesson, let's prepare another form letter, this time using an existing database.

In your *Work Files for LibreOffice/Miscellaneous Files/Merge Documents* folder there is a database called *Roster 2014*. It is a set of records for a sample class of 25 students. You are going to use the data in this database to prepare a form letter called *Mid Term Report*, which will report to parents/guardians on their child's progress-to-date half way through a semester. You are going to have *Writer* merge the *Mid Term Report* with the *Roster 2014* database.

First you need to open a Writer template as a basis for the report. The template is called *Letters*.

Go to **File > Open >** navigate to your **USB drive > Work Files for LibreOffice > Miscellaneous Files > Merge Documents >** and **double click** on **Letters** to **open** it

Registering the Roster 2014 database

You must register the *Roster 2014* database with *LibreOffice* before you can use it to merge the *Roster 2014* data into the *Letters* merge document. Follow these steps to do this.

Go to the **Tools menu > Options...**, then in the **left hand frame** of the **Options window** select **LibreOffice Base > Databases** (Fig. 7.25)

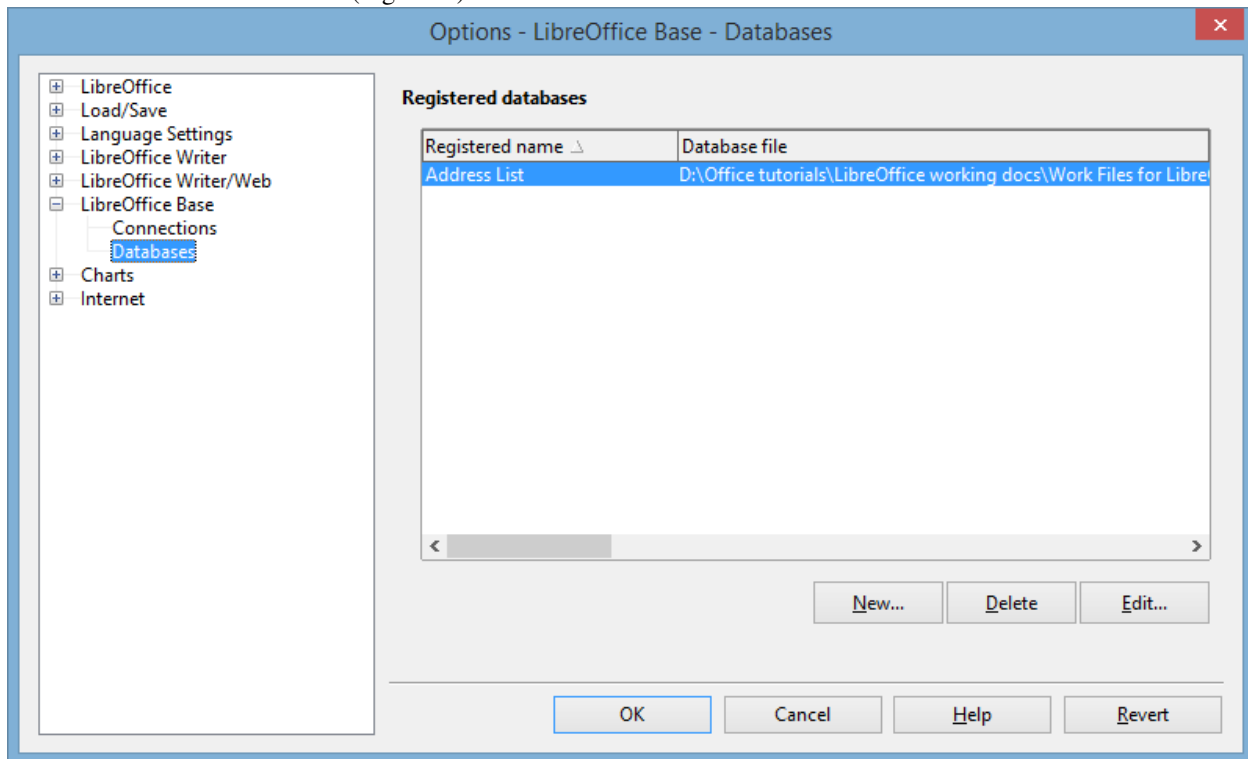


Fig. 7.25 The Tools > Options dialog box

In the **right hand frame**, in the **Registered databases** section, click on **New**

This brings up the *Create Database Link* dialog box (Fig. 7.26).

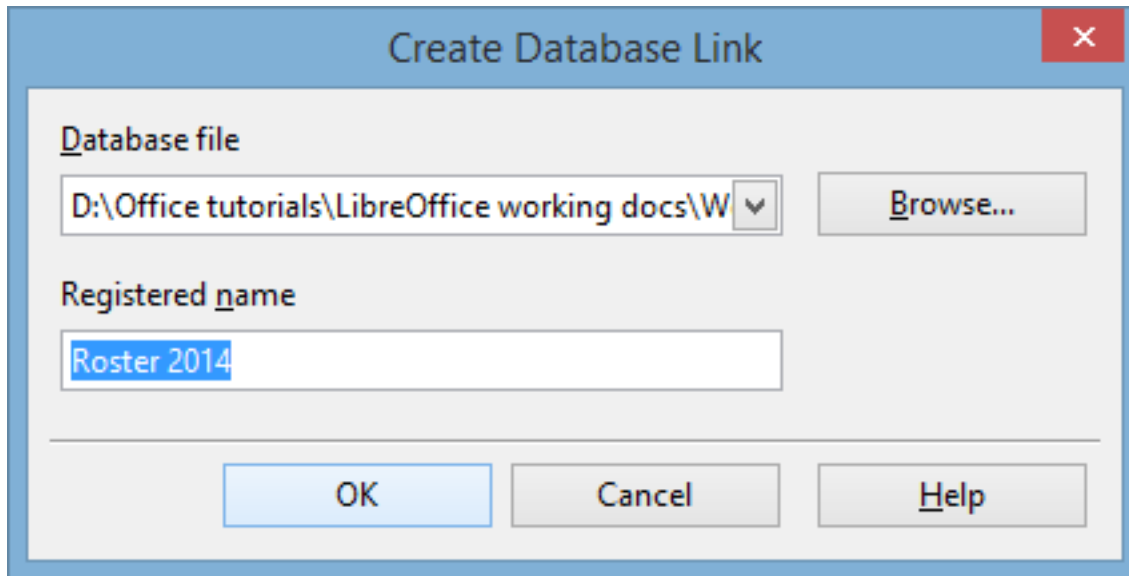


Fig. 7.26 Create Database Link dialog box

In the **Create Database Link** dialog box, click on **Browse** and navigate to your **USB drive > Work files for LibreOffice**

Miscellaneous Documents > Merge Documents and **double click** on **Roster 2014** to put it in the **Registered name** data entry box (Fig. 7.26 above), then click on **OK**

Notice that the *Roster 2014* database is now in the *Registered Name* list in the *Registered Databases* section of the *Options* dialog box (Fig. 7.27).

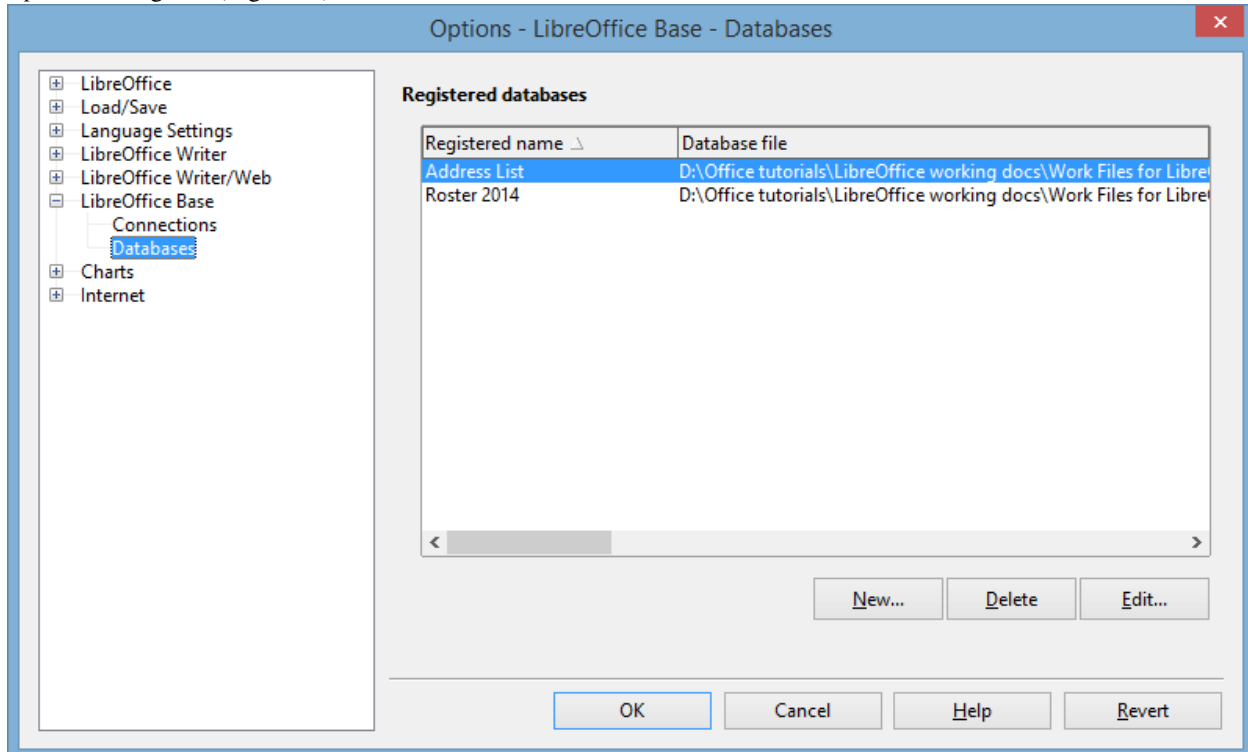


Fig. 7.27 Adding *Roster 2014* to the list of registered databases

Click on **OK** again to complete the **registration** of the **Roster 2014** database

The *Roster 2014* database is now a registered database and may be used as a data source for the *Letters* document you are working with and which should still be open on your screen.

In the **View** menu select **Data Sources**, then, in the list of databases at **top-left** of the **Letters** window, click on the + (**plus sign**) next to **Roster 2014** and again on the + (**plus sign**) next to **Tables** to bring up the **Roster 2014 Table** (Fig. 7.28)

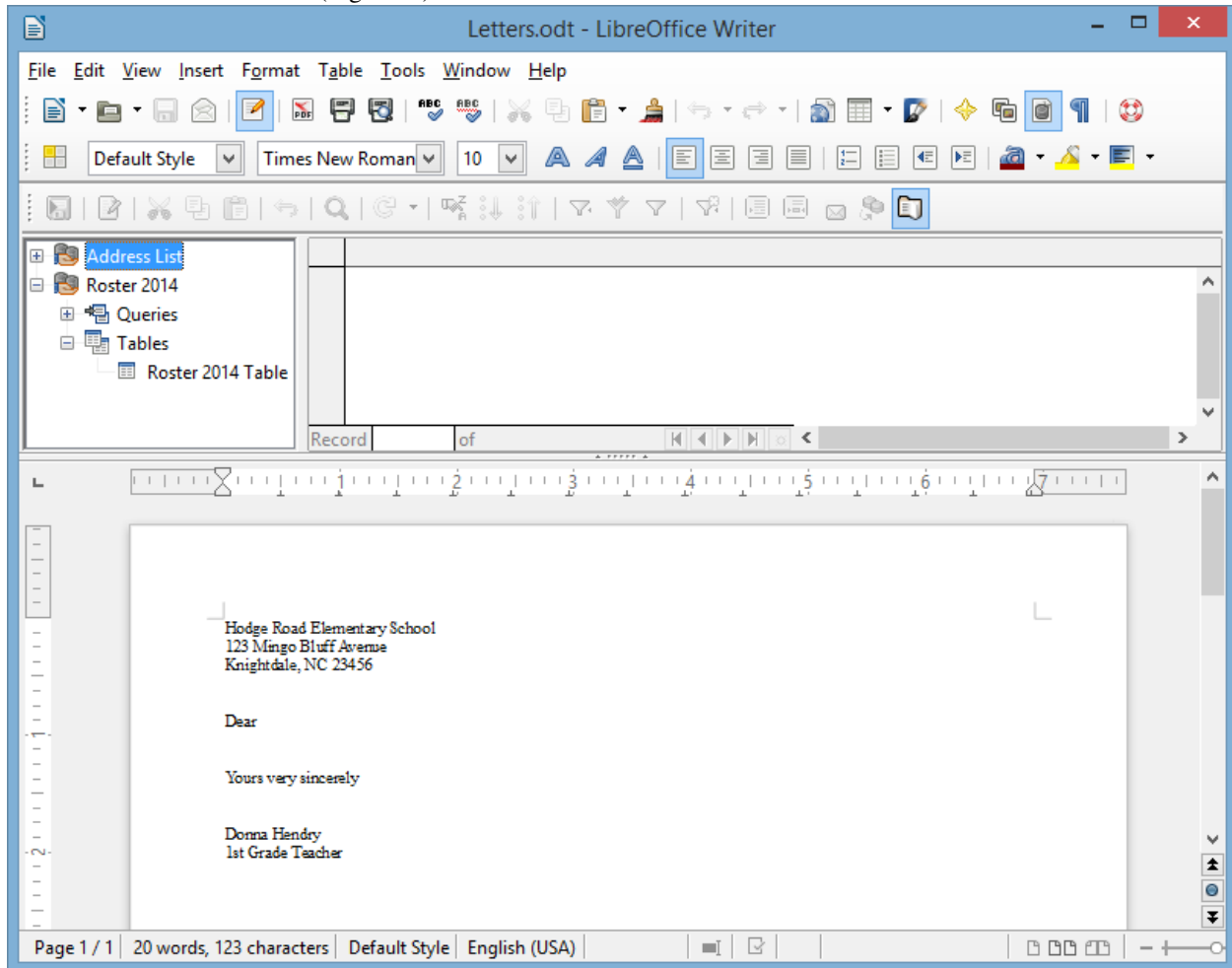


Fig. 7.28 Viewing the *Roster 2014* data source

Now, still in the top-left frame, click **once** on **Roster 2014 Table**, then wait while the data from the **Roster 2014 database** is displayed **top-right** (Fig. 7.29)

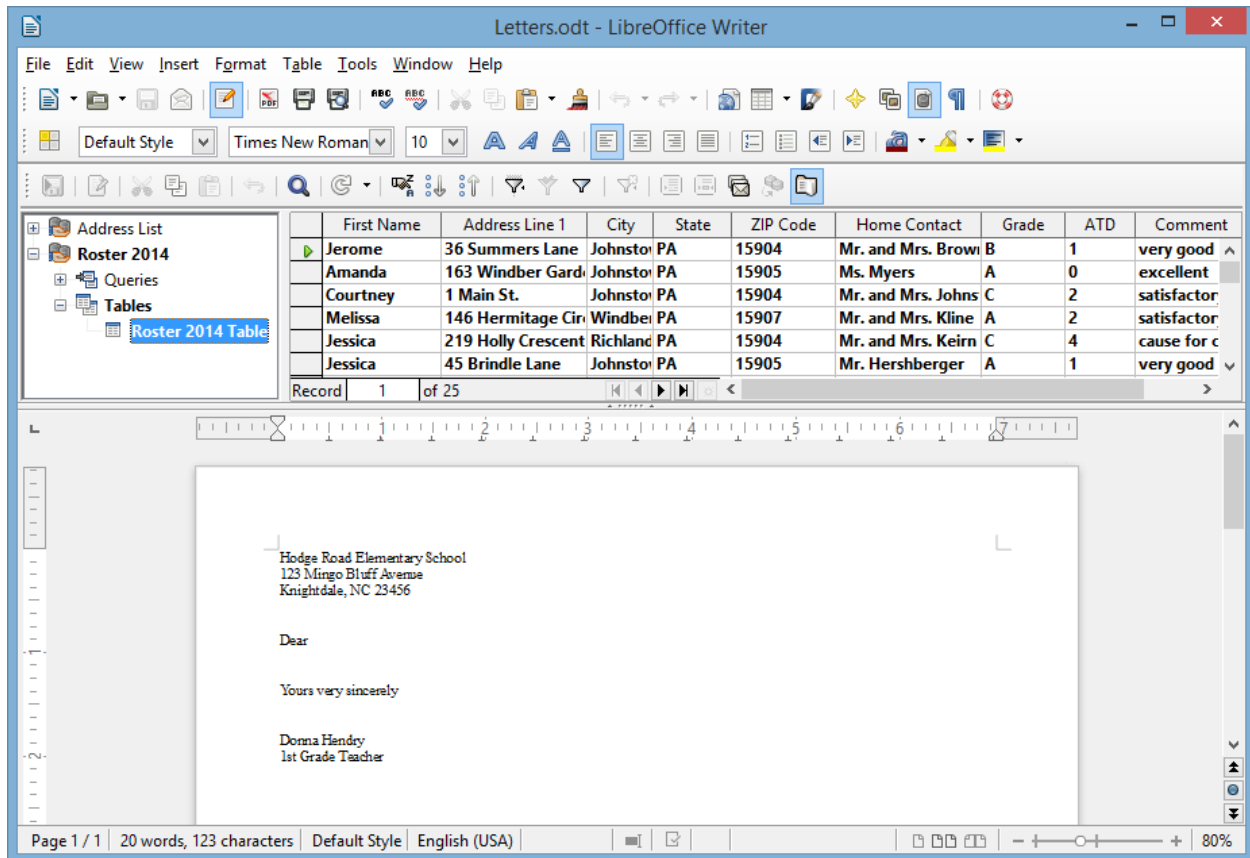


Fig. 7.29 The Roster 2014 data displayed top right of the Letters window

Creating the Mid Term Report form letter

Next you are going to use the *Letters Writer* document (still on the screen and also saved on your disk) to create a *Mid Term Report* document which will go out to the parents of your students. The report is illustrated in Fig. 7.29 on the next page. **Do NOT start typing the report in yet!** You have a couple of other things to do to get set up for the mail merge.

First you must save the *Letters* document with a different name so that you will keep the copy of the *Letters* document as a template for future use.

Select **File > Save As...**

Change the name of the **Letters** document to **Mid Term Report** (this will be the name of the form letter you are going to create), then navigate to your **USB drive > Work Files for LibreOffice > Data Files > Writer Documents folder** and click on **Save**

You are going to have *Writer* produce one letter for each student in the *Roster 2014* class. As you can see, the form letter illustrated in Fig. 7.30 on the next page reports to parents on how well their child is doing half way through the semester.

You already told *Writer* that you want to merge the form letter with the data stored in the *Roster 2014* database. The placeholders in Fig. 7.30 on the next page (where the field names are enclosed by the

< ... > brackets) indicate the location in the form letter where data from the *Roster 2014* database is to be merged when the letters are actually printed out.

Wherever you see a placeholder (< ... >), use the *mouse* to drag the appropriate field header down from the data displayed top right as you work your way through the letter.

You already completed a similar exercise earlier in this lesson. If you are still unsure about what to do, you might like to check back at what you did—section 7.3 *Creating the form letter (the Field Trip Notice)*, starting on page 195.

All that remains is for you to type the letter as it is illustrated in Fig. 7.30.

Hodge Road Elementary School

123 Mingo Bluff Avenue

Johnstown, PA 23456

Tuesday, March 10, 2015

< Home Contact>

< Address Line 1>

< City>, < State> < ZIP Code>

Dear < Home Contact>,

As you may already be aware, I am < First Name>'s home room teacher this year. You will be pleased to know that the class has settled down well, and the children are making excellent progress on the whole.

I am writing to report to you about < First Name>'s participation in school this first half of the current session. I'm sure you appreciate how important it is for you to be aware of where your child stands, especially in regard to class grades and attendance.

< First Name>'s current grade is < Grade>. < First Name> has missed < Comment> days so far this session, which is

< Comment>.

Please feel free to contact me at any time to arrange a conference, especially if the grade or attendance data in the previous paragraph are not what you expected.

I can be contacted at school between the hours of 7:30 am and 4:00 pm, Monday through Friday. My phone number is 814-269-2923. You may also contact me using email. My email address is van-standen@keystone.k12.pa.us.

I look forward to hearing from you.

Yours very sincerely,

Mandi Van Staden

Instructional Technology Coordinator

Fig. 7.30 The Mid Term Report form letter

Type the **contents** of the **Mid Term Report** as illustrated in Fig. 7.30 above; be sure to use the **Date format** illustrated (**Insert > Fields > Date**, **right click** on the default **numeric Date** and, in the pop up **context menu** of **Field Options**, select the **Wednesday, December 31, 1999 style**)

When you are done, **Save** the **Mid Term Report**

Pasting a chart into the letter

The letter needs one final touch. You are going to put a chart in the Mid Term Report. You will create the chart in a *Calc* spreadsheet, then copy it into the Mid Term Report. It's easy enough to do if you already completed the *Calc* tutorials (Lessons 4 and 5) of this *LibreOffice* book.

Go to **File menu > Open...**, navigate to **USB drive > Work Files for LibreOffice > Miscellaneous Files > Merge documents** and **double click** on the **Gradedata** spreadsheet

You are going to create a simple chart using the data in the *Gradedata* spreadsheet. This will be useful reinforcement of what you learned in Lesson 5. Here are the steps, if you need the help.

Highlight cells **A1** through **B6** (the data that will be represented in the chart), then go to **Insert menu > Object**

click on **Chart...** (Fig. 7.31)

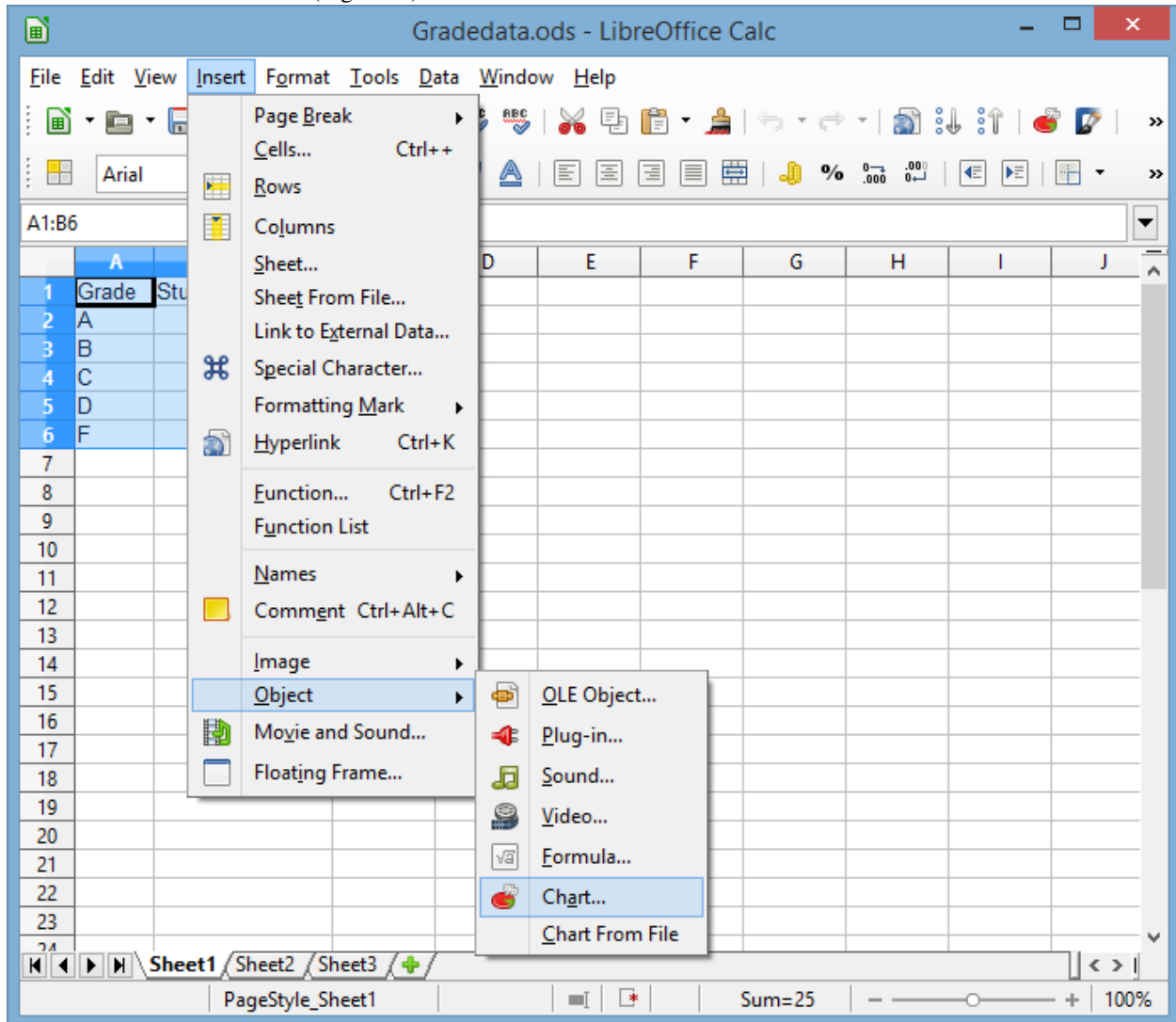


Fig. 7.31 Selecting the Chart option in Calc

LibreOffice Calc immediately creates a default plain Column chart based on the data in the spreadsheet, and then presents the Chart Wizard dialog box (Fig. 7.32) to help you create a more interesting or, more to the point, more *meaningful* chart.

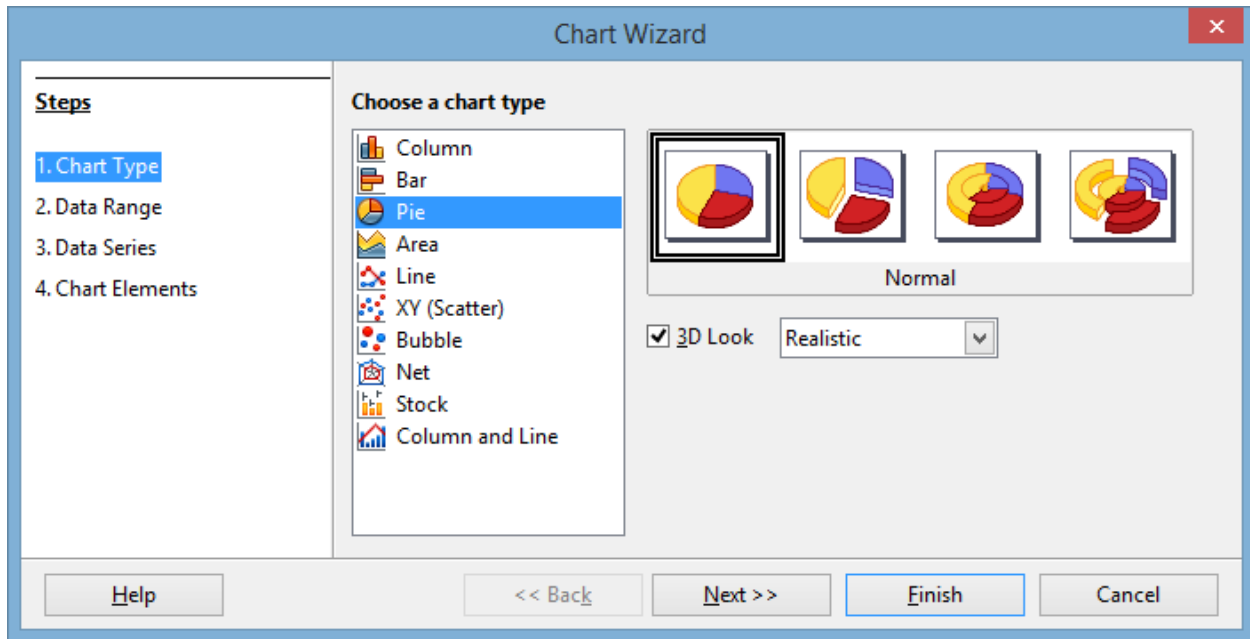


Fig. 7.32 The Chart Wizard dialog box

Start, in **Step 1**, by selecting the **Pie** chart option, then click in the check box next to **3D Look** (Fig. 7.32 above)

Calc quickly assembles the chart and displays it on the screen (you should see the small handles around the chart indicating that it is a *selected* object)—Fig. 7.33.

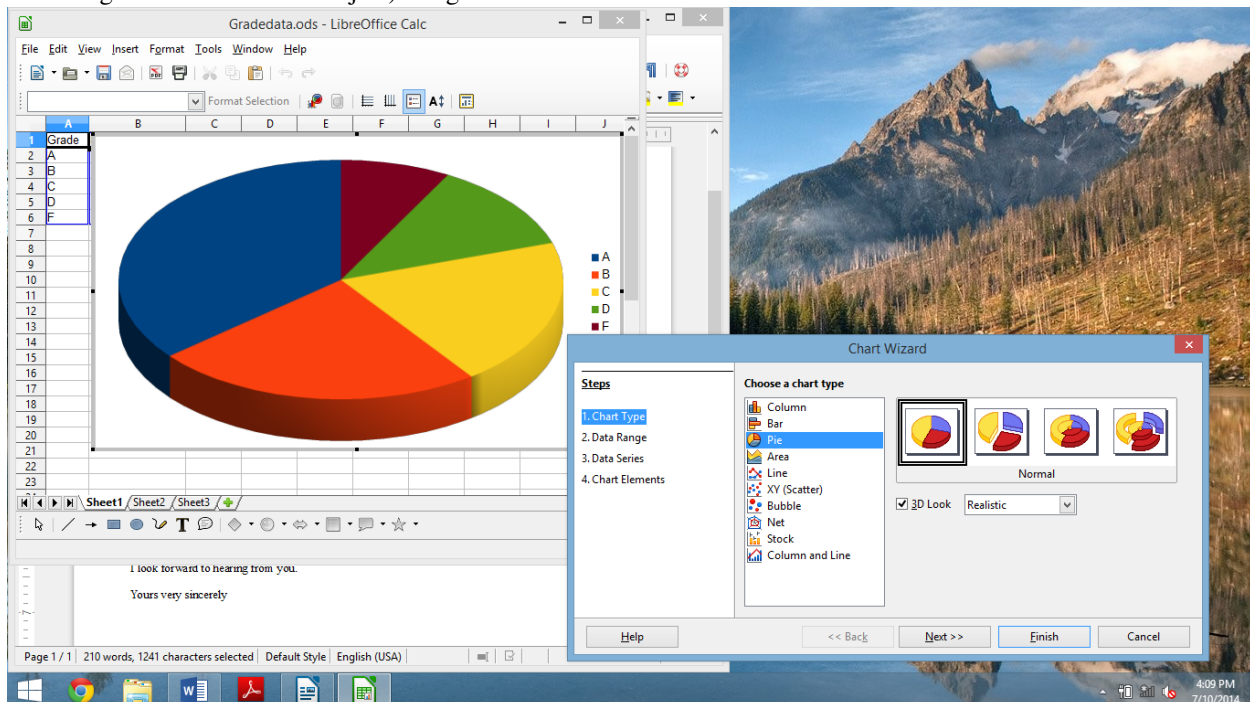


Fig. 7.33 The Grade 4 Reporting Period basic 3D Pie chart

As charts go, it's pretty plain at this stage, and not very meaningful at all. The chart needs a title and subtitle, and each of the slices need numerical values associated with them.

Fig. 7.34 illustrates what we're looking for in the final version of the chart.

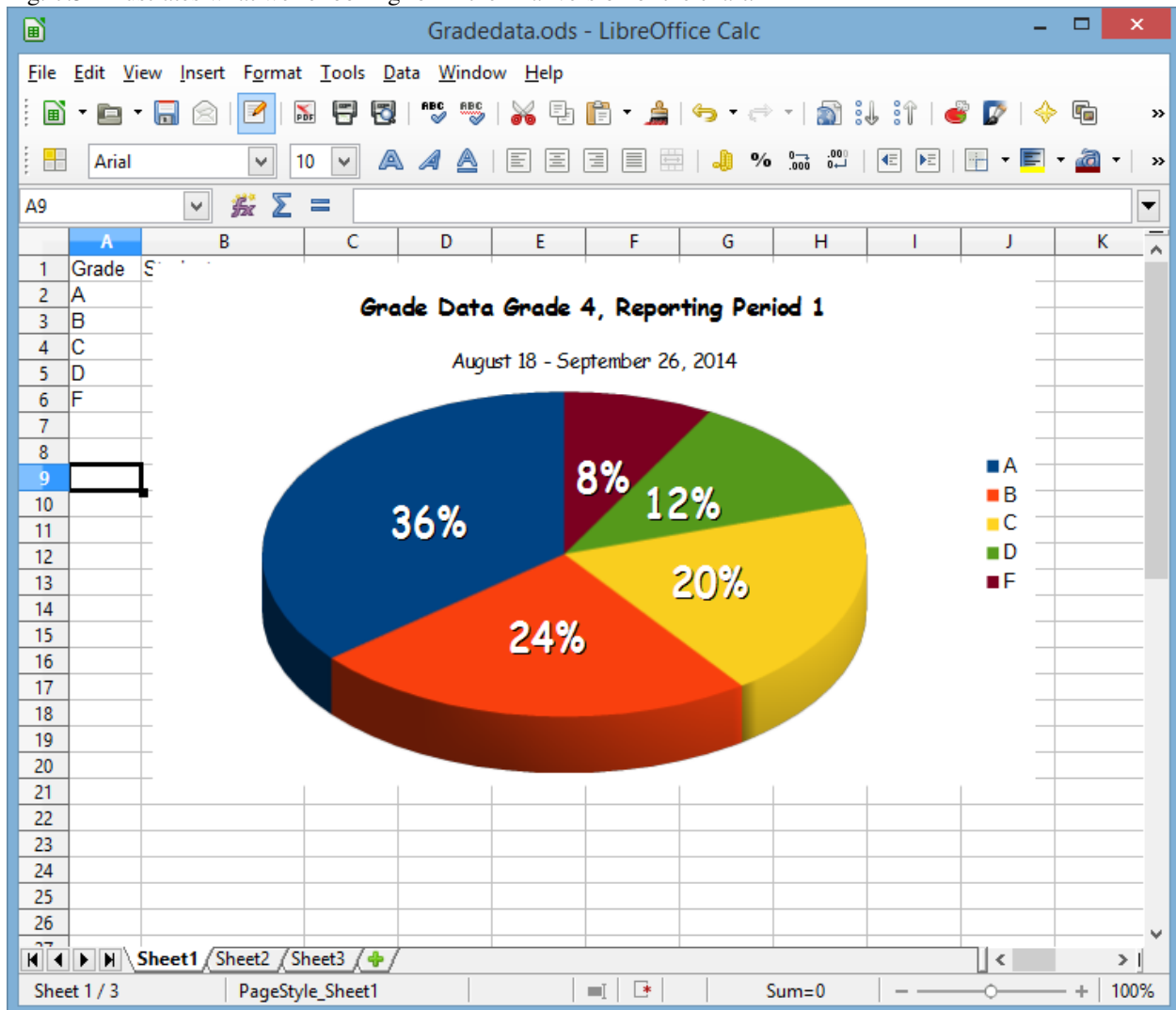


Fig. 7.34 Final version of the Grade 4 grading period data chart

Essentially, a chart like this is an *opportunity* to create “a picture worth a thousand words.” And the *LibreOffice* suite of productivity software does a good job of making this possible with little effort on your part.

Let's do what is necessary to arrive at this final version of the chart. We don't need to do anything with Steps 2 and 3 of the Chart Wizard because our data sample is very simple.

So... Start with the Chart Titles (see Fig. 7.33 above).

In the **left hand frame** of the **Chart Wizard** dialog box, click on **Step 4** to bring up the **Chart Wizard > Chart Elements** dialog (Fig. 7.35)

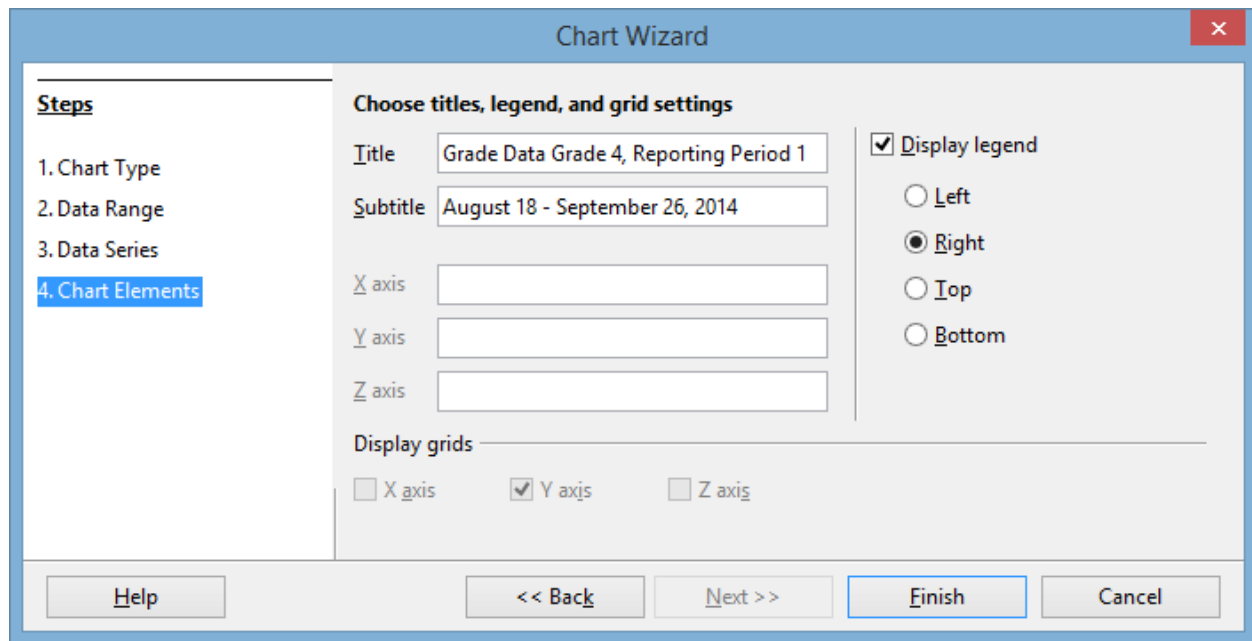


Fig. 7.35 The Chart Wizard > Chart Elements dialog

Go ahead and type in the *Title*: **Grade Data Grade 4, Reporting Period 1**, then type in the *Subtitle*: **August 18 – September 26, 2014** and click on **Finish**

Next, let's change the *font* of the Title and Subtitle text.

On the **Title text** (Grade Data Grade 4, Reporting Period 1), **double click anywhere** to put a **blue box** around it, then **triple click** on the **Title text** to select the **whole of the title text** (Fig. 7.36)

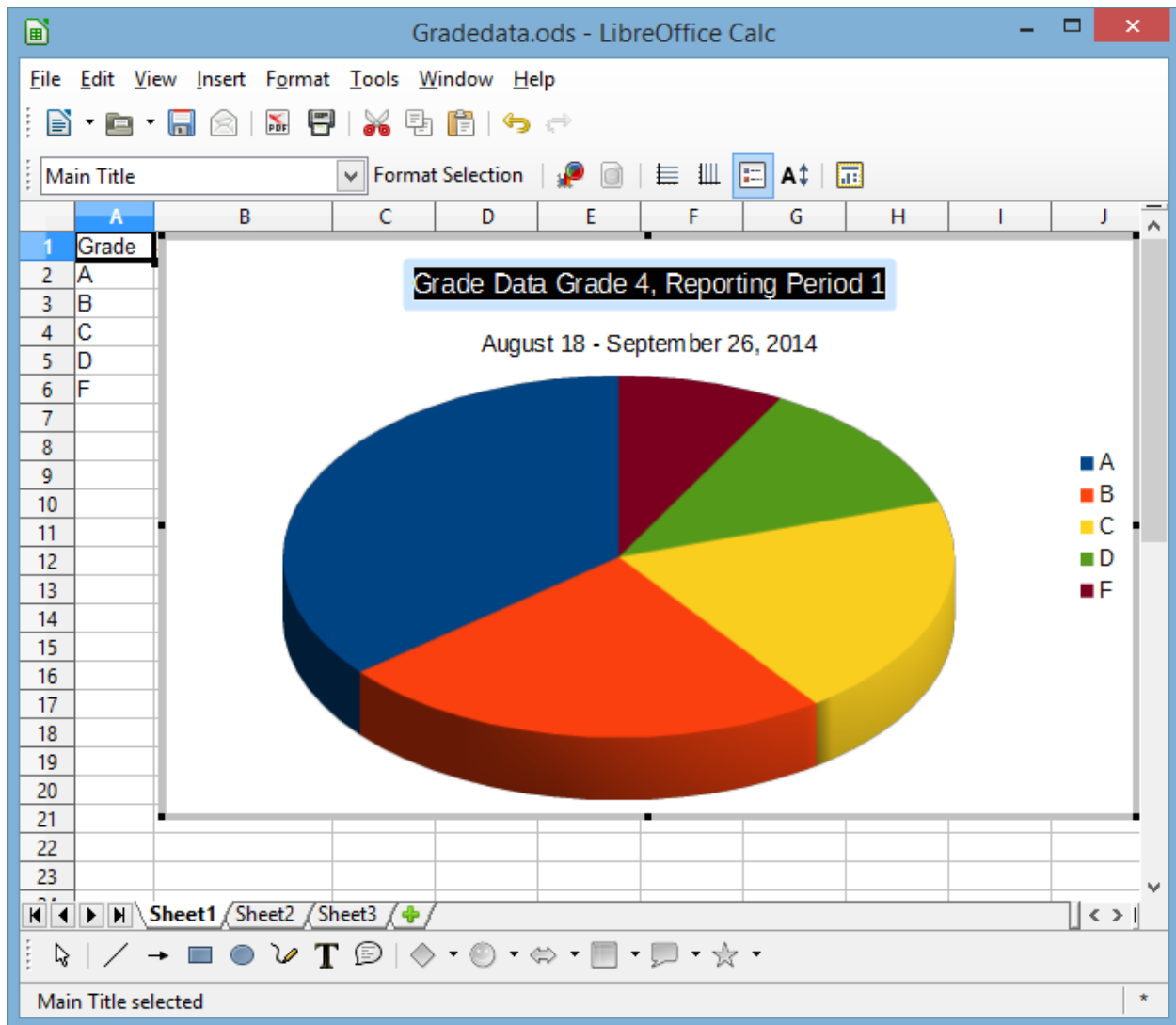


Fig. 7.36 Selected Title text

Now, **right click** anywhere in the **Title Text** box and, in the **context menu** that pops up, select **Format Title...** to bring up the **Main Title** dialog box (Fig. 7.37)

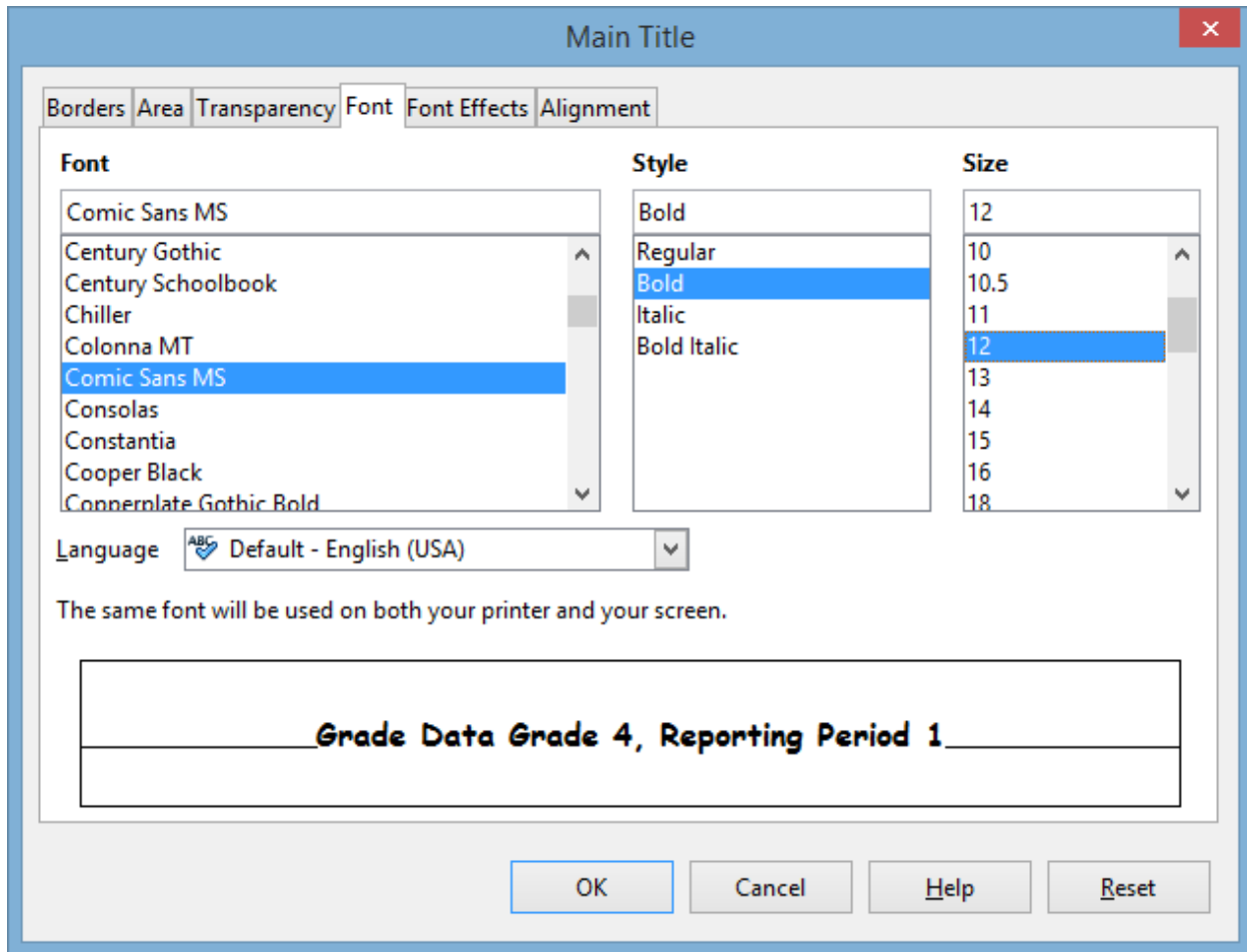


Fig. 7.37 Formatting the Chart Title

In the **Main Title** dialog box (see Fig. 7.37 above), click on the **Font** tab and, in the **Font menu**, scroll to select **Comic Sans MS**, then in the **Style menu** select **Bold**, and in the **Size menu** select **12**, then click on **OK**

Now you need to do the same for the *Subtitle* text: *August 18 – September 26, 2014*.

Double click anywhere on the **Subtitle** text to put a **blue box** around it, then **triple click** on the **Subtitle text** to select the **whole of the text**

Now, **right click** anywhere in the **Subtitle Text** box and, in the **context menu** that pops up, again select **Format Title...** to bring up the **Subtitle** dialog box (more or less the same as Fig. 7.37 above)

In the **Subtitle** dialog box, click on the **Font** tab and, in the **Font menu**, scroll to select **Comic Sans MS**, then in the **Style menu** select **Regular**, and in the **Size menu** select **10**, then click on **OK**

That takes care of the chart titles. All that remains is to put *labels* on each of the slices in the Pie Chart to help the reader of the Mid Term Report *interpret* the data in the chart.

Right click anywhere on the **pie chart itself** and, in the **context menu** that pops up, select **Insert Data Labels**

LibreOffice immediately updates each slice of the Pie Chart with the value (number) from the *Gradedata* spreadsheet that corresponds to each of the Grades—A, B, C, D, or E (Fig. 7.38).

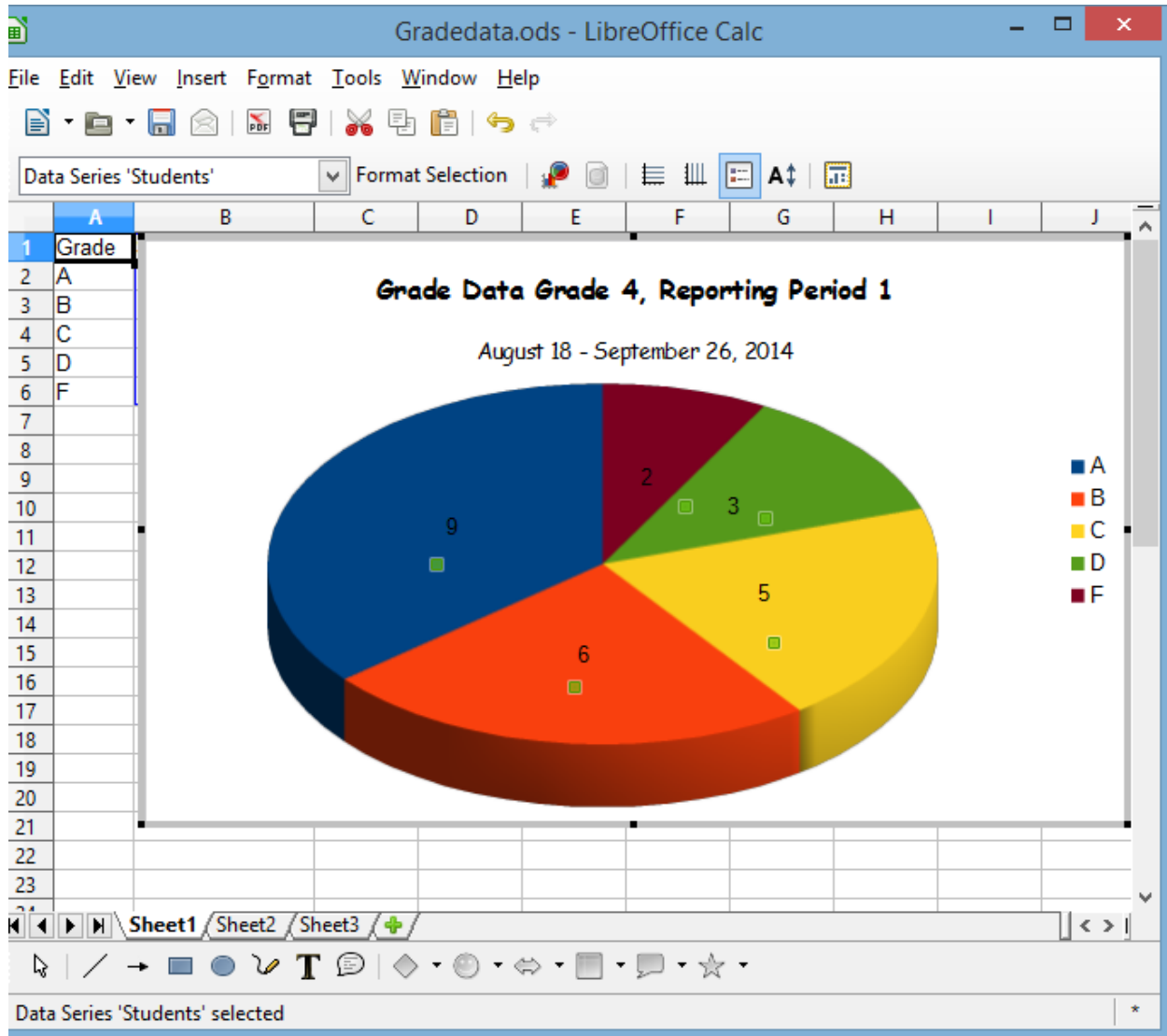


Fig. 7.38 Updated slices of the Pie Chart

Your last task is to format those numbers in each of the slices so that they stand out and provide more information to the parents or guardians who are going to use the chart to compare their child's grade with those of the rest of the class.

Right click anywhere on the **Pie chart** and, in the **context menu** that pops up, select **Format Data Labels...** to bring up the **Data Labels for Data Series 'Students'** dialog box (Fig. 7.39)

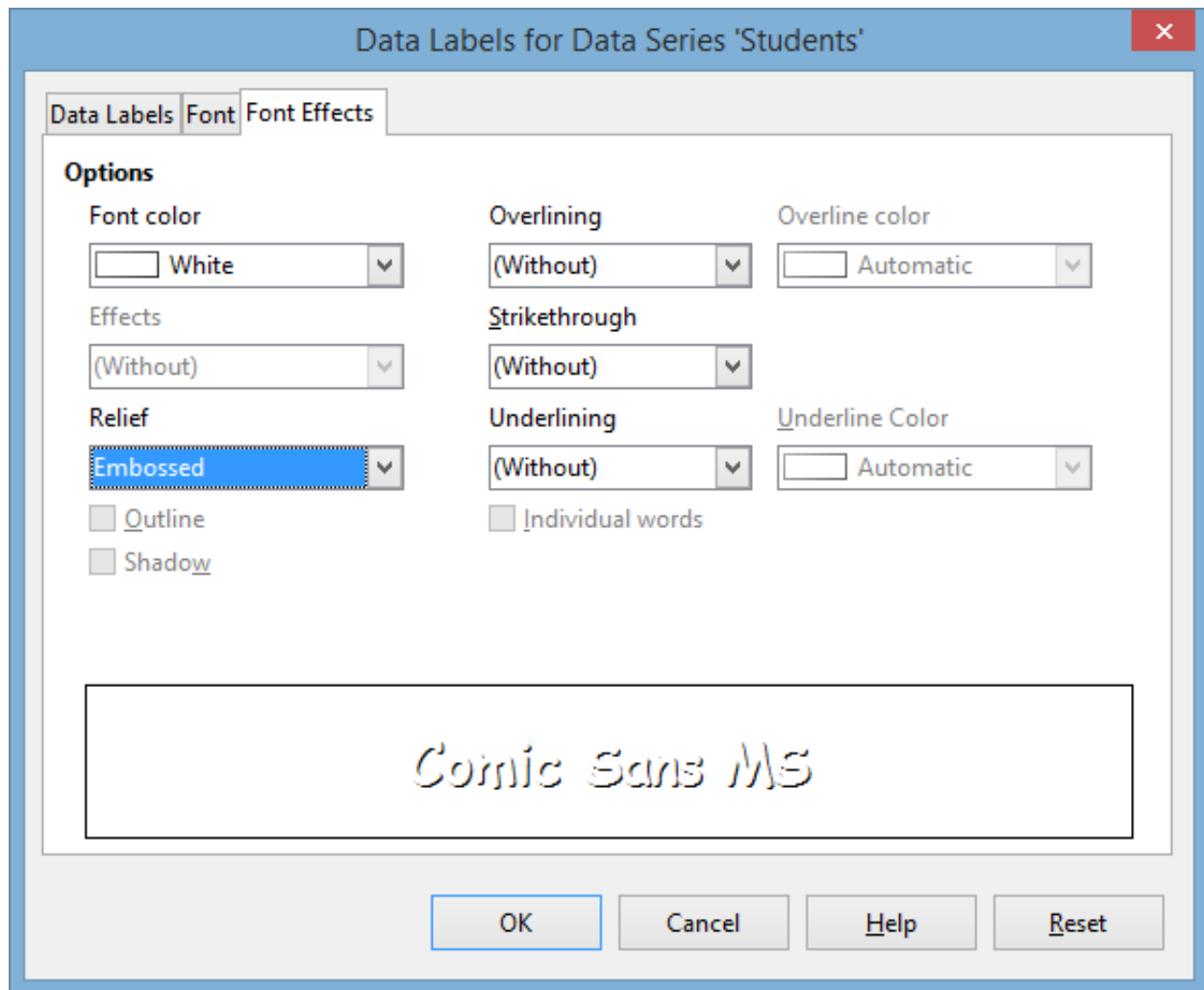


Fig. 7.39 Data Labels dialog box

Click first on the **Data Labels** tab and click to put a **check mark** in the **box** next to Show value as **percentage**

Next, click on the **Font** tab and select **Comic Sans MS** for the **Font**, **Bold** for the **Style**, and **20** for the **Size** of the font

Finally, click on the **Font Effects** tab and select **White** for the **Font Color**, and **Embossed** for the **Font Relief**, then click on **OK**

Save the **Gradedata spreadsheet** with the **chart** embedded in it

Now you can copy the chart and paste it into the Mid Term Report.

Click anywhere on the **white background** of the pie chart so that you see the **small green handles** around the edges of the chart box—which means that the chart is selected (Fig. 7.40)

Fig. 7.40 Finished chart ready to be copied and pasted

Press **Ctrl-c** to **copy** the chart to the clipboard

Locate and switch back to the **Writer Mid Term Report** which is still open on your screen

The *Mid Term Report* document should now be the active window on the screen.

Click to position the cursor at the **very beginning** of the paragraph that reads “**Please feel free to contact me...**”

Press **Ctrl-v** to paste the chart into the **Mid Term Report** document then, in the **Formatting toolbar** at the top of the screen, click on the **Center** icon to **center** the chart

As is, the letter probably spills over onto a second page because of the chart. This is no problem if it cannot be avoided.

Navigate to your **USB drive > Work Files for LibreOffice**

Data Files > Writer Documents folder and **Save the Mid Term Report**

Final tasks

First you need to complete the merge of the Mid Term Report with the Roster 2014 database.

In the **File** menu select **Print**, in the dialog box that pops up click on **Yes** to confirm that this is a **form letter**

In the next dialog box, click to send the **Output** to a **File** and click on the **radio button** to **Save as a single document**, name the file **Mid Term Report Merged Document**, and **Save** it again

Next you need to save the merged Mid Term Report as a PDF file.

In the **File** menu, again select **Print**, and, in the dialog box that pops up, click on **Yes** to confirm that this is a **form letter**

In the next dialog box, click to send the **Output** to a **File** and click on the **radio button** to **Save as a single document**, then in the **Save As** dialog box, in the **Save as type:** data entry box, click on the **down arrow** at the end of the entry box and, in the menu of file types that pops up, click on the option for **PDF - Portable Document Format (.pdf)**

Name the file **Mid Term Report Merged Document**, and **Save** it again

If you wanted to print them all out on paper, make sure the printer is turned on and has paper in it, then click on **File > Print...** and proceed as you now know how.

SKILL CONSOLIDATION

Complete these exercises to reinforce what you learned in Lesson 7.

1. Imagine a scenario where you invite your students (as an assignment, perhaps) to prepare sets of questions for tests based on the material that you have covered in class. Each student types his or her questions into the database. You would check the database to make sure that each student had completed the assignment. Then you would print a copy of the full set of test questions for every student to use as a study guide. When the date for the test approaches you would simply select out those that you want to use, and print up the test using the pre-prepared test report format.

Individually or together with a team of your classmates, prepare a database to store sets of test questions. Make up a representative set of, say, 20 questions, and store them in the database. Prepare a test report format (form letter) to merge with the test question database. Use record selection rules to select ten out of the 20 questions. Print out the test (merge to printer).

2. Get together with a group of your classmates or colleagues. Compile a list of suggestions for useful macros to use with *Writer*—macros like the SchoolAddress macro that you learned in this tutorial. For example, you could create a macro that types out your letterhead—address, telephone number, and the date, using different fonts and sizes. Create half a dozen macros from the best suggestions.

3. Create a form letter to print a set of continuous index cards cataloging your collection of music. Use the Mailing Labels feature for this purpose. Set up a data source containing a sample set of data for at least 6 records. Each record should have at least 5 fields (CD Title, etc.).

4. Meet together with a group of your fellow students or colleagues, come up with a list of suggestions for useful form letters to be used in a school environment, share out the ideas among the group (a minimum of two each), and create the templates for the form letters. Each person in the group should save a complete set.

5. Create a Labels form letter to print a set of individualized set of name tag stickers for a class of students to be worn on the first day of class so that everyone can get to know each other. Use the Mailing Labels feature for this purpose. Set up a data source containing a sample set of data for at least 25 records (use an existing class database, if you have one, or use the Roster 2014 database that accompanies this tutorial).

[^1]: I am indebted to Tony Palaez for his video on Mail Merge at <http://www.youtube.com/watch?v=prZJ4w-q9AA>

3.8 Lesson 8 More on Database Use

8 MORE ON DATABASE USE

Manipulating the Data in the Database

LEARNING OUTCOMES

Lesson 8, after reviewing the basics, will introduce you to the following additional features of the *Base* database:

- searching and querying a database
- sorting records
- creating reports
- improving the report (making changes)
- printing reports

8.1 GETTING STARTED

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (*Continuing with the tutorial—next page*). If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 8.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by **double clicking** on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 8.1).

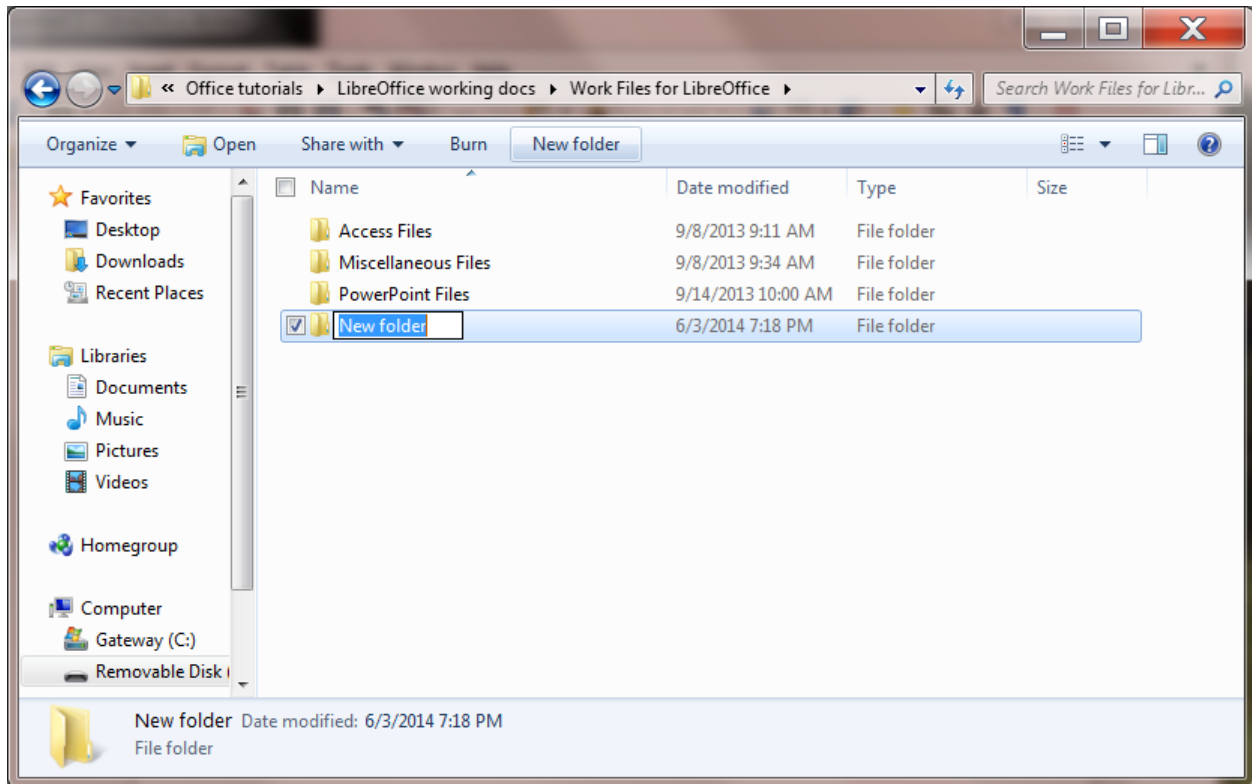


Fig. 8.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 8.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

Continuing with the tutorial

Make sure you have your **Work Files for LibreOffice** available on your computer, then **Open LibreOffice** and, from the **File menu**, select **Open**

Base will display the **Open** dialog box.

Navigate to your **USB Drive > Work Files for LibreOffice**

Base Files folder

You are going to work first with a database similar to the one you created in Lesson 6. The database, called *Students 2014*, has been prepared for you to use with this tutorial in order to standardize the directions that follow.

In the **Base Files** folder open the **Students 2014** database

In the **left frame** of the **Students 2014 Base** window, click on the **Forms icon**, then, in the **Forms** section, **double click** to open the **Students 2014 Form**

You should see the Forms View of the Students 2014 database, as illustrated in Fig. 8.2.

Fig. 8.2 The Forms View of the Students 2014 database

8.2 REVIEWING THE BASICS

Let's start with terminology.

A *database* is a document which contains a set of records. Each record is made up of one or more fields, and each field may or may not contain entries.

For example, a database of movie titles might have records for a few thousand movies. Each record will have fields for the movie title, the director, the producer, the star(s), and so on. A particular entry for the Movie Title field might be "Star Wars."

Viewing the data in the database

When you first open an existing database, it is generally best to open a *Forms View* of the database because you can easily view the contents of an entire record on the screen, thus showing you what all the records basically contain.

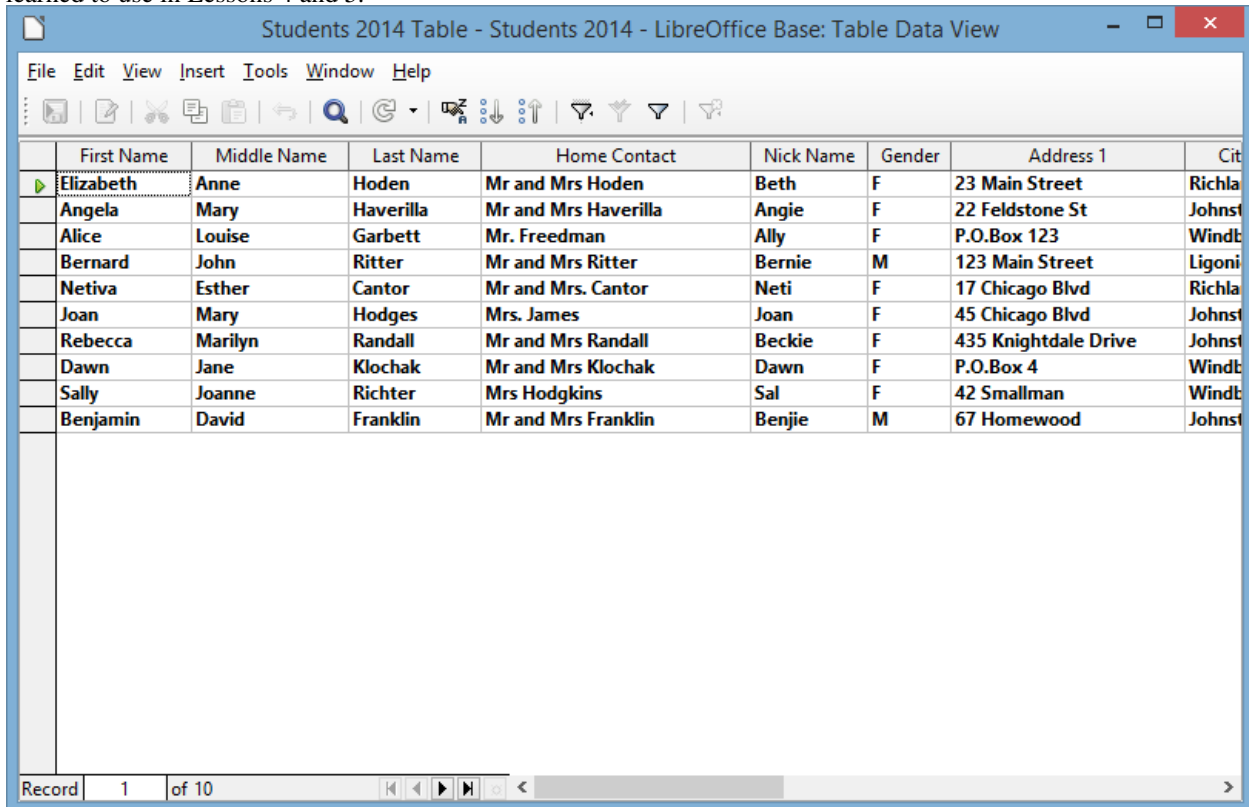
In the Forms View, as you can see, the data for one complete record is shown in the Form. Notice the database navigation tools at the bottom of the Form window (Fig. 8.3).

Fig. 8.3 Navigation tools in the *Base* database

Look them over now to re-familiarize yourself with how they work.

Now, **close** the **Student 2014 Form** and, in the **Database frame**, switch to **Tables**, and, in the **Tables** section, **double click** on **Student 2014 Table** to open it

This Table view (Fig. 8.4) shows the records across the screen in rows and columns much like the Spreadsheets you learned to use in Lessons 4 and 5.



	First Name	Middle Name	Last Name	Home Contact	Nick Name	Gender	Address 1	City
▶	Elizabeth	Anne	Hoden	Mr and Mrs Hoden	Beth	F	23 Main Street	Richla
	Angela	Mary	Haverilla	Mr and Mrs Haverilla	Angie	F	22 Feldstone St	Johnst
	Alice	Louise	Garbett	Mr. Freedman	Ally	F	P.O.Box 123	Windb
	Bernard	John	Ritter	Mr and Mrs Ritter	Bernie	M	123 Main Street	Ligoni
	Netiva	Esther	Cantor	Mr and Mrs. Cantor	Neti	F	17 Chicago Blvd	Richla
	Joan	Mary	Hodges	Mrs. James	Joan	F	45 Chicago Blvd	Johnst
	Rebecca	Marilyn	Randall	Mr and Mrs Randall	Beckie	F	435 Knightdale Drive	Johnst
	Dawn	Jane	Klochak	Mr and Mrs Klochak	Dawn	F	P.O.Box 4	Windb
	Sally	Joanne	Richter	Mrs Hodgkins	Sal	F	42 Smallman	Windb
	Benjamin	David	Franklin	Mr and Mrs Franklin	Benjie	M	67 Homewood	Johnst

Fig. 8.4 Viewing records in the Table view

Adding a record to the database

You can add a new record to the database any time you want. After you've added the record you can tell *Base* to sort everything into a specific order whenever you need to do so. You will learn how to do this in a later section of this tutorial (8.4 SORTING RECORDS).

You are going to add a couple of new records now. It's easiest to do this in the Forms view of the database.

Close the **Student 2014 Table**, in the left frame select **Forms**, and **double click** to open the **Student 2014 Form**, then click on the **New** button in the toolbar at the **bottom** of the **Form window** (Fig. 8.5)

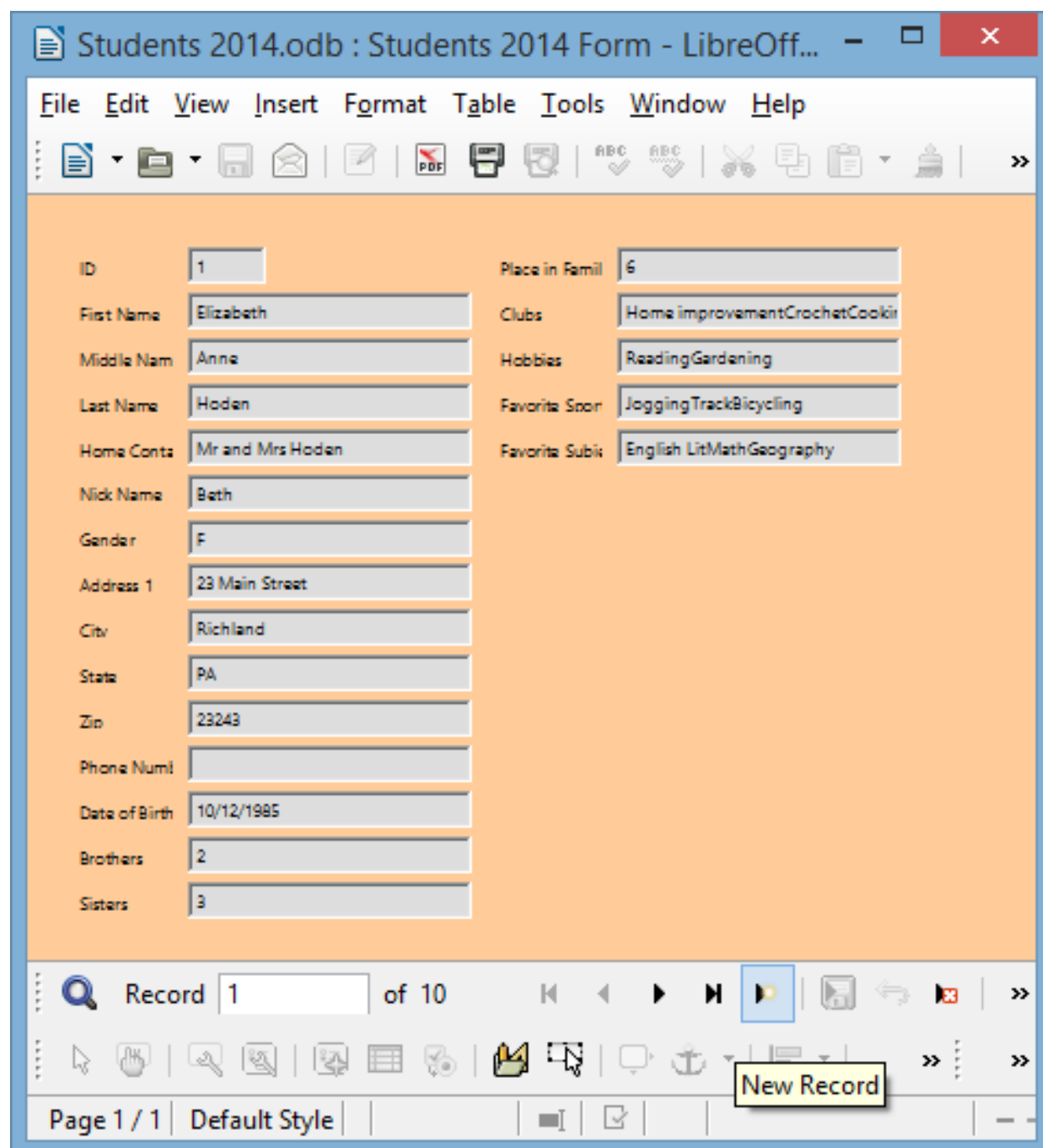


Fig. 8.5 The New button in the Records Group of the Home Ribbon

This will open up a set of empty fields for the new record (Fig. 8.6)

Students 2014.odb : Students 2014 Form - LibreOff...

File Edit View Insert Format Table Tools Window Help

ID Place in Famil

First Name Clubs

Middle Nam Hobbies

Last Name Favorite Sport

Home Conta Favorite Subj

Nick Name

Gender

Address 1

City

State

Zip

Phone Num

Date of Birth

Brothers

Sisters

Record 11 of 11

New Record

Page 1 / 1 Default Style

Fig. 8.6 Entering data for a new record

Enter the data for this **new** record, then add data for at least one other new record (**two records in all**), pressing the **Tab** key after you type the data for each field

You can put any data in the new records you are adding because you'll delete them in a bit. If no data is *required* for a particular field, you can even skip a field (such as the last four fields), by simply pressing Tab without entering any data.

Clearing a field in a record

You cannot clear entries from a field that has been defined as *requiring* data of some kind in the field. If you try to

clear data from these fields (in our database the *First Name* through the *Home Contact* fields, for example) you will get a warning from *Base* telling you that you cannot have a *null value* in these fields.

Use the **navigation tools** (see Fig. 8.3 on page 227) to go back to the **first** of the records you added just now

In the **first** of the records you added just now, in the **Nick Name** field, **double click** in the *entry box* (not on the field name) to **highlight** the **Nick Name entry**, then press **Ctrl-x** on the keyboard to **cut** the data in the Nick Name field

Next go to the **second** of the records you added a moment ago, click in the **Clubs** field *entry box* and again select the data in the **Clubs** field, then press **Ctrl-x** on the keyboard to **cut** the data in the **Clubs** field

Notice that this does not delete the field or the record; it simply clears the selected *data* in the field. The field is still there, so new data can be entered at any time.

Deleting (clearing) a record, or a set of records

Locate one of the records you just added, then in the **Form Navigation toolbar** (Fig. 8.7), select **Delete Record**

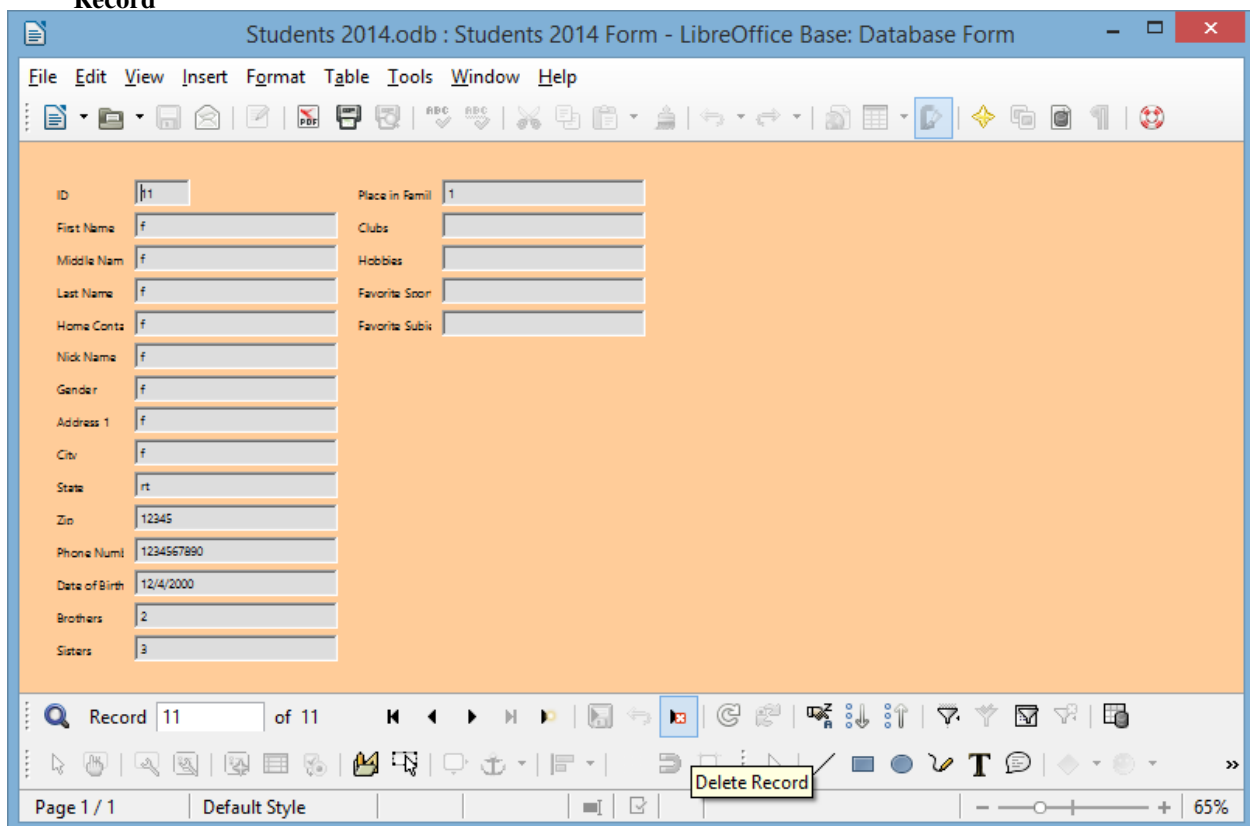


Fig. 8.7 Deleting a Record

Base immediately displays a warning dialog box (Fig. 8.8) to tell you that if you go ahead you will permanently lose the data in the record.

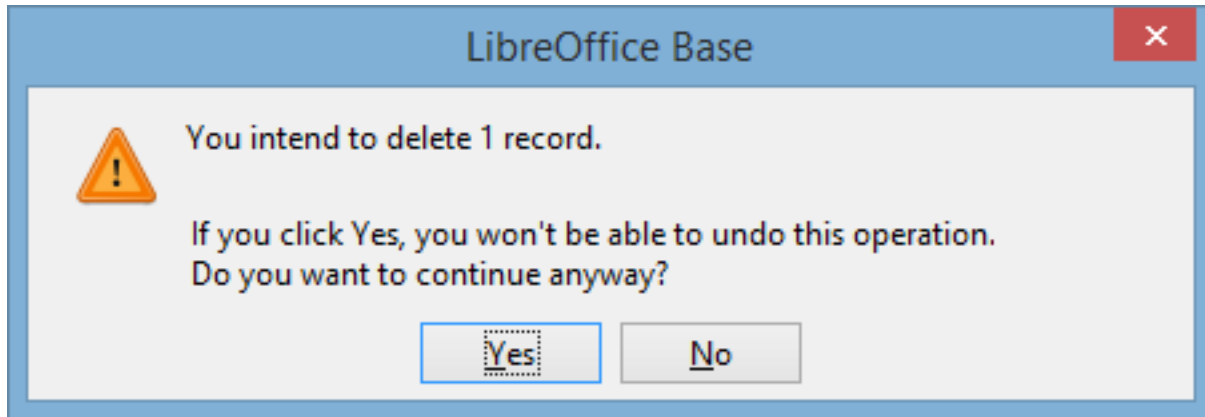


Fig. 8.8 Delete Record warning prompt

Click on **Yes** to delete the selected record

Notice that this removes the record entirely.

Changing the data in a field

Suppose some data gets entered incorrectly—through misspelling or a typo. Let's say you needed to update a nickname in a student's record. To change it you would do the following.

Locate the record in which you want to make the change (for this exercise select any record you like)

Click in the entry box for the **field data** that needs to be changed (use any entry in the **Nick Name** field), then change it to some other nick name in the same way you would in a word processor

All of the exercises in this section were by way of recapitulating what you learned in Lesson 6. Now let's move on to learn some more advanced features of the *Base* database.

8.3 searching and querying a DATABASE

This is a powerful function of the *Base* database. You can find anything in the database if you know what to do.

All you have to do is give *Base* any set of characters as the key for a search of the database, and the system will find that set of characters, if it exists, even if it is just a part (a subset) of a larger word or phrase. There are several ways you can do this.

But first you need to open another, larger, database.

Close the **Students 2014 Form**, then **Close** the **Students 2014** database, and from the **File** menu select **Open**

The USB drive containing your *Work Files for LibreOffice* should still be in a USB port on your computer.

On your **USB drive** > **Work Files for LibreOffice** > **Base Files** folder open the **Birds** database

In the **Database** objects menu on the **left side** of the database window, click on **Forms** and, in the **Forms** section, open the **Birds Form** (Fig. 8.9)

The screenshot shows the 'Birds.odb : Birds Form - LibreOffice ...' window. The menu bar includes File, Edit, View, Insert, Format, Table, Tools, Window, and Help. The toolbar contains icons for file operations, editing, and a red 'X' button. A tooltip for 'AutoSpellcheck' is visible. The form fields are as follows:

ID	1
Common Name	Purple Martin
Family	Swallow
Size	medium
Color 1	blue
Color 2	black
Habitat	woods
Date Sighted	01-Sep-93
Location Sighted	woods near home
Weather	sunny, warm
Count	2

The bottom of the window features a 'Form Navigation' toolbar with a search icon, a 'Record 1 of 50' display, navigation arrows, and a status bar showing 'Page 1 / 1' and 'Default Style'.

Fig. 8.9 Bird Sightings Form

Finding a single record using data from a specific field

You often may need to locate and display the contents of one particular record, or set of records, based on data from one specific field. The Find function, which is in the Home Ribbon > Find Group, is the *Base* command to do this. It works much the same as when you use the Find command in the word processor, which you learned about in Lesson 2.

Suppose, for example, you wanted to find the record for the bird with the Common Name *Northern Oriole*. Here is how you do this.

In the **Form Navigation toolbar** at the **bottom** of the **Form window**, click on the **Find Record tool**—it looks like a spy glass (Fig. 8.10)

The screenshot shows the 'Birds Form' in LibreOffice Base. The form is titled 'Birds.odb : Birds Form - LibreOffice Base: D...'. The menu bar includes File, Edit, View, Insert, Format, Table, Tools, Window, and Help. The toolbar contains various icons for file operations, editing, and navigation. The form fields are as follows:

Field	Value
ID	1
Common Name	Purple Martin
Family	Swallow
Size	medium
Color 1	blue
Color 2	black
Habitat	woods
Date Sighted	01-Sep-93
Location Sighted	woods near home
Weather	sunny, warm
Count	2

At the bottom of the form, there is a 'Find Record' button. Below the form, the 'Form Navigation' toolbar is visible, showing 'Record 1 of 41 *' and various navigation icons. The status bar at the bottom indicates 'Page 1 / 1' and 'Default Style'.

Fig. 8.10 The Find Record tool in the Form Navigation toolbar

LibreOffice now displays the Record Search dialog box (Fig. 8.11).

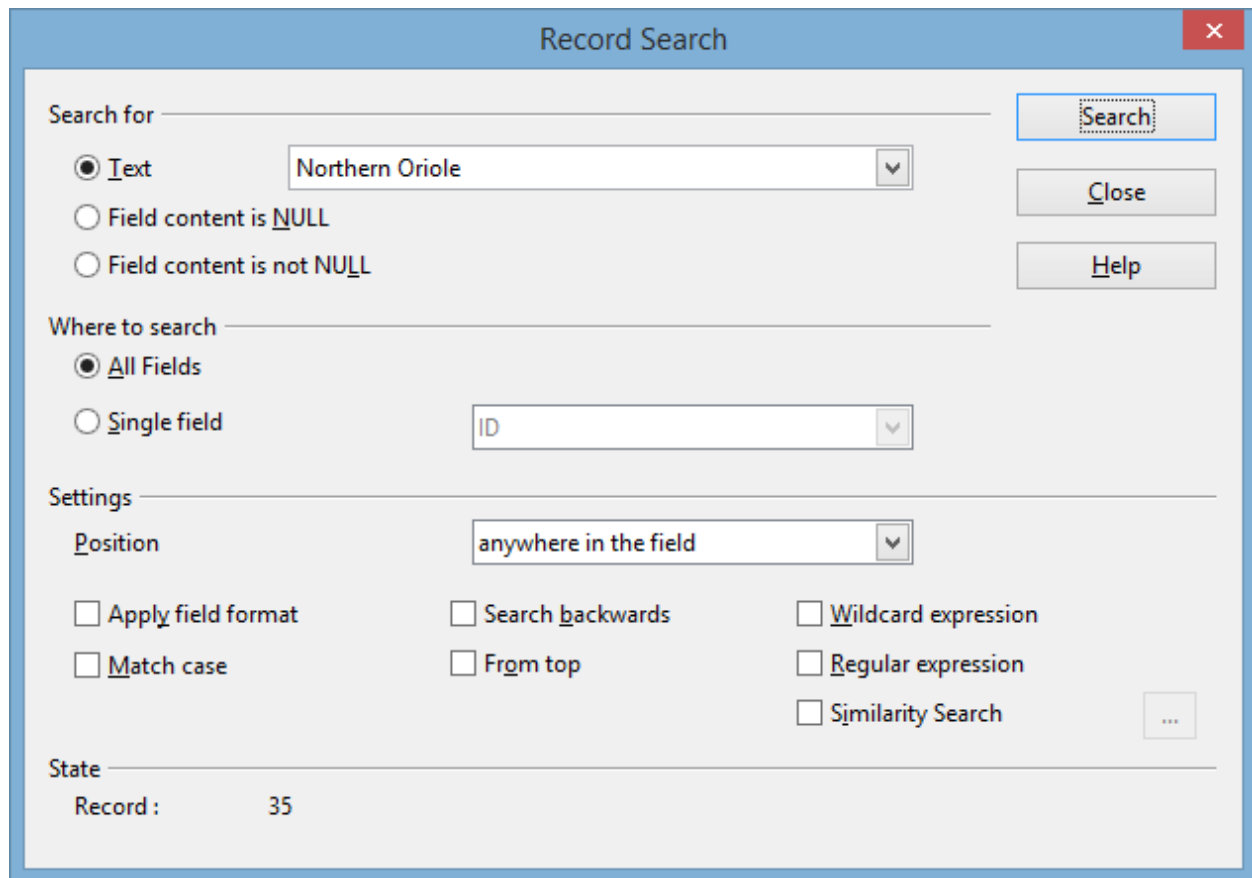


Fig. 8.11 The Record Search dialog box

You need to indicate what data you want to be found in the *Birds* database by typing in a search string (which for our search will be *Northern Oriole*).

In the **Search for** entry box type **Northern Oriole** (or **northern oriole**—if you don’t check the “**Match Case**” box, *Base* doesn’t care whether you use upper or lower case letters)

Before clicking on the *Search* button, you need to identify where you want to search (All Fields). You also need to indicate if you want to match the data in a whole field or part of a field.

Click to check the **radio button** next to **All Fields**, and leave the selection for **anywhere in the field**, and there’s **no need to match case**

Now click on **Search**, and notice that the **number 35** appears in the **lower left** hand corner of the search window, indicating that the **Northern Oriole** is **record #35** in the database

The record(s) you find with a Find request are called the “found set”. As you see, *Base* quickly locates the record containing the name “Northern Oriole.” The record is displayed in the *Birds Form window*.

Of course, if you typed *Northern Oriole* incorrectly, *Base* would tell you that the search item was not found (Fig. 8.12).



Fig. 8.12 Warning message after unsuccessful search of the database

Close the **Find and Replace** dialog box, then in the **Home Ribbon > Views** menu, select **Table View** to see the records following the **Northern Oriole** record

Finding two or more records based on data from a single field

Next, let's search on criteria which will find more than one record. You want to find any bird with the primary color (*Color1*) that has any shade of black in its plumage.

Close the **Record Search** dialog box

In the **Birds Form**, click to put the cursor anywhere in the **Color1** field

In the **Form Navigation toolbar** at the **bottom** of the **Form window**, click on the **Find Record tool** and, if it's not already the color you want, in the **Search for > Text** box, type the word **Black**, and in the **Where to search > Single field** box, make sure **Color 1** is selected, and in the **Settings > Position** box select the option for **Anywhere in the field**

Click on **Search**, then move the **Record Search dialog box** out of the way, if necessary, so you can see the contents of the record

The search finds the first of *11 records* where a bird in the database has the color "black" or even "blackish" in its plumage.

To see the data in the next record, click on **Search** again, and so on

See if you can count **11 records** of birds with the color **black** or **blackish** in the plumage?

To see a listing of *just those 11 records* that result from a search such as this, you must use a filter.

Using the AutoFilter

In general, filtering is best done in the Table view of the database. The exercise that follows will use *LibreOffice's AutoFilter* tool to select the set of birds whose habitat is "marshes."

Close the **Record Search** dialog box and close the **Birds Form** then, in the **Database frame** (Fig. 8.13), click on **Tables** and, in the **Tables section**, double click on the **Birds Table**

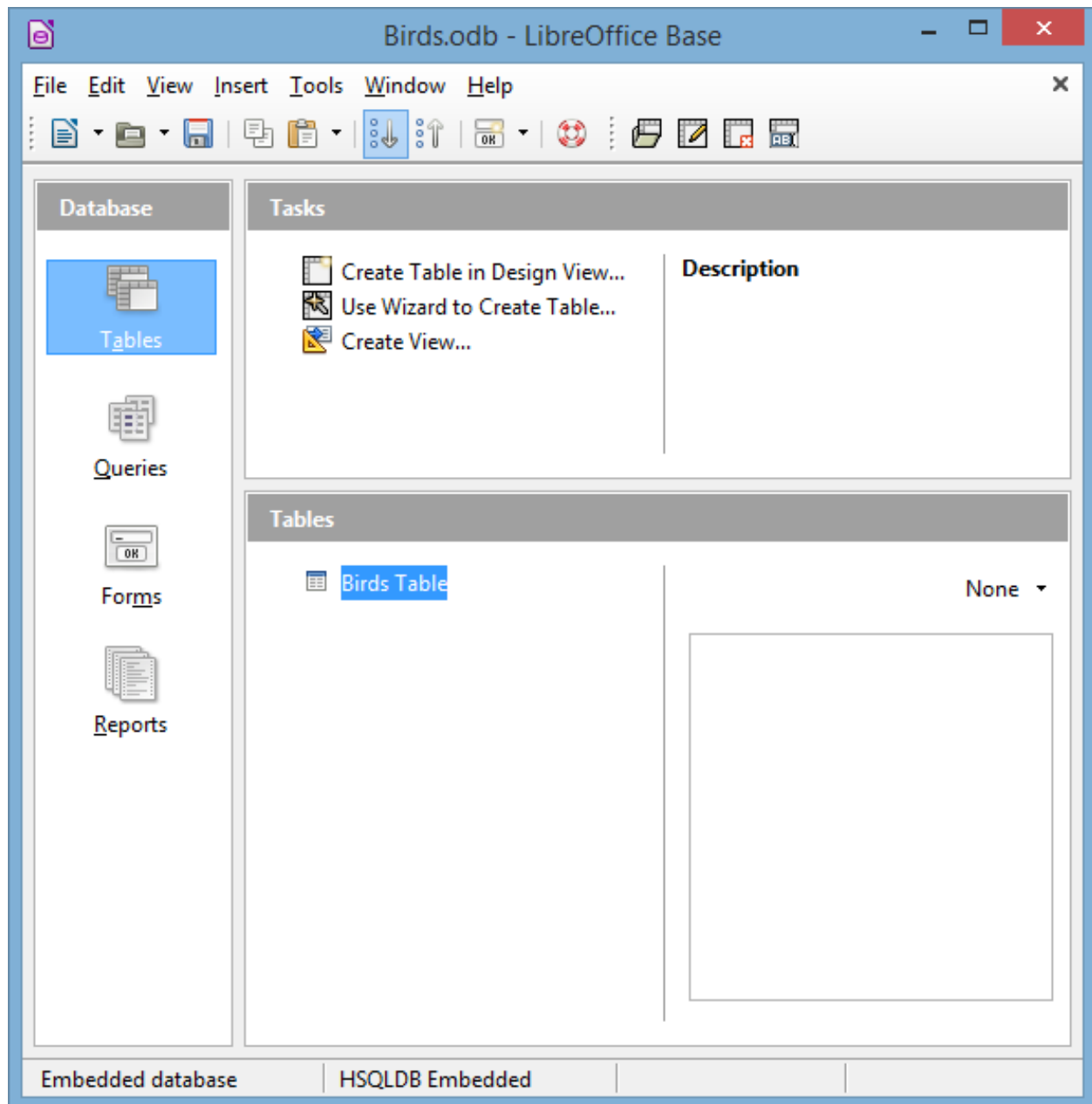


Fig. 8.13 The Database Tables object > Birds Table

In the **Birds table**, scroll to the **right** to locate the **Habitat** column (Fig. 8.14)

	Size	Color 1	Color 2	Habitat	Date Sighted	Location
	medium	blue	black	woods	01-Sep-93	woods r
	large	red	black, gray	lakes	01-Sep-93	lake
	large	green	white, brown	marshes	01-Sep-93	lake
	very large	blackish green	gray	freshwater	01-Sep-93	lake
	small	bluish black	cinnamon	open country n	01-Sep-93	fields ne
	very large	brown	black	marshes	01-Sep-93	lake
	large	black	gray, purple	lakes	01-Sep-93	lake
	very large	green	white, brown	marshes	08-Sep-93	riverban
	large	gray	brown	marshes	08-Sep-93	lake
	large	green	gray	marshes	08-Sep-93	lake
	large	gray	black	marshes	08-Sep-93	riverban
	very large	brown	white, gray	marshes	08-Sep-93	lake
	medium	brown		marshes	01-Oct-93	lake
	medium	gray	white	lakes	01-Oct-93	lake
	medium	gray	brown	fields	01-Oct-93	fields ne
	very large	grayish brown	white	marshes	01-Oct-93	lake
	large	gray	white, red	marshes	03-Oct-93	lake
	medium	gray	cinnamon, white	marshes	03-Oct-93	lake
	small	black	green, yellow	meadows	10-Oct-95	fields ne
	medium	black	red	marshes	16-Oct-96	lake

Fig. 8.14 The Birds Table view showing the Habitat column

Now click, in the **Habitat** column, on the first **Marshes** entry you see (there's one in the **third** entry in the Habitat column), then, in the **Tables** toolbar at the top of the **Birds** table, click on the **AutoFilter** tool (Fig. 8. 15)

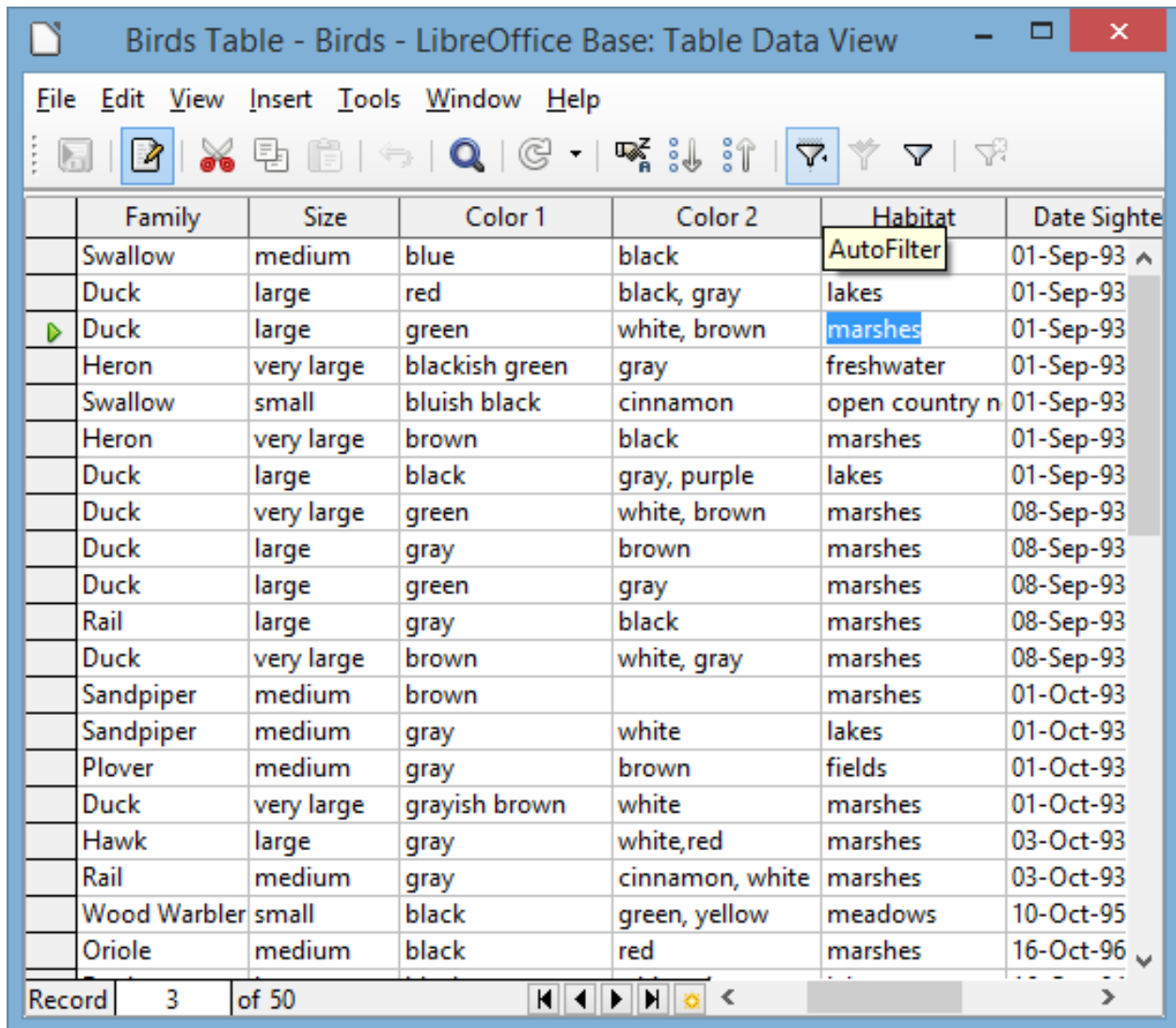


Fig. 8.15 Using the AutoFilter tool to find all the birds that have a Marshes Habitat

This tells *Base* that you want to filter by selection the set of birds that live among marshes.

Base now displays a list of 15 birds in the database that live in marshes (Fig. 8.16).

	Family	Size	Color 1	Color 2	Habitat	Date Sighted
▶	Duck	large	green	white, brown	marshes	01-Sep-93
	Heron	very large	brown	black	marshes	01-Sep-93
	Duck	very large	green	white, brown	marshes	08-Sep-93
	Duck	large	gray	brown	marshes	08-Sep-93
	Duck	large	green	gray	marshes	08-Sep-93
	Rail	large	gray	black	marshes	08-Sep-93
	Duck	very large	brown	white, gray	marshes	08-Sep-93
	Sandpiper	medium	brown		marshes	01-Oct-93
	Duck	very large	grayish brown	white	marshes	01-Oct-93
	Hawk	large	gray	white, red	marshes	03-Oct-93
	Rail	medium	gray	cinnamon, white	marshes	03-Oct-93
	Oriole	medium	black	red	marshes	16-Oct-96
	Tyrant Flycatcher	medium	olive	brown	marshes	01-May-94
	Oriole	large	black	green, purple	marshes	21-May-94
	Finch	medium	brown	white	marshes	21-May-97
☀						

Record 1 of 15

Fig. 8.16 The found set of filtered records

To go back to viewing **all the records** in the database, click the **Reset Filter/Sort** icon on the toolbar (Fig. 8.17)

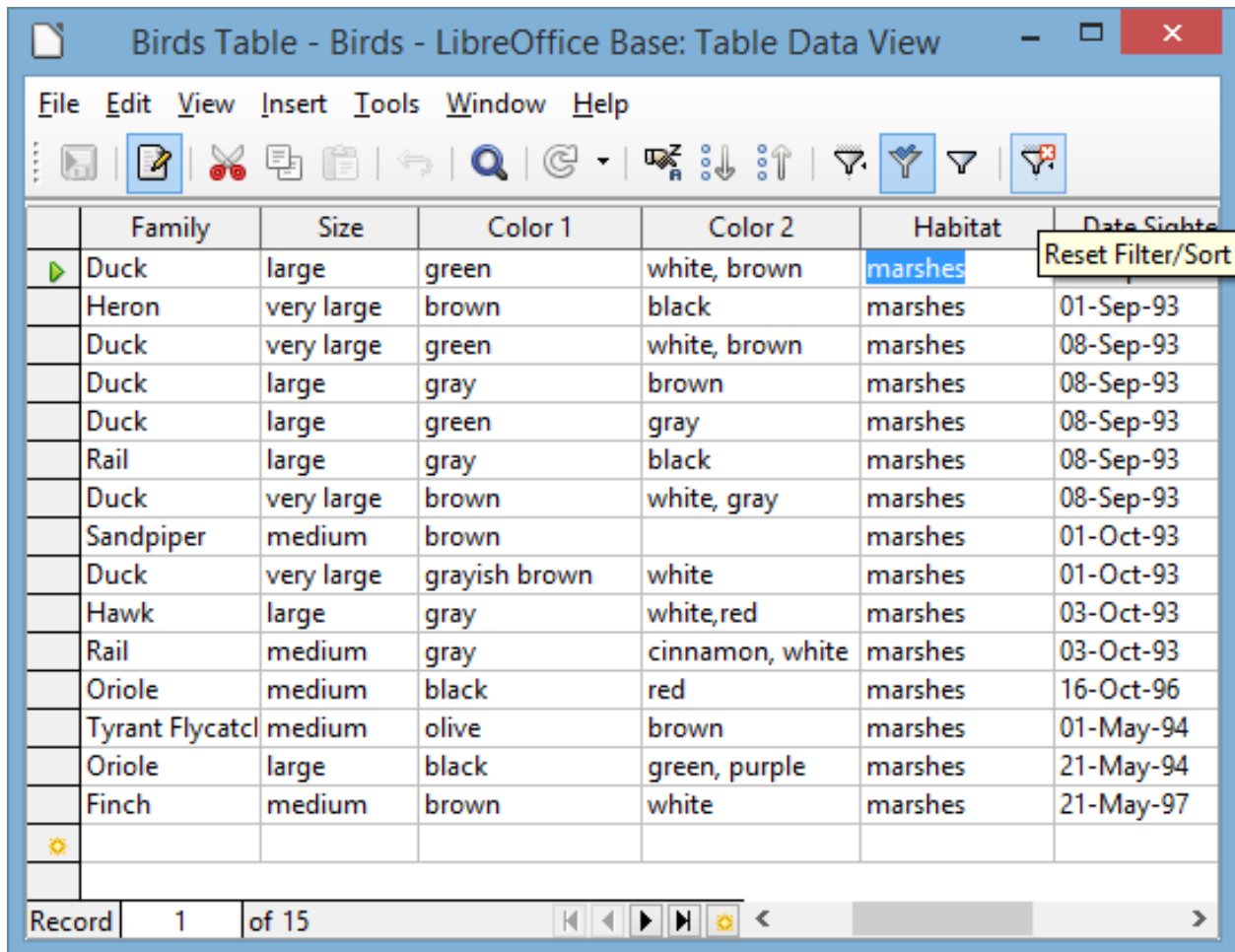


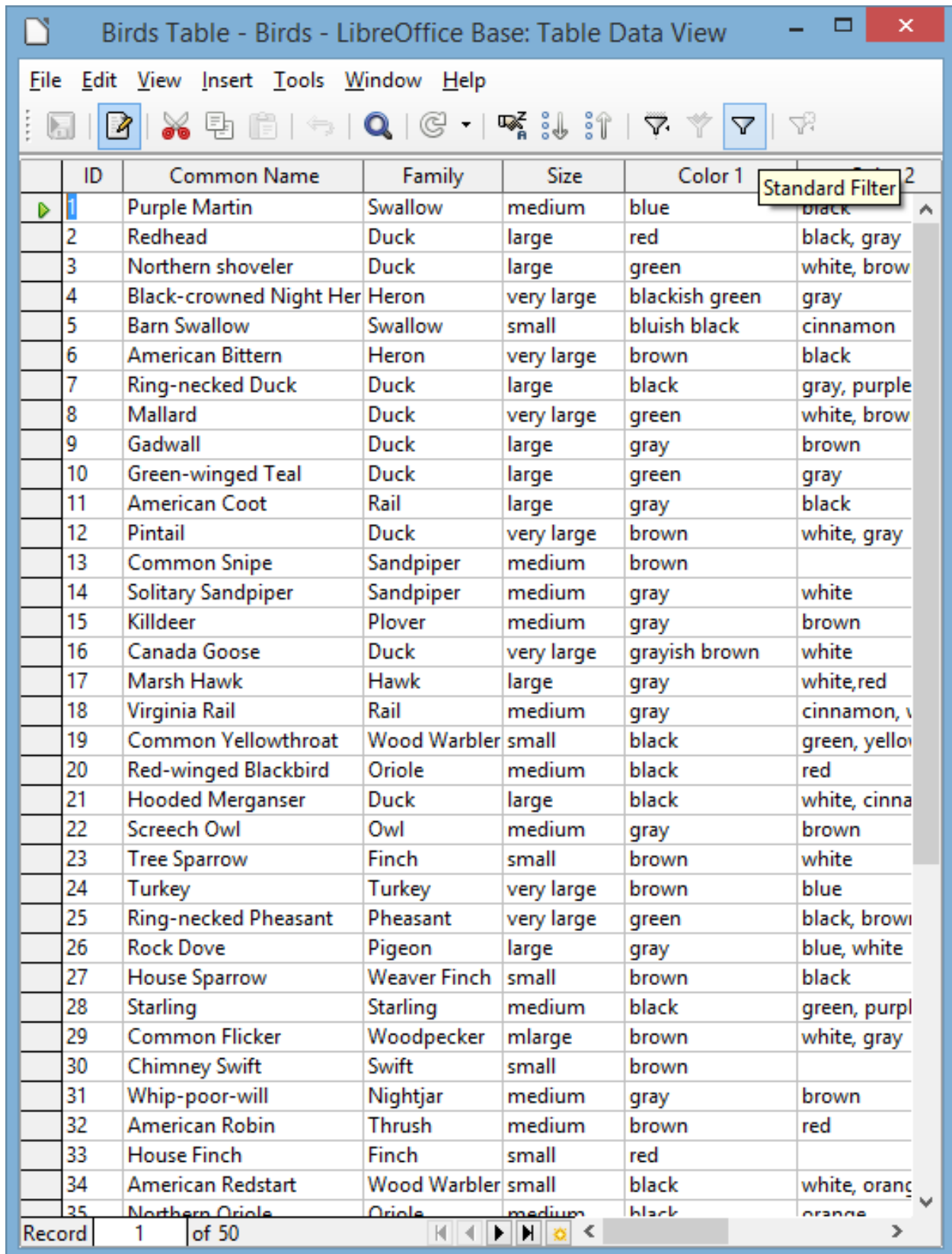
Fig. 8.17 Reset Filter/Sort tool in the Table Data toolbar

Using the Standard Filter

You also can filter records using *LibreOffice*'s Standard Filter. You need this, for example, if you need to select a set of records based on more than one criterion.

Let's say you want to find all the records in which the birds have either the color "black" or a combination of "black" and some other color in their plumage. This involves filtering based on both the Color 1 and Color 2 fields.

In the **Table Data toolbar**, click on the **Standard Filter tool** (Fig. 8.18)



ID	Common Name	Family	Size	Color 1	Color 2
1	Purple Martin	Swallow	medium	blue	black
2	Redhead	Duck	large	red	black, gray
3	Northern shoveler	Duck	large	green	white, brown
4	Black-crowned Night Heron	Heron	very large	blackish green	gray
5	Barn Swallow	Swallow	small	bluish black	cinnamon
6	American Bittern	Heron	very large	brown	black
7	Ring-necked Duck	Duck	large	black	gray, purple
8	Mallard	Duck	very large	green	white, brown
9	Gadwall	Duck	large	gray	brown
10	Green-winged Teal	Duck	large	green	gray
11	American Coot	Rail	large	gray	black
12	Pintail	Duck	very large	brown	white, gray
13	Common Snipe	Sandpiper	medium	brown	
14	Solitary Sandpiper	Sandpiper	medium	gray	white
15	Killdeer	Plover	medium	gray	brown
16	Canada Goose	Duck	very large	grayish brown	white
17	Marsh Hawk	Hawk	large	gray	white, red
18	Virginia Rail	Rail	medium	gray	cinnamon, white
19	Common Yellowthroat	Wood Warbler	small	black	green, yellow
20	Red-winged Blackbird	Oriole	medium	black	red
21	Hooded Merganser	Duck	large	black	white, cinnamon
22	Screech Owl	Owl	medium	gray	brown
23	Tree Sparrow	Finch	small	brown	white
24	Turkey	Turkey	very large	brown	blue
25	Ring-necked Pheasant	Pheasant	very large	green	black, brown
26	Rock Dove	Pigeon	large	gray	blue, white
27	House Sparrow	Weaver Finch	small	brown	black
28	Starling	Starling	medium	black	green, purple
29	Common Flicker	Woodpecker	mlarge	brown	white, gray
30	Chimney Swift	Swift	small	brown	
31	Whip-poor-will	Nightjar	medium	gray	brown
32	American Robin	Thrush	medium	brown	red
33	House Finch	Finch	small	red	
34	American Redstart	Wood Warbler	small	black	white, orange
35	Northern Oriole	Oriole	medium	black	orange

Fig. 8.18 The Standard Filter tool

When you click on the Standard filter tool, *LibreOffice* presents the Standard Filter dialog box, in which you have the opportunity to set 2 or more criteria for the filter (Fig. 8.19).

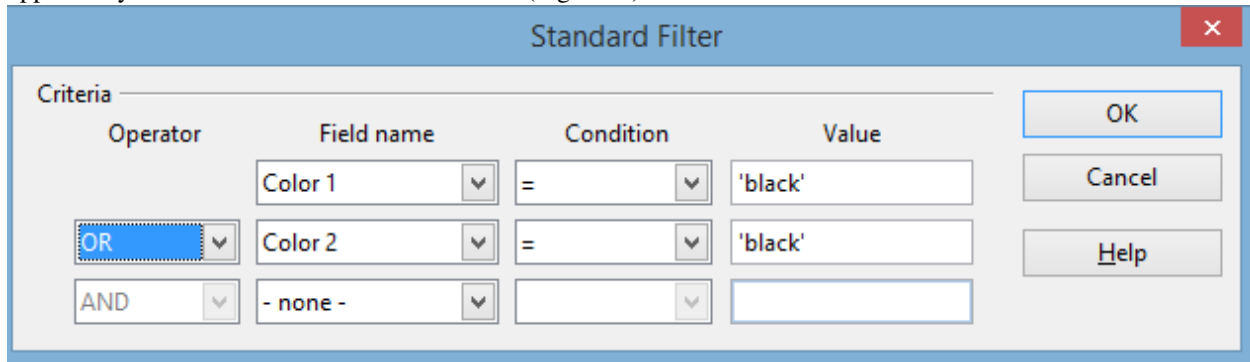


Fig. 8.19 The Standard Filter dialog box

In the *first* **Field Name** box, click on the **down arrow** to **show all the fields** in the Birds database and click on **Color 1**, leave the **equals sign (=)** in the **Condition** box, then type **'black'** in the **Value** box

In the *second* **Field Name** box, click on the **down arrow** to **show all the fields** in the Birds database and click on **Color 2**, then **step back** to the **Operator** box, click on the **down arrow** and select **OR** for the operator, then leave the **equals sign (=)** in the **Condition** box, and type **'black'** in the **Value** box

These criteria that you have selected should find all the database records in which the birds have either the color “black” or a combination of “black” and some other color in their plumage. Let’s see.

In the **Standard Filter** dialog box, click on **OK**

Now look at the set of records that the filter found (Fig. 8.20).

ID	Common Name	Family	Size	Color 1	Color 2
1	Purple Martin	Swallow	medium	blue	black
6	American Bittern	Heron	very large	brown	black
7	Ring-necked Duck	Duck	large	black	gray, purple
11	American Coot	Rail	large	gray	black
19	Common Yellowthroat	Wood Warbler	small	black	green, yellow
20	Red-winged Blackbird	Oriole	medium	black	red
21	Hooded Merganser	Duck	large	black	white, cinnamon
27	House Sparrow	Weaver Finch	small	brown	black
28	Starling	Starling	medium	black	green, purple
34	American Redstart	Wood Warbler	small	black	white, orange
35	Northern Oriole	Oriole	medium	black	orange
44	Common Grackle	Oriole	large	black	green, purple
46	Brown-headed Cowbird	Oriole	medium	green	black
47	Common Crow	Crow	large	black	

Fig. 8.20 Result of a Standard Filter of the Birds database

Check out the Color1 and Color 2 fields in the Found Set of 14 birds. One or other of them has the color ‘black’ somewhere in their plumage.

This might seem like a silly exercise. Maybe it wouldn’t take you long to find the 12 records out of the 50 records in the database. Wouldn’t take you a minute or two to do that, right? But suppose you have 500 records, or 5000 records, or, as is common in school districts in large cities, 500,000 records or more. The larger the database, the more you need tools such as these filter tools—and the Sort tools in the next section—to help you quickly find the data you need.

Click again on the **Reset Filter** icon (Fig. 8.17 page 235 above) before proceeding to the next section in the tutorial

8.4 sorting records

The three major advantages of an electronic, digital data storage system over a manual, paper-based filing system are these:

1. Digital, electronically stored data with its easy ability to quickly access the data you need in any of multiple formats and the easy ability to organize it in any of multiple ways, provides more or less instant *organizational flexibility*—using filtering and sorting, for example—which helps you cope with the inevitable *complexity* that increases as the sheer amount of data grows.
2. Digital, electronically stored data *saves space*—physical space, that is. You don’t need a filing cabinet, or oodles of filing cabinets in a storage room, or, for some companies, a whole building for a data repository. For teachers, like you and me, all we need is a few gigabytes of storage on a USB drive, which we can carry on a car key chain or in a pocket (provided we’re careful to backup all the data on another computer in the office or at home).

3. Digital, electronically stored data increases the speed of data access and thus *saves time*.

When we use old-fashioned filing cabinets to store data, we usually come up with some kind of organization. So we put labels on the drawers in the cabinets and labels on the folders inside the drawers. This organization is often based on numeric or alphabetic sequencing. The purpose, of course, is to enable us to quickly find what we have stored in the appropriate folder in the appropriate drawer.

This is a good system as long as we have no cause to frequently change the organization we have set up. It also assumes that space and time are not at a premium in our day to day operations. Unfortunately, coping with change, making good use of space, and saving time are factors critical to our productivity. So we should welcome any system which helps us cope with change and optimizes our use of space and time.

Today, using state of the art technology, we can electronically store the equivalent of the Library of Congress in a shoe box. And we can now access any specific item in that “box” in a few thousandths of a second. What is more, software such as *Base* makes it possible for you to organize that data more or less on the fly by sorting it any which way you want.

Sorting on a single field

Take, for example, the Birds database that is on your desktop at this time. As you can see, the names of the birds (in the Common Name field) are not sorted in any particular order. In fact, the database is sorted based on the *ID* field (which is the Primary Key for the relational database).

So the ordering is numerical rather than alphabetical. It would therefore be time consuming, if not well-nigh impossible—especially if the database were very large—for you to visually scan the database to find the record for a particular bird.

This is why *Base* makes available the *Find Record*, *Filter Records*, and *Sort Records* functions accessible in the Form Navigation toolbar. We’ve looked at the *Find Record* and *Filter Records* functions. Now let’s check out the *Sort Records* function.

What if you wanted to print out a report listing all the birds in alphabetical order by name of bird? You would have to begin by organizing the records alphabetically on the bird names. Fortunately *Base* has a set of *Sort* tools that enable you to complete this operation with the greatest of ease. Fig. 8.21 illustrates where you will find this set of Sort tools.

Birds Table - Birds - LibreOffice Base: Table Data View

File Edit View Insert Tools Window Help

ID	Common Name	Family	Size	Color 1	Color 2	Habitat
1	Purple Martin	Swallow	medium	blue	black	woods
2	Redhead	Duck	large	red	black, gray	lakes
3	Northern shoveler	Duck	large	green	white, brown	marshes
4	Black-crowned Night Her	Heron	very large	blackish green	gray	freshwat
5	Barn Swallow	Swallow	small	bluish black	cinnamon	open cou
6	American Bittern	Heron	very large	brown	black	marshes
7	Ring-necked Duck	Duck	large	black	gray, purple	lakes
8	Mallard	Duck	very large	green	white, brown	marshes
9	Gadwall	Duck	large	gray	brown	marshes
10	Green-winged Teal	Duck	large	green	gray	marshes
11	American Coot	Rail	large	gray	black	marshes
12	Pintail	Duck	very large	brown	white, gray	marshes
13	Common Snipe	Sandpiper	medium	brown		marshes
14	Solitary Sandpiper	Sandpiper	medium	gray	white	lakes
15	Killdeer	Plover	medium	gray	brown	fields
16	Canada Goose	Duck	very large	grayish brown	white	marshes
17	Marsh Hawk	Hawk	large	gray	white, red	marshes
18	Virginia Rail	Rail	medium	gray	cinnamon, white	marshes
19	Common Yellowthroat	Wood Warbler	small	black	green, yellow	meadow
20	Red-winged Blackbird	Oriole	medium	black	red	marshes
21	Hooded Merganser	Duck	large	black	white, cinnamon	lakes
22	Screech Owl	Owl	medium	gray	brown	woods
23	Tree Sparrow	Finch	small	brown	white	fields
24	Turkey	Turkey	very large	brown	blue	woods
25	Ring-necked Pheasant	Pheasant	very large	green	black, brown	woods
26	Rock Dove	Pigeon	large	gray	blue, white	cities
27	House Sparrow	Weaver Finch	small	brown	black	cities
28	Starling	Starling	medium	black	green, purple	cities
29	Common Flicker	Woodpecker	large	brown	white, gray	woods
30	Chimney Swift	Swift	small	brown		woods
31	Whip-poor-will	Nightjar	medium	gray	brown	woods
32	American Robin	Thrush	medium	brown	red	cities
33	House Finch	Finch	small	red		woods
34	American Redstart	Wood Warbler	small	black	white, orange	woods
35	Northern Oriole	Oriole	medium	black	orange	woods

Record 1 of 50

Fig. 8.21 The *Base* Sort tools in the Table Data toolbar

You can best see the results of a sort if you are in the Table view of the database, which is the view you should have on your screen from the previous exercise.

Click to put the cursor in any cell in the **Common Name** field, then click on the **Sort Ascending** button (Fig. 8.22)

ID	Common Name	Family	Size	Color 1	Color 2	Habitat
6	American Bittern	Heron	very large	black	black	marshes
11	American Coot	Rail	large	gray	black	marshes
34	American Redstart	Wood Warbler	small	black	white, orange	woods
32	American Robin	Thrush	medium	brown	red	cities
5	Barn Swallow	Swallow	small	bluish black	cinnamon	open country
45	Bewick's Wren	Wren	small	brown	white, gray	woods
41	Black-capped Chickadee	Titmouse	small	gray	black, white	woods
4	Black-crowned Night Heron	Heron	very large	blackish green	gray	freshwater
46	Brown-headed Cowbird	Oriole	medium	green	black	woods
16	Canada Goose	Duck	very large	grayish brown	white	marshes
36	Cardinal	Finch	medium	red		woods
30	Chimney Swift	Swift	small	brown		woods
47	Common Crow	Crow	large	black		rivers, marshes
29	Common Flicker	Woodpecker	large	brown	white, gray	woods
44	Common Grackle	Oriole	large	black	green, purple	marshes
13	Common Snipe	Sandpiper	medium	brown		marshes
19	Common Yellowthroat	Wood Warbler	small	black	green, yellow	meadow
9	Gadwall	Duck	large	gray	brown	marshes
39	Gray Catbird	Mockingbird	medium	gray	black, brown	woods
10	Green-winged Teal	Duck	large	green	gray	marshes
21	Hooded Merganser	Duck	large	black	white, cinnamon	lakes
33	House Finch	Finch	small	red		woods
27	House Sparrow	Weaver Finch	small	brown	black	cities
50	House Wren	Wren	small	gray	brown	woods
15	Killdeer	Plover	medium	gray	brown	fields
8	Mallard	Duck	very large	green	white, brown	marshes
17	Marsh Hawk	Hawk	large	gray	white, red	marshes
35	Northern Oriole	Oriole	medium	black	orange	woods
3	Northern shoveler	Duck	large	green	white, brown	marshes
43	Orange-crowned Warbler	Wood Warbler	small	green	orange	woods
12	Pintail	Duck	very large	brown	white, gray	marshes
1	Purple Martin	Swallow	medium	blue	black	woods
2	Redhead	Duck	large	red	black, gray	lakes
20	Red-winged Blackbird	Oriole	medium	black	red	marshes
7	Ring-necked Duck	Duck	large	black	gray, purple	lakes

Fig. 8.22 The Sort Ascending tool

Immediately *Base* sorts the records *alphabetically* on the Common Name field, with the American Bittern at the top of the list, and so on. There are three basic sorting options depending on the type of data in the field you are using as the basis, or key, for the sort:

- If your sort request is based on a *Text field* such as Common Name or Location Sighted, the sort will be *alphabetical* and can be either Ascending (A to Z) or Descending (Z to A).

- If you are sorting on a Number field such as the Count field, the sort will be *numerical* and you again would be able to sort in Ascending (low number to high number) or Descending (high number to low number) order.
- Finally, if you are sorting on a Date field such as Date Sighted, the sort will be *chronological* and you would be able to sort in Ascending (chronological) or Descending (reverse chronological) order.

Let's do another quick sort for practice—which, as we know so well, makes perfect.

Click to position the cursor anywhere in the **ID column**, then click on the **Sort Ascending** tool (see Fig. 8.22 above) and immediately *LibreOffice* sorts the data **based on the ID field**, with the value 1 at the top and the value 50 at the bottom—and the data that goes with each ID is, of course, sorted along with it

As you see, basic sorting of a database is simple.

8.5 CREATING QUERIES AND REPORTS

In the next sections you will continue to work with the *Birds* database.

Initial definition of the layout or report

You are going to create a layout, or report, which will list all members of the Duck family sighted during the reporting period covered by the database. The fields in the report will include the Common Name (of the bird), Family, Date Sighted and Count fields.

Bear in mind that most databases have many fields. If there are more field names in a report layout than can fit across the screen or page, the names simply wrap around, creating two or more lines, if necessary, in the top section (the Header) of the layout.

This can make for untidy, not to say confusing, reports. The columnar report you are about to work with will not have this problem because you will be using only a small selection of the fields in the database (just 4 to be exact), but it is good to be aware of the problem should the occasion arise where you want to create a report that uses many fields.

You can get around this problem in various ways, the simplest of which is to change the font to one which requires less space, or reduce the size of the font you want to use, or lay out the fields in some format other than tabular (like a Table or spreadsheet). You might also consider whether you really need all the fields that you have selected for the report. Often, simpler is better. Simple reports are more likely to make the desired impact on the reader.

Creating a Query

You need to start by using a *Query* to tell the Birds database exactly which data you want to use for the Report. You want to select only the birds in the *Duck* family for the Report. Once you have created the Query, it will be a simple matter to create the Report. Here are the steps to create the Query.

The **Birds Table** should still be **open** on your screen; **close** it, since you'll be using the **Queries Database** object for this exercise

In the **Database frame** at left, click on the **Queries** icon, then, in the **Tasks** section, click on **Use Wizard to Create Query...** (Fig. 8.23)

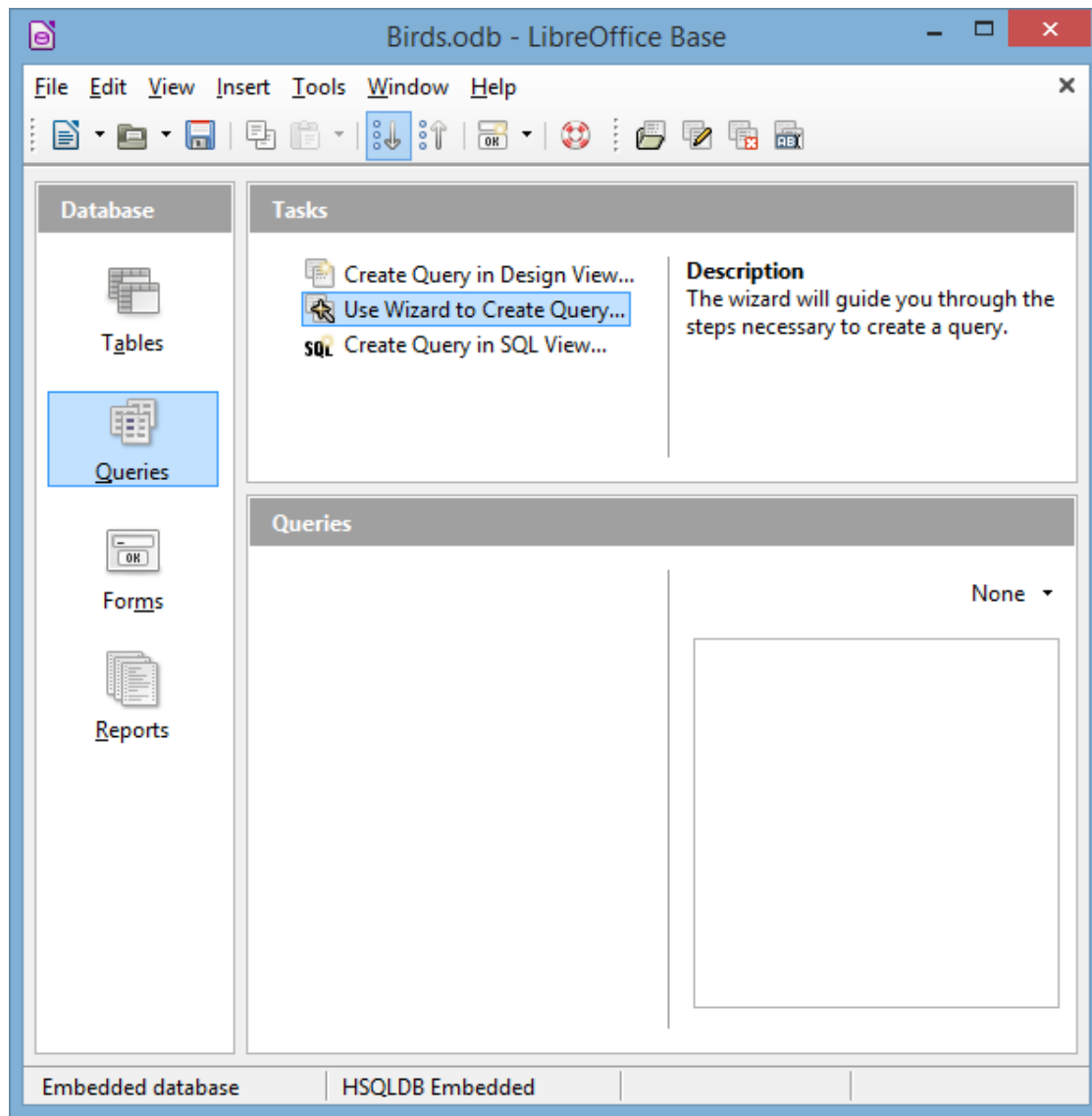


Fig. 8.23 Using a Wizard to create a Query

LibreOffice now presents the familiar Wizard window, asking you (Step 1) to select the fields that will be involved in the Query (Fig. 8.24)

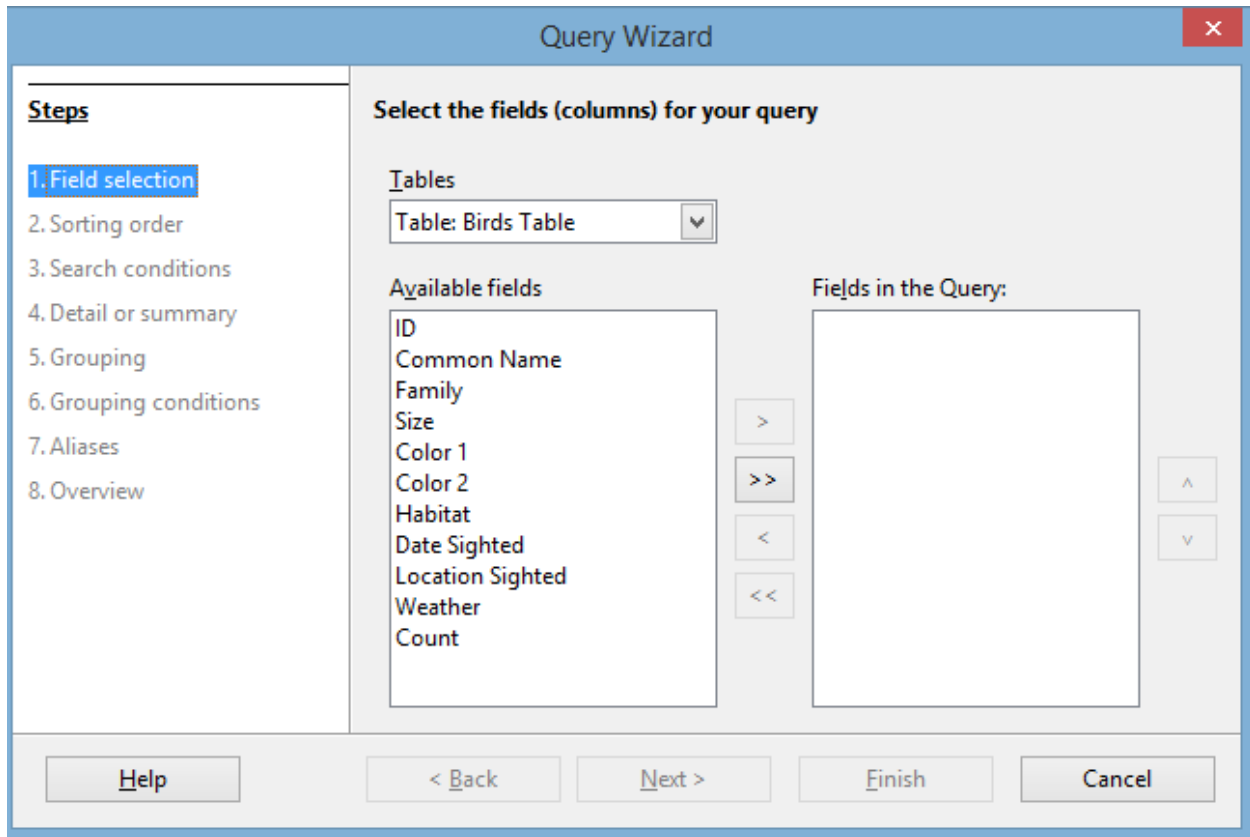


Fig. 8.24 Step 1 of the Query Wizard

Notice that the fields are all coming from the *Table: Birds Table* in the *Birds Base* database.

Double click, in turn, on **Common Name**, **Family**, **Date Sighted**, and **Count** fields to move them across to the **Fields in the Query** box, then click on the **Next >** button

The next step in the Wizard, Step 2, asks you if you want to sort the data. There's no need to do this—the query will take care of selecting out the data you need.

Click on **Next >** to proceed to **Step 3**

In Step 3 you're going to *Select the search conditions* for the Query (Fig. 8.25).

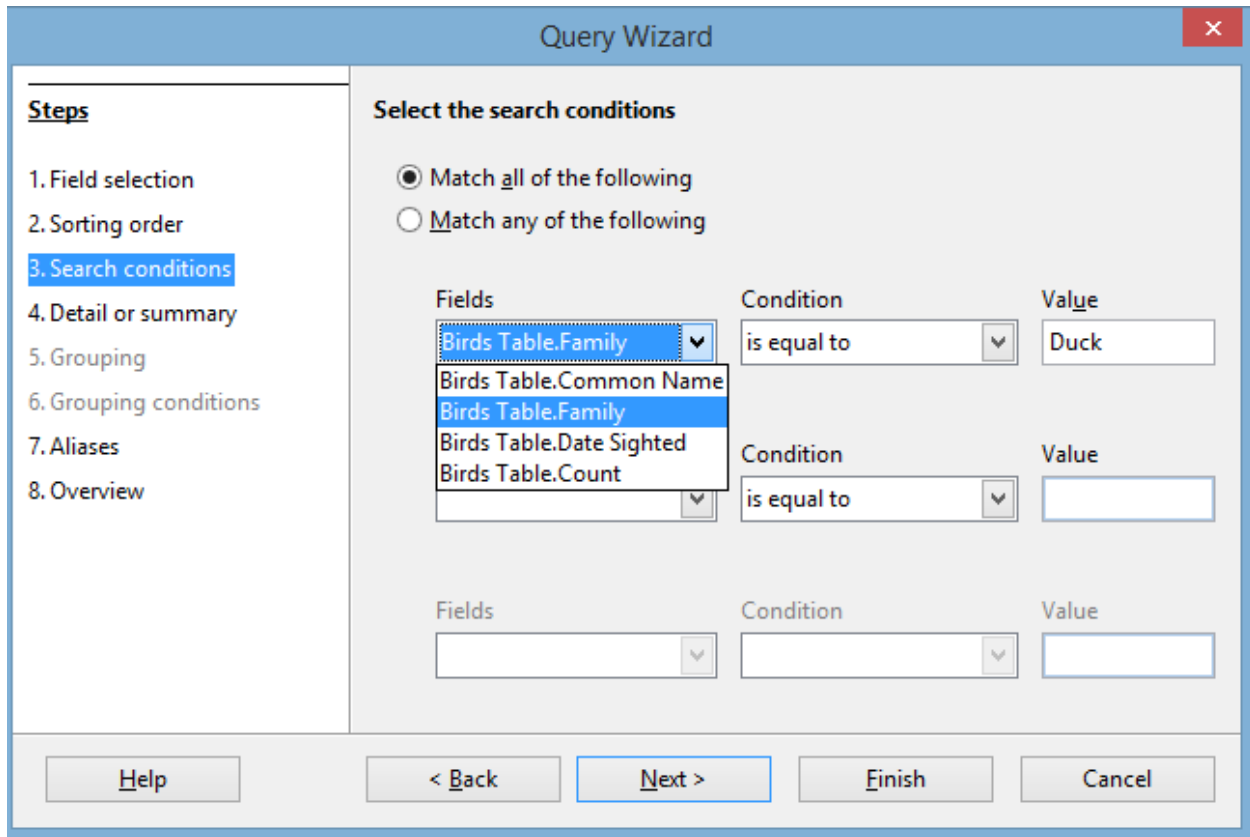


Fig. 8.25 Selecting the search conditions for the Query

In Step 1 you selected the *Fields* for the Query, and now you must select a *subset* from the family field for the *Report* you will build in the next exercise, a report which is based on the Query you are creating right now.

Click on the **down arrow** in the **first Fields box** and, in the **drop down menu** of Fields, select **Birds Table.Family**, leave the **Condition** as **is Equal to** and, in the **Value** box, type the entry **Duck** (we want every type of Duck—and only Ducks—in our report), then click on **Next >**

In the next step of the Wizard—**Step 4—Detailed query** is the default and that’s what you want, so click on **Next >** again

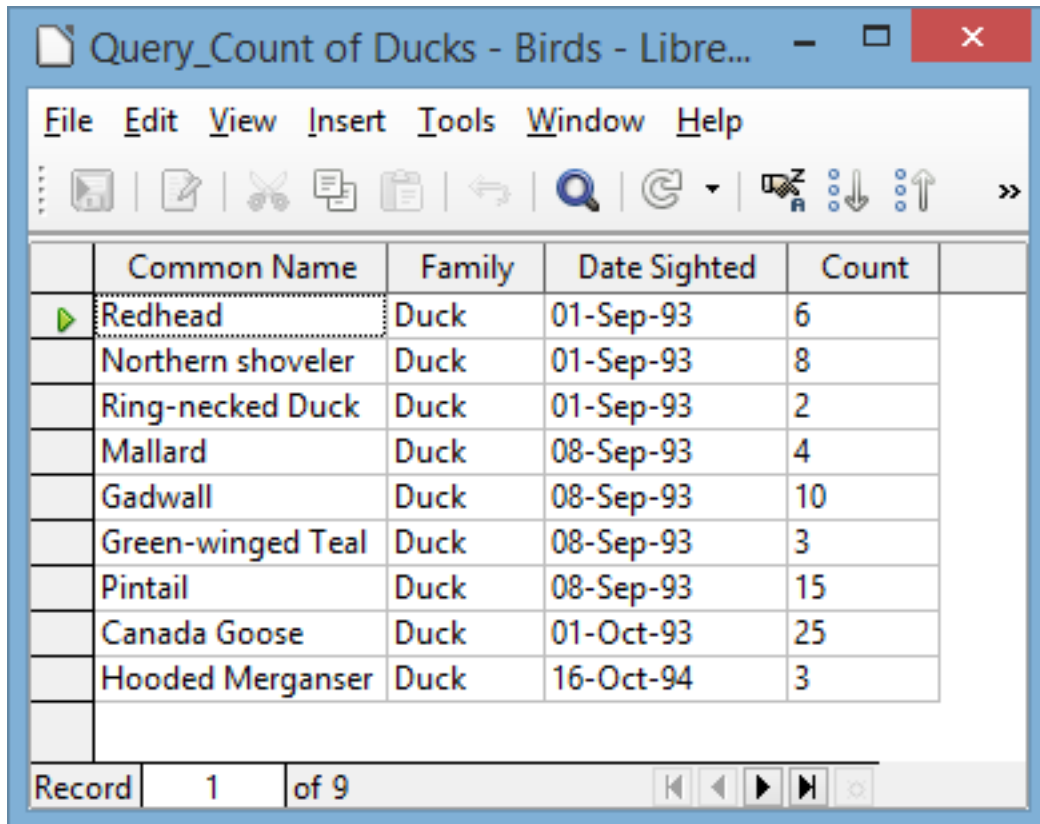
Steps 5 and 6 are **greyed out** because you don’t need them for this query, nor do you need to change the field names in **Step 7 (Aliases)**, so click on **Next >** once again

Step 8 presents an overview of what should go into the Query that is going to determine the contents of the upcoming Report. The Title the Report will be *Count of Ducks Sighted*.

So, in this last step of the Wizard, change the **Name of the Query** to **Query_Count of Ducks**, leave the default to **Display Query** when you finish this exercise so that you can check that the Query has successfully produced the **Found Set** of data you want for the report, then quickly read through the **Overview** section to see if what you have done in the previous steps makes sense

When you’re ready, click on **Finish**

Quickly, *Base* uses the Query to produce a display of the *Found Set* (Fig. 8. 26)



	Common Name	Family	Date Sighted	Count
▶	Redhead	Duck	01-Sep-93	6
	Northern shoveler	Duck	01-Sep-93	8
	Ring-necked Duck	Duck	01-Sep-93	2
	Mallard	Duck	08-Sep-93	4
	Gadwall	Duck	08-Sep-93	10
	Green-winged Teal	Duck	08-Sep-93	3
	Pintail	Duck	08-Sep-93	15
	Canada Goose	Duck	01-Oct-93	25
	Hooded Merganser	Duck	16-Oct-94	3

Record 1 of 9

Fig. 8.26 The Query_Count of Ducks Found Set

What you see on your screen should be the same as in Fig. 8.26—9 records, all of them from the *Duck* family, showing their Common Name, Date Sighted, and Count. Now you're ready to go ahead and create the *Count of Ducks Sighted* Report.

Creating a Report based on the Query

Close the **Query_Count of Ducks** window and, in the **Birds** database window, in the **Database frame** at left, click on the **Reports** icon then, in the **Tasks** section click on **Use Wizard to Create Report...** (Fig. 8.27)

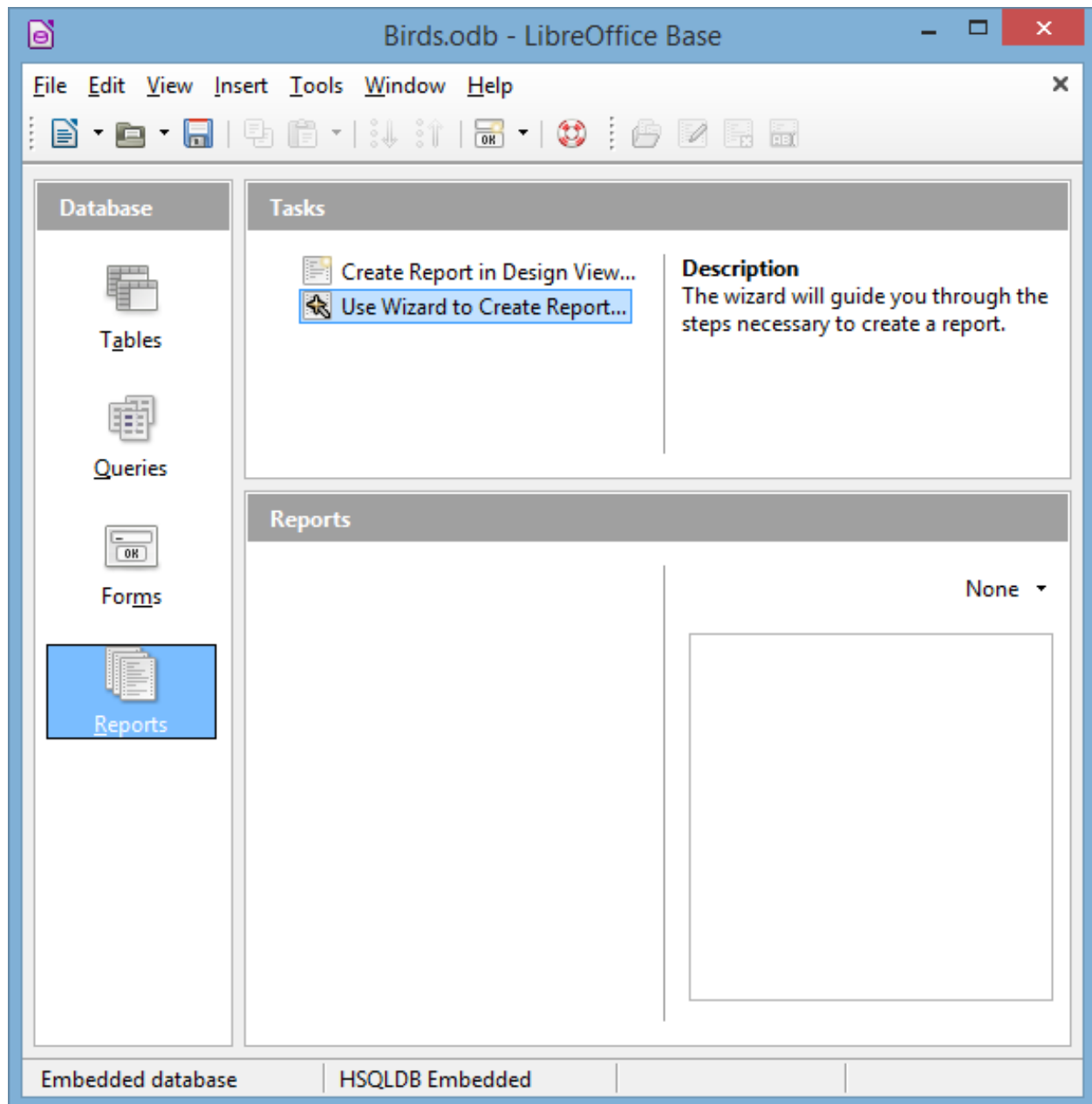


Fig. 8.27 Selecting the Wizard to create the report

This will bring up the Report Wizard dialog box (Fig. 8.28).

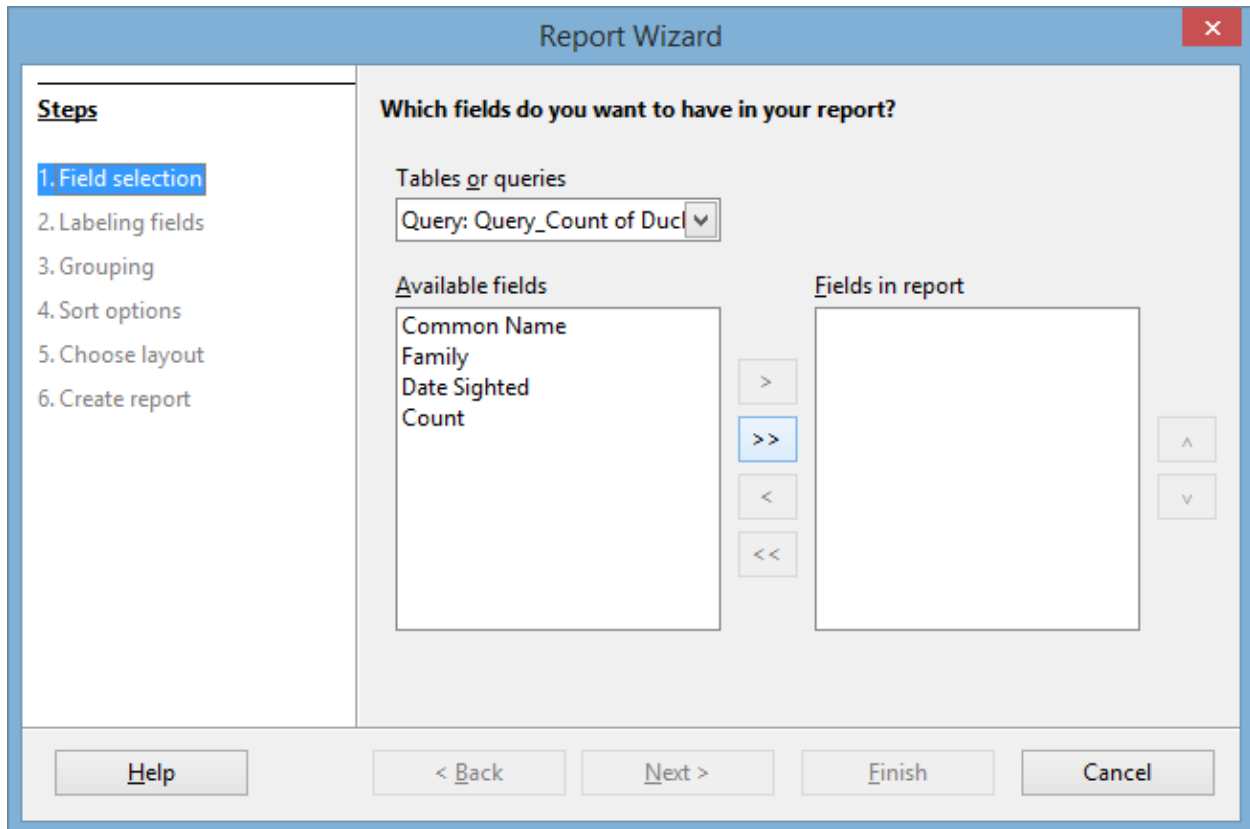


Fig. 8.28 The Report Wizard dialog box

In **Step 1** of the **Report Wizard**, in the **Tables or Queries** data box, leave the default **Query: Query_Count of Ducks** as the source for the report's data (Fig. 8.28 above)

Then, in the list of **Available fields**, click on the **double arrow** (see Fig. 8.28 on previous page) to move all **four fields** to the **Fields in report** box (Fig. 8.29), then click on ****Next**

**

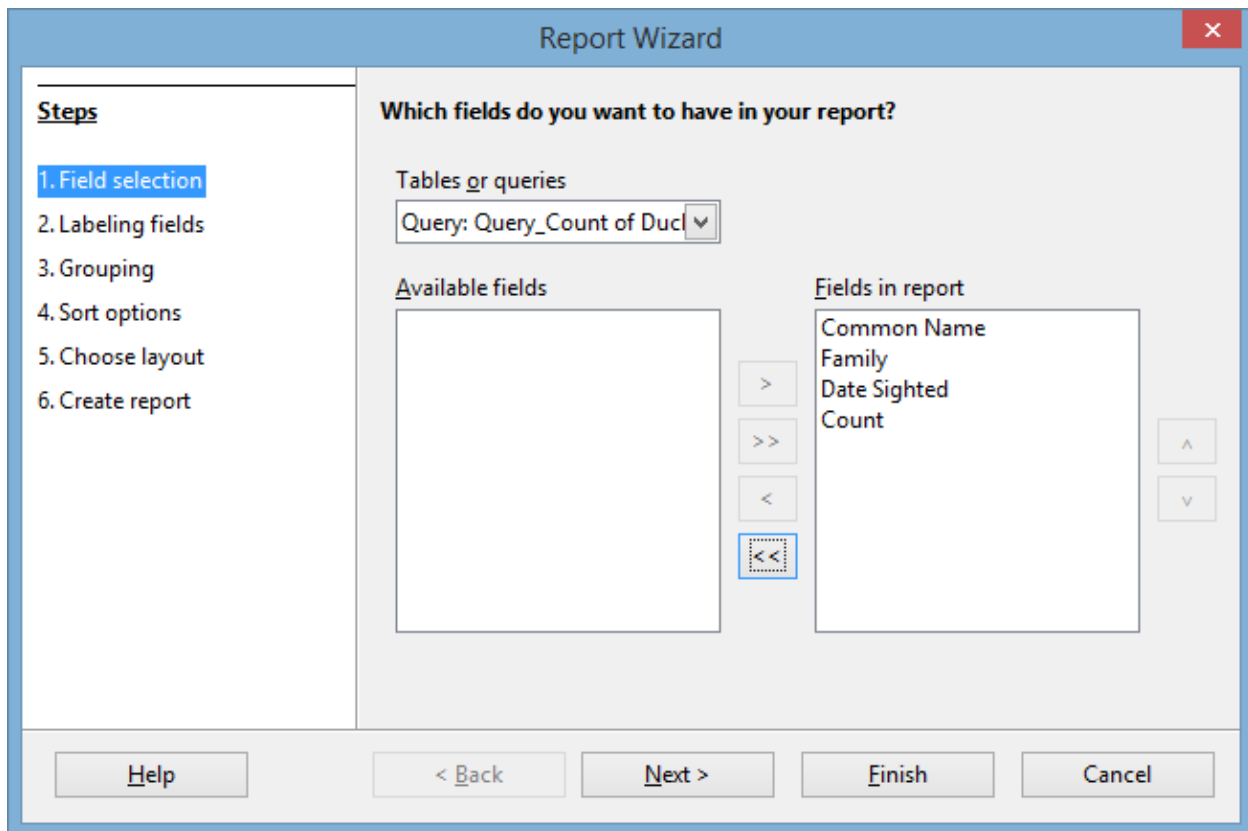


Fig. 8.29 Selecting the Fields for the report

This brings up Step 2 of the Report Wizard, where you are asked to decide how you want to label the fields for the report (Fig. 8.30)

The screenshot shows a window titled "Report Wizard" with a red close button in the top right corner. On the left, a "Steps" list contains six items: "1. Field selection", "2. Labeling fields" (highlighted with a blue background), "3. Grouping", "4. Sort options", "5. Choose layout", and "6. Create report". The main area of the window is titled "How do you want to label the fields?" and contains a table with two columns: "Field" and "Label". The table has four rows: "Common Name" with a text box containing "Common Name", "Family" with a text box containing "Family", "Date Sighted" with a text box containing "Date Sighted", and "Count" with a text box containing "Count". A vertical scrollbar is on the right side of the table. At the bottom of the window, there are five buttons: "Help", "< Back", "Next >" (highlighted with a blue border), "Finish", and "Cancel".

Field	Label
Common Name	<input type="text" value="Common Name"/>
Family	<input type="text" value="Family"/>
Date Sighted	<input type="text" value="Date Sighted"/>
Count	<input type="text" value="Count"/>

Fig. 8.30 Step 2 of the Report Wizard

The labels are fine as they are, so click on **Next >**

In Step 3 of the Report Wizard you are asked if you want to add grouping levels (Fig. 8.31).

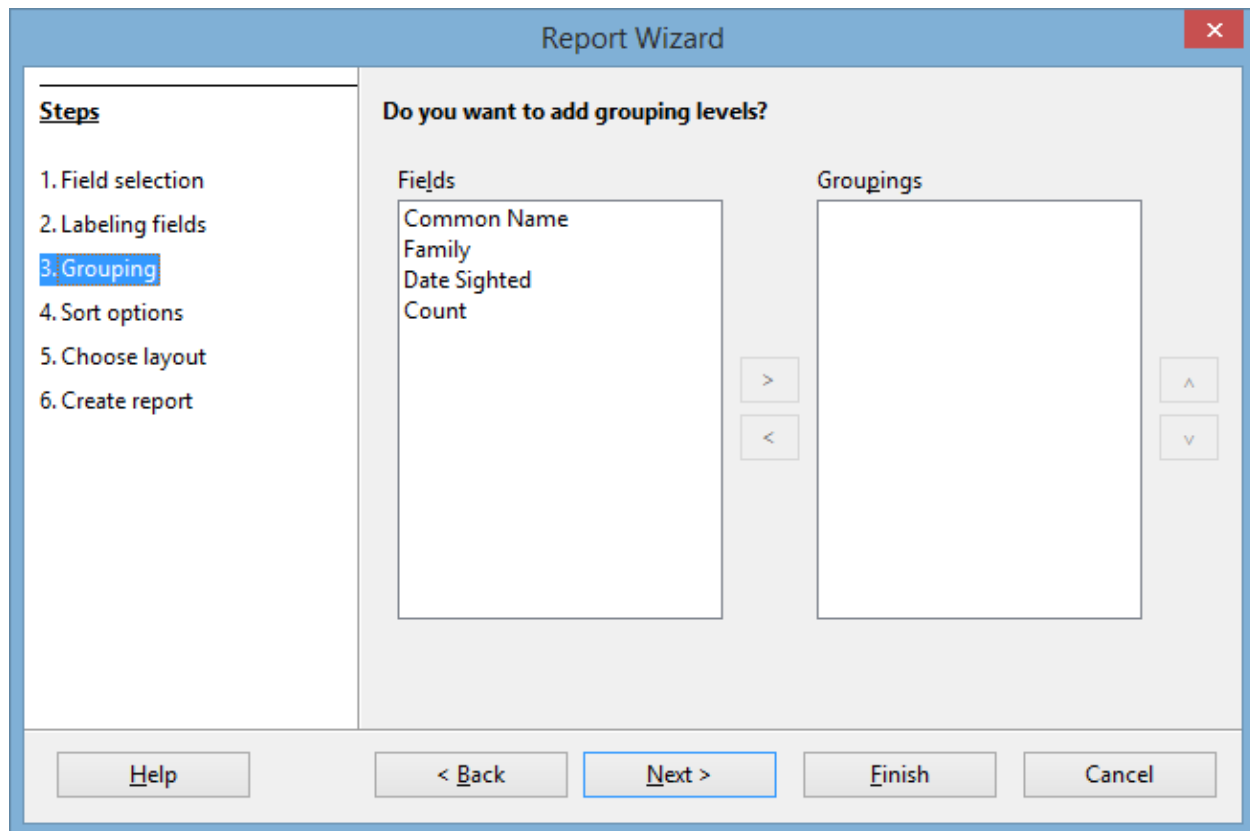


Fig. 8.31 Step 3 of the Report Wizard

Again there is no need to add grouping levels, so click on **Next

**

In **Step 4** you are asked if you want to **sort** the data in the database prior to producing the report, but you already sorted the data in an earlier exercise based on the **Common Name field**, and again, for practice, based on the **ID field**, so click on **Next

** to proceed to **Step 5** of the Report Wizard, where you are asked how you want to layout the data in the Report (Fig. 8.32)

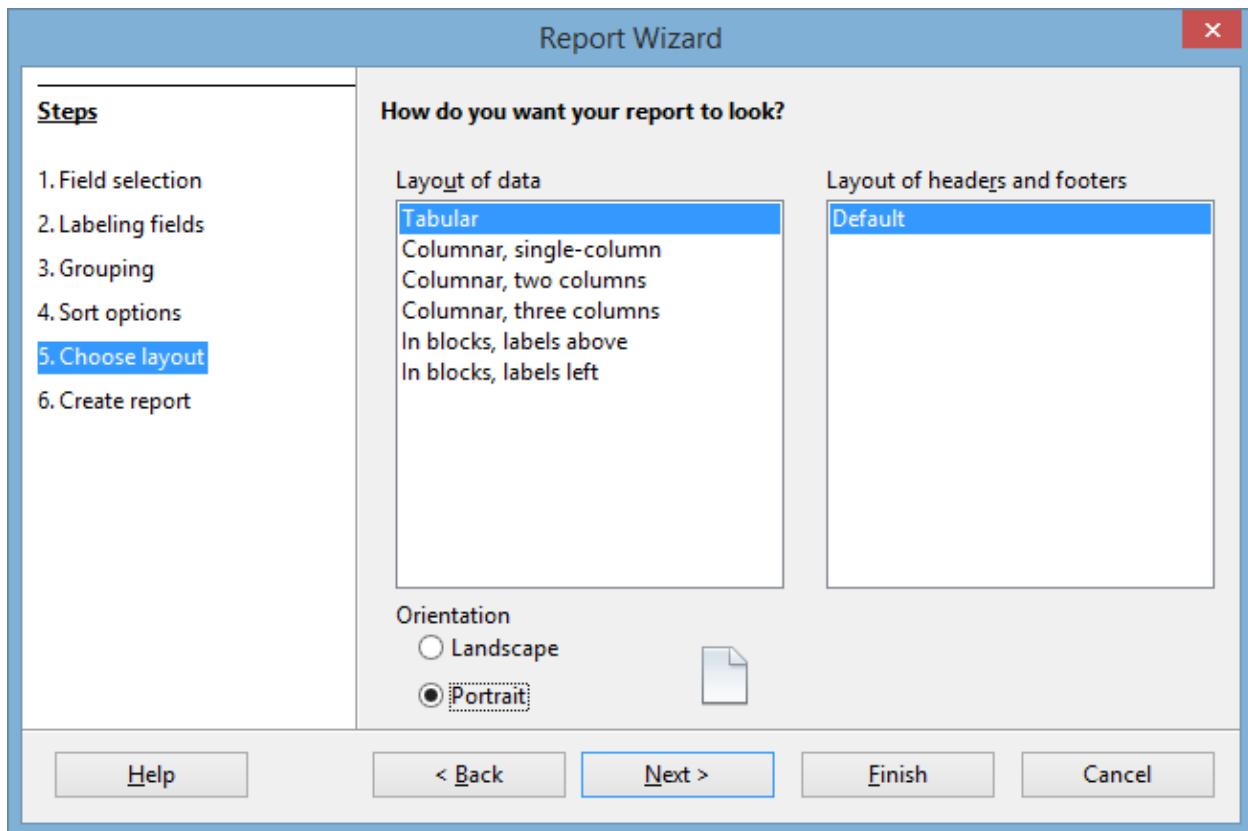


Fig. 8.32 Step 5 of the Report Wizard

Tabular layout is like a spreadsheet, where you have column headers with the data for each column listed below each of the headers, as in a Table, which is the default layout you want, so leave **Tabular** as the **Layout of data** option

You have four (4) fields in the report, and you can fit them across the **Portrait-oriented** page, so click on the **radio button** next to **Portrait** for the **Orientation** (Fig. 8.32 above), then click on **Next >** to proceed to Step 6 (Fig. 8.33)

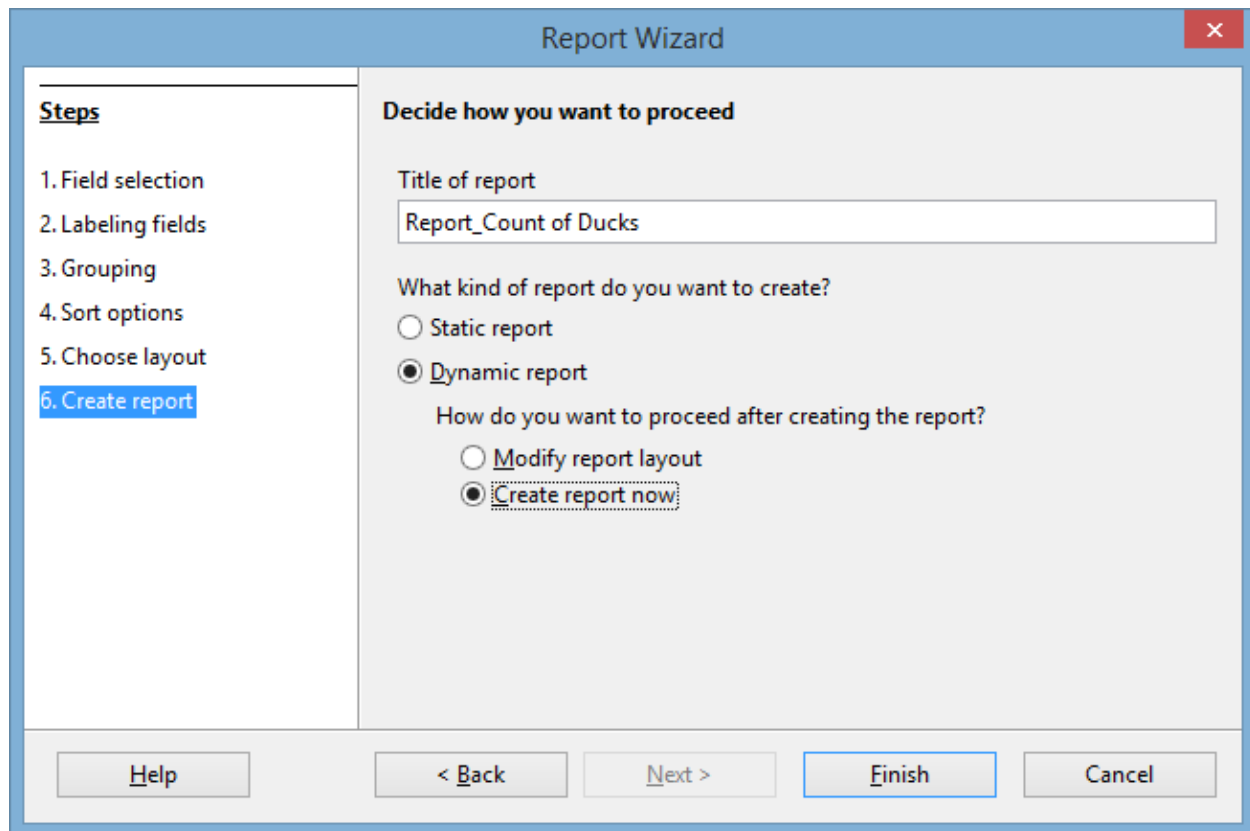


Fig. 8.33 Step 6 of the Report Wizard (Create Report)

In the **Title of report** box type the title: **Report_Count of Ducks**

You want the report to be **Dynamic** so that the report will reflect changes to the data at a later date should the data in the database change, which is likely over time, so make sure the **radio button** next to **Dynamic** is checked (Fig. 8.33 above)

You also want to go ahead and have *LibreOffice* create the report after you click on Finish, so click on the **radio button** next to **Create report now** (Fig. 8.33 previous page), then click on **Finish**

On the screen you should now see a rough and ready version of the report with column headers and, underneath them, the data for each column from the Found Set of Duck records (Fig. 8.34).

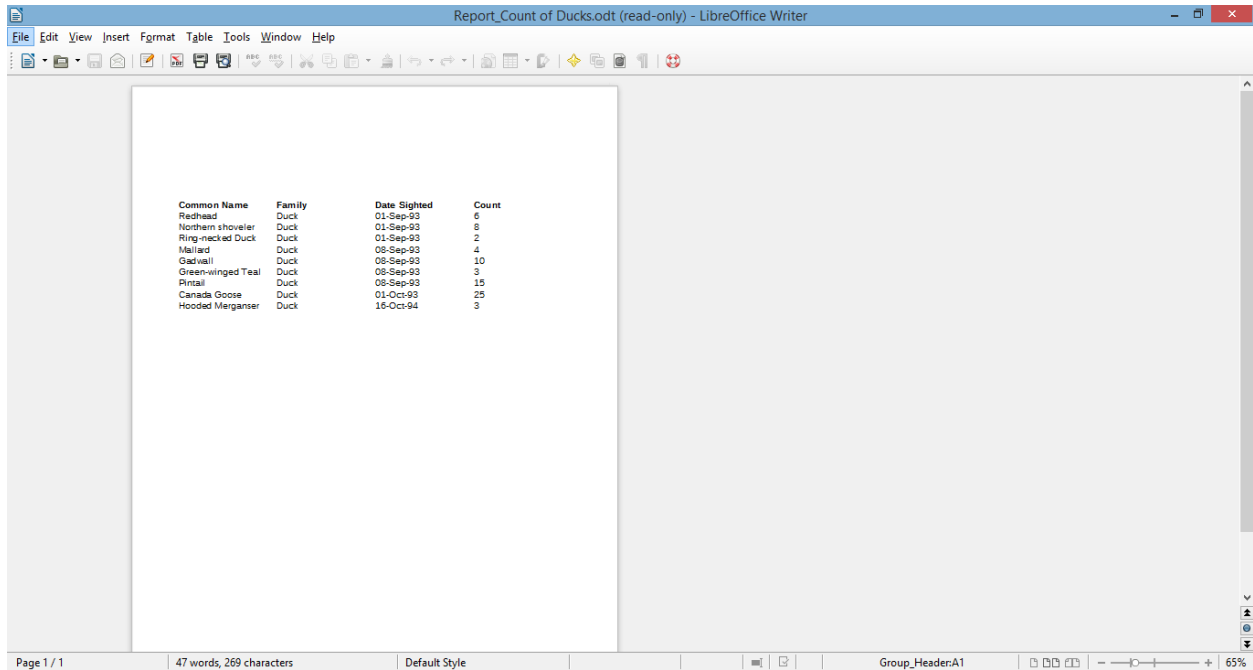


Fig. 8.34 Rough and ready version of the Count of Ducks report

Notice (Fig. 8.34 above) that the report is initially *read-only*—you can’t actually interact with it and make any changes to it as is. There are a couple of ways that you can work on the design of the report to make it more meaningful and visually appealing. The first is to use the Report Builder.

Close the Read-only version of the report then, in the Birds database top level window (Fig. 8.35), make sure the Reports object is selected in the left hand Database frame, and right click, in the Reports section, on the Report_Count of Ducks report to bring up the context menu (Fig. 8.35)

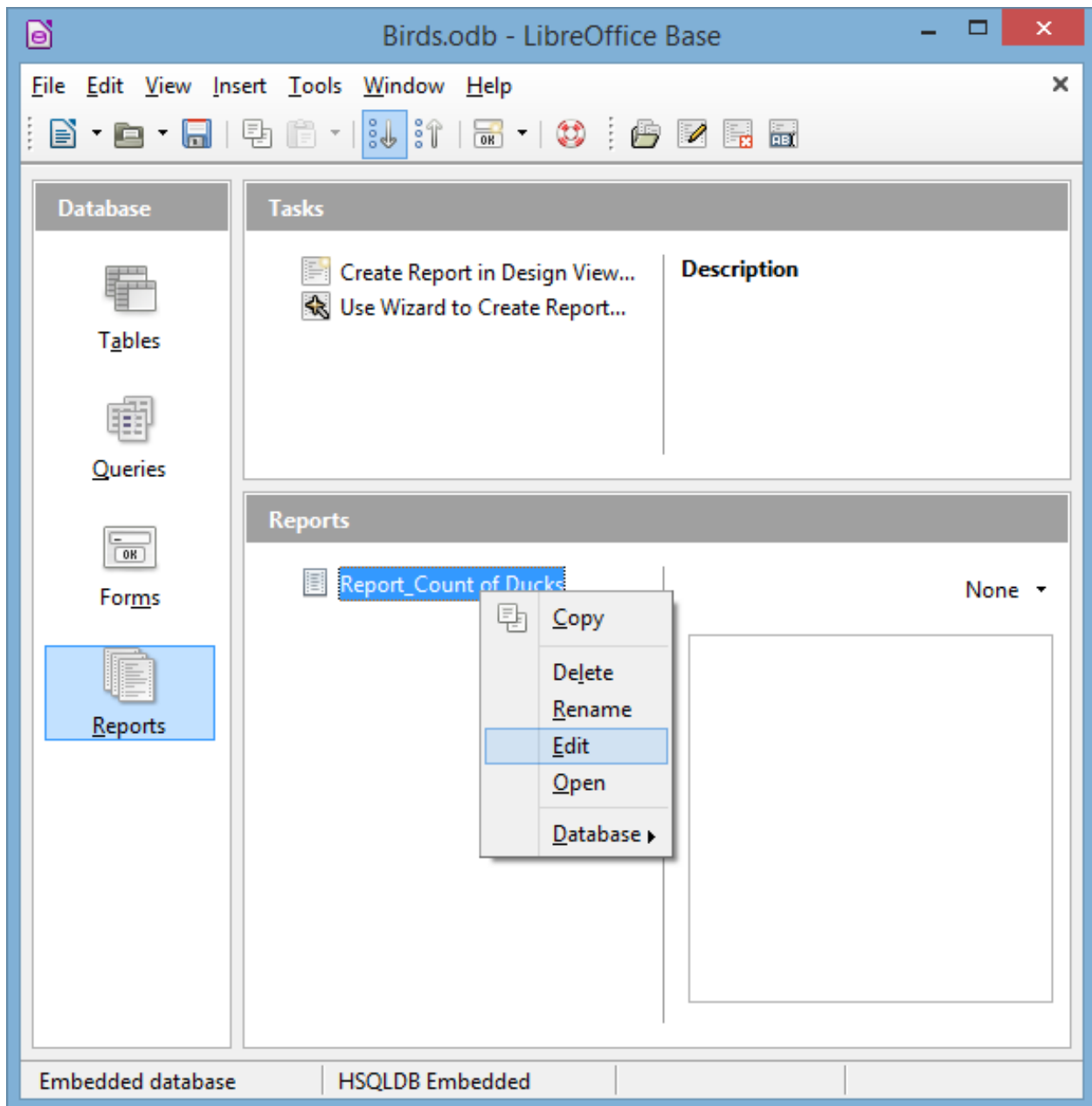


Fig. 8.35 The context menu for the Report_Count of Ducks

In the **context menu** select **Edit**, which brings up the **Count of Ducks report** in the **Report Builder** (Fig. 8.36)

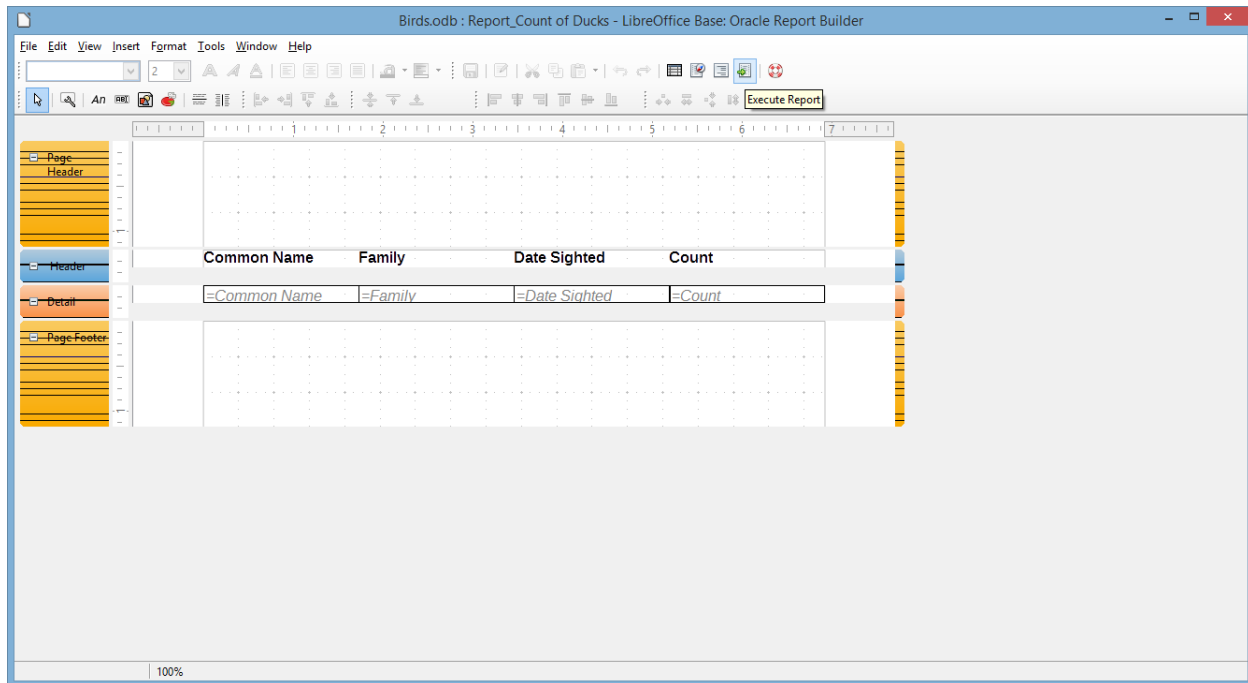


Fig. 8.36 *LibreOffice* Report Builder

The Report Builder has all the tools you need to work with the report and eventually come up with a layout and design that is both meaningful and pleasing to the eye. The report is essentially a *Writer* document that contains the data from the database. If you were to use the Report Builder to complete the design of the report, you would switch back and forth from the Report Builder to the work-in-progress *Writer* document by clicking on the *Execute Report icon* in the Standard toolbar, as illustrated in Fig. 8.36 above. Let's try this now.

In the **Standard toolbar**, click on the **Execute Report** icon to quickly bring up the rough and ready version again, which still looks much the same as Fig. 8.34 on page 246

However, depending on the version of *LibreOffice* you have installed on your computer, the Report Builder is unfortunately not necessarily the best tool to use to complete the design of the report. For this reason, you would be as well advised to work directly with the rough-and-ready version, using the tools that you have already learned about in *LibreOffice Writer* in Lessons 1, 2, 3 and 7 of these tutorials.

The rough-and-ready version of the report should be open on your screen, and in order to edit the report click, in the **Standard toolbar**, on the **Edit File** icon (Fig. 8.37)

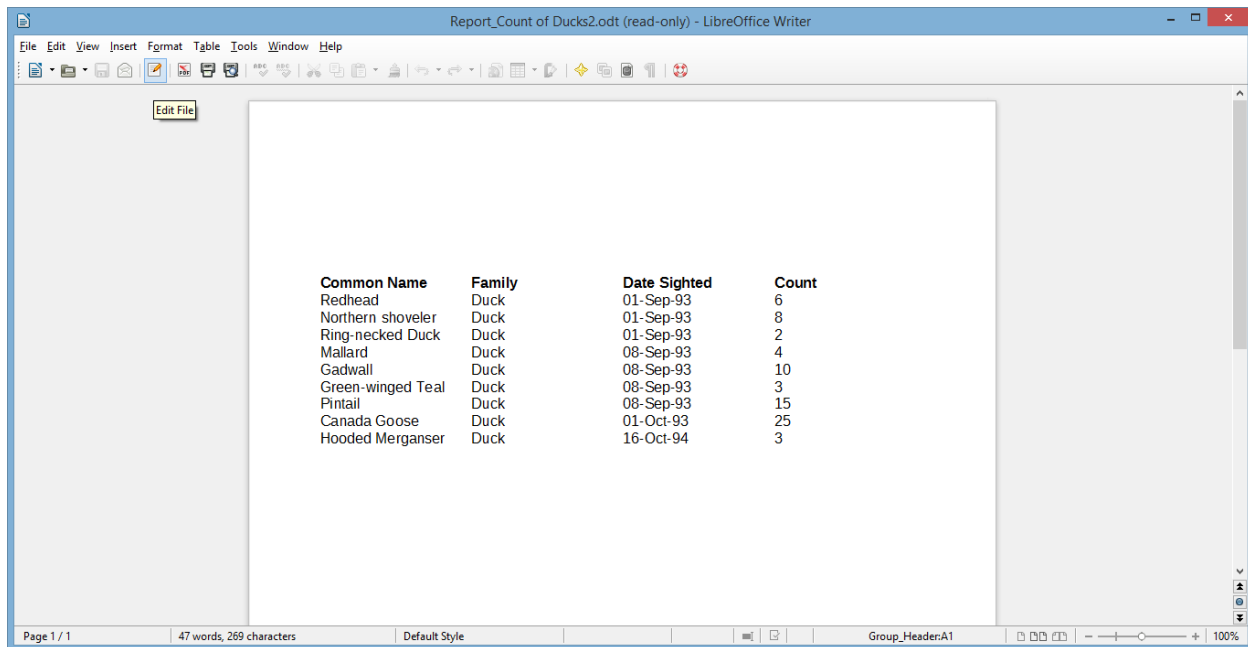


Fig. 8.37 The Edit File icon in the Standard toolbar

Your goal now is to work with the report until you can create something close to the version displayed in Fig. 8.38.

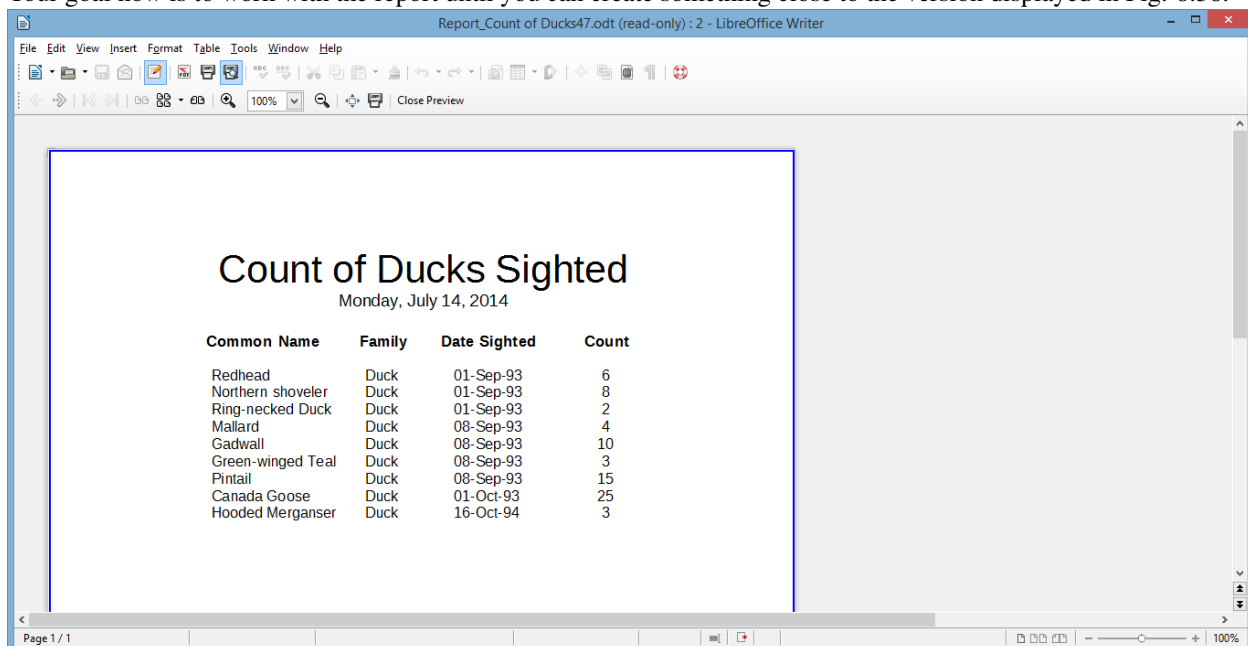


Fig. 8.38 The final version of the Count of Ducks Sighted Report

Here are some tips to help you along the way. But bear in mind that trial and error is the only way to end up with a final satisfactory outcome, so be patient and don't give up until you have something resembling the report in Fig. 8.38.

The column headers move independently of the data that is listed in each column. Let's start with the Column Headers. Fig. 8.39 shows a close up of what is involved with moving headers in the report.

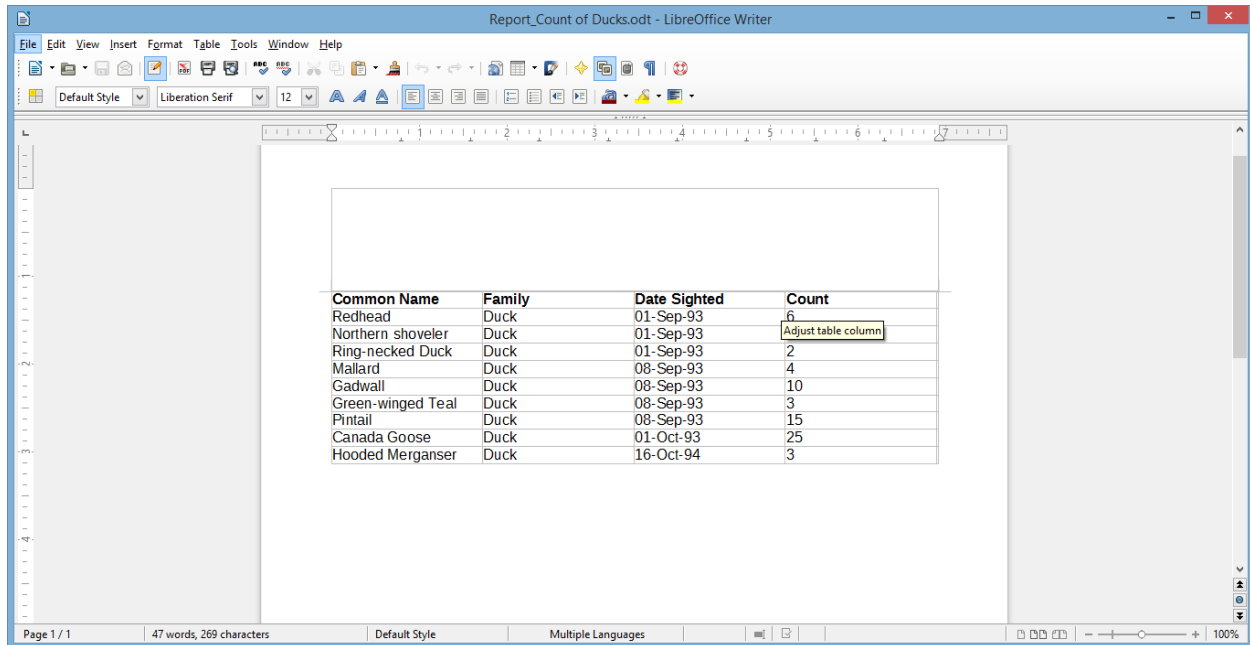


Fig. 8.39 Adjusting the position of headers in the report

Position the **tip** of the mouse pointer on the vertical line that divides the Count field from the Date Sighted field (the pointer becomes a **cross hair**), hold down the **left mouse button**, and slide the **Count header** to the **right** an inch or so (Fig. 8.40)

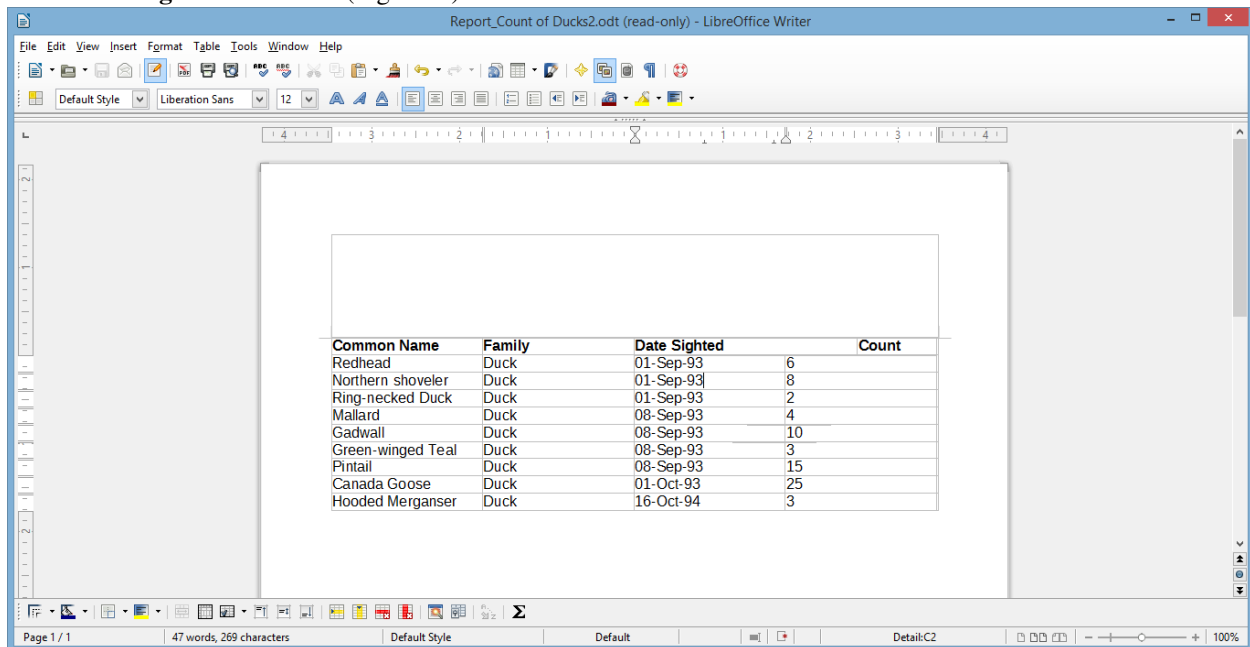


Fig. 8.40 The Count header moved over to the right

Now position the **tip** of the mouse pointer on the vertical line to the immediate left of the data in the **Count column** (the pointer becomes a **cross hair**), hold down the **left mouse button**, and slide the **set of data** to the **right** until it is more or less **centered** under the **Count column header** (Fig. 8.41)

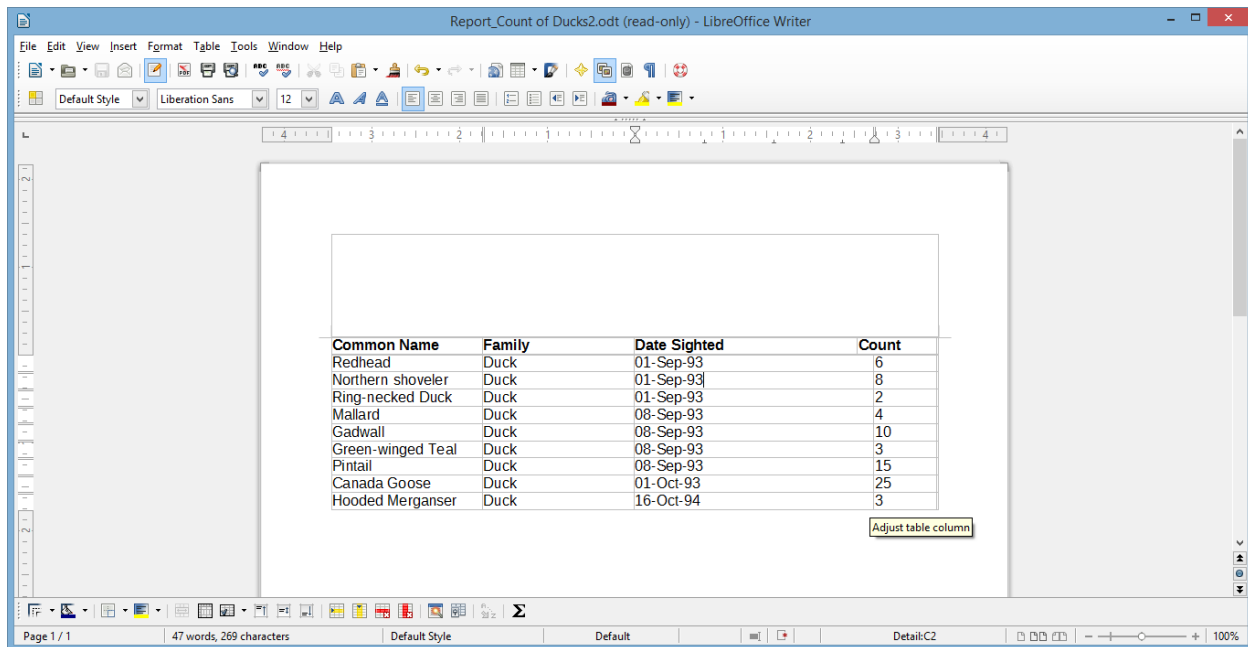


Fig. 8.41 The Count *data set* centered under the Count column header

Now do the same with the **Common Name**, **Family**, and **Date Sighted** headers and data sets till you have them laid out much the same as illustrated in Fig. 8.38 on page 248

Go to **File > Page Preview** to see how the page will look at this stage (it should look like Fig. 8.42), then click on **Close Preview** to continue working on the report design

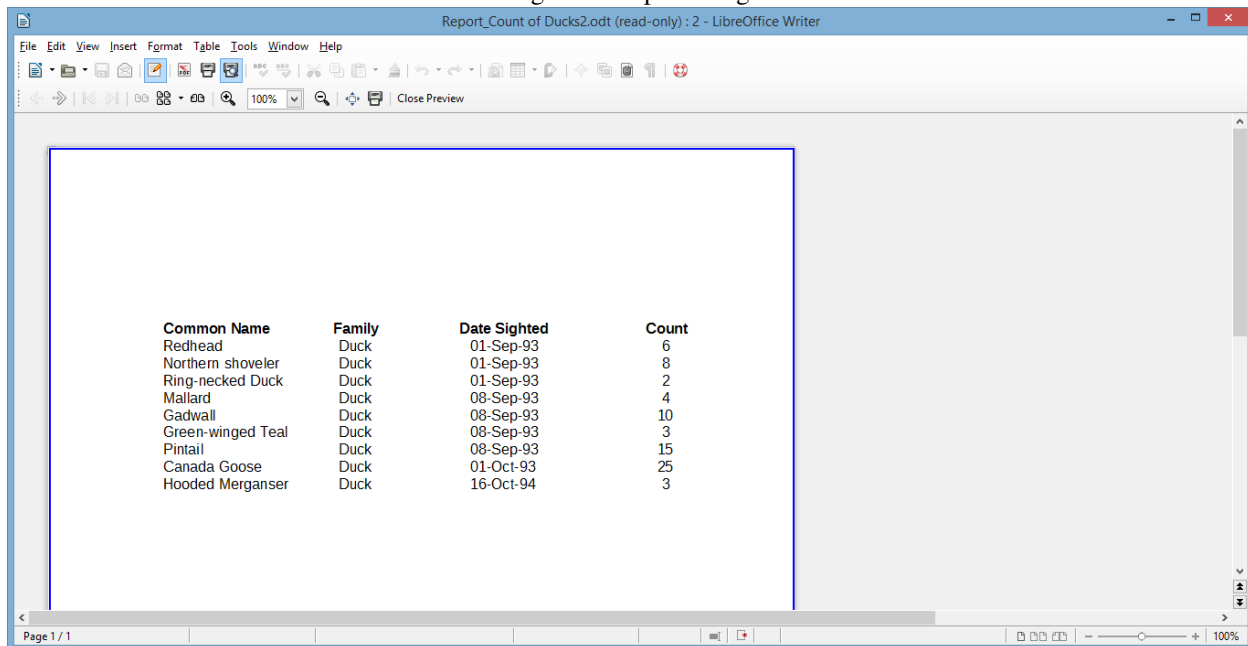


Fig. 8.42 Report after adjusting the column headers and data sets

All that remains is the report header, where you are going to insert a Title and the date (see Fig. 8.38 on page 248).

Click anywhere in the **Header area** above the column headers (see Fig. 8.43 below—look carefully, and you'll see the cursor flicking on and off in the top left corner of the header), then, in the **Standard toolbar**, change the **font** to **Liberation Sans**, the **font size** to **32 pt**, and click on the **Center** icon to center the title

(Fig. 8.43)

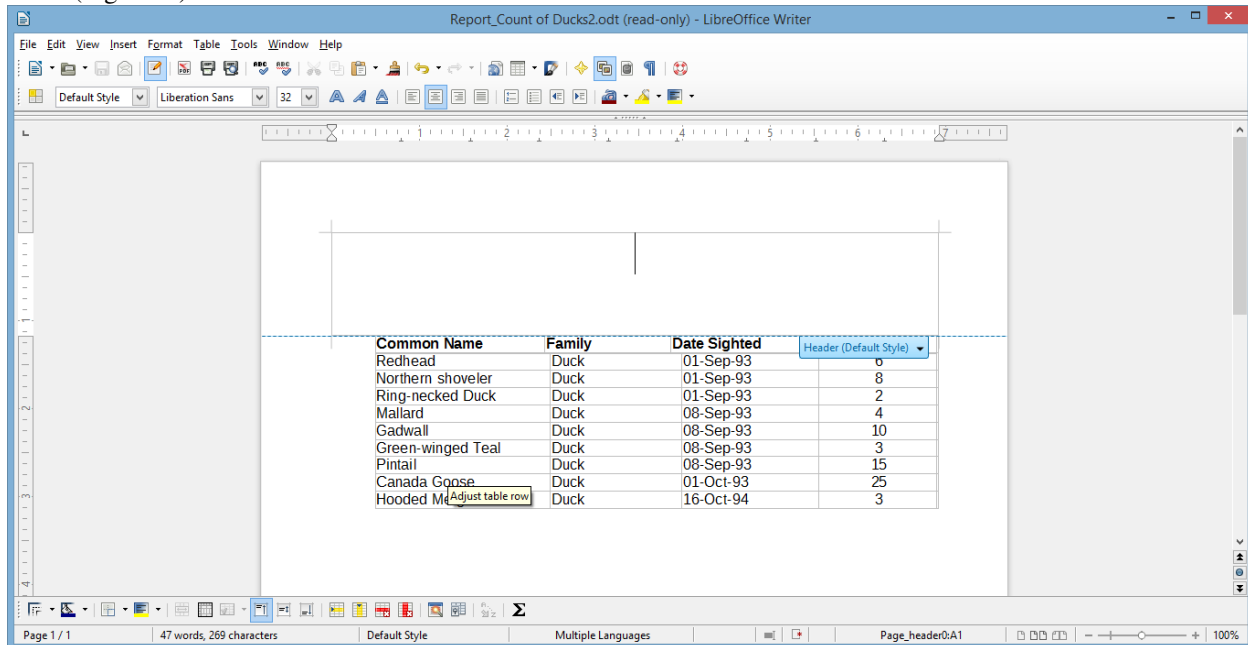


Fig. 8.43 Creating the title for the report

Go ahead and type the report title: **Count of Ducks Sighted**, hit the **Enter** key to move the cursor to a **new line**, change the **font size** to **14 pt**, and go to **Insert > Fields > Date**, then do **File > Page Preview** to check out the final product

If all went well, your report should now look very much like that illustrated in Fig. 8.38 on page 248. There are many more changes you could make to the report, such as adding graphics (maybe a picture of some ducks on a pond, for example) or background colors, and the like. If the report spanned several pages, you would almost certainly want to include page numbers (*Insert > Fields > Page Number*, which you learned about in Lesson 2). This is just an introduction to the topic of creating queries and reports. It is now up to you to extend your skills beyond these tutorials. Practice makes perfect, as you know so well.

8.6 PRINTING REPORTS

Once you have prepared the new report, it is a straightforward process to print the report. The command to do this is the same as you have used to print any other documents from within Microsoft *Office*, whether you have been working in Word Processing or the Spreadsheet.

You should still be in the **Page Preview** window, so click on the **Print** button in the **Standard toolbar** (Fig. 8.44) to print the **Count of Ducks Sighted** report

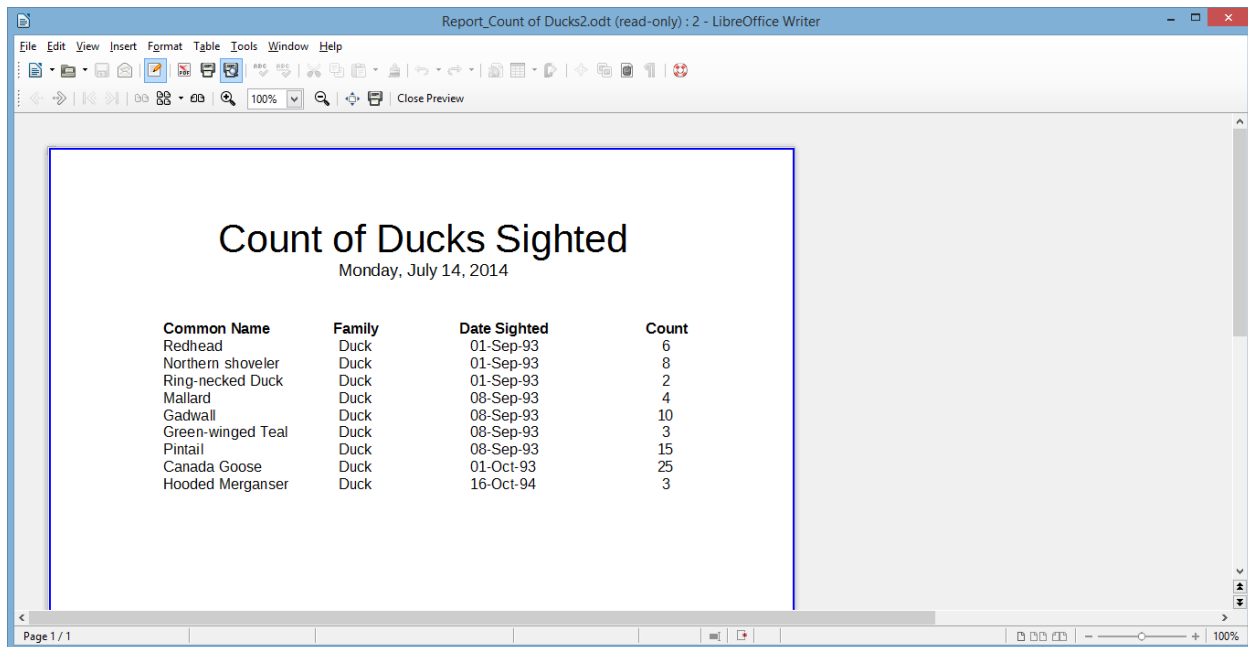


Fig. 8.44 The Print icon in the Standard toolbar

Remove the report from the printer and take a closer look at its contents. Notice that the only records in the report are those relating to ducks in the Family field. These are just a small subset of records drawn from the larger Birds database.

SKILL CONSOLIDATION

Complete as many of these exercises as you can to reinforce what you learned in Lesson 8.

1. Work with a group of your colleagues or classmates to specify and create a series of reports to accompany a database of student data such as the Roster Template database that you created in Lesson 6. Save the template with the set of reports.
2. From the Work Files for *LibreOffice* folder on your USB drive, open the Roster 2008 database onto the Desktop.
 - Add a record
 - Change the address and phone # in an existing field
 - Arrange the records chronologically on date of birth
3. Create a new database (do not use a database you already created) on any topic of your choosing.
 - Design the fields (at least 10) to be included in the database
 - Save the empty database document
 - Add at least 20 records
 - Save the database document again
 - Prepare a report using just 5 of the fields in the database
 - Save the database with the report and send the database to your professor as an attachment in email
4. Open the Birds database (in the Practice folder on your Work Disk) onto the Desktop.
 - Find all the birds that have *blue*, *grey*, *green*, or *olive* in their *Color1* plumage
 - Arrange (Sort) the birds in *descending order* (reverse alphabetical order—from Z to A)—the *Birds*, not the Colors!

- Prepare a report using just the following 5 fields in the database: *Common Name*, *Family*, *Color1*, *Habitat*, *Count*
- Save the *Birds* database with the report and send the database to your professor as an attachment in email

3.9 Lesson 9 *IMPRESS* Presentations

9 > *IMPRESS* PRESENTATIONS > > Creating slide shows

LEARNING OUTCOMES

Here are the topics that will be covered in this lesson:

- introductory thoughts about presentations;
- *Impress* at work;
- building the presentation;
- adding bells and whistles to the presentation;
- printing presentation handouts.

BEFORE YOU BEGIN

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (9.1 *Introductory Thoughts About Presentations—next page*). If you did *not* complete Lesson 1, then you must do this now before proceeding with the rest of Lesson 9.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by **double clicking** on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 9.1).

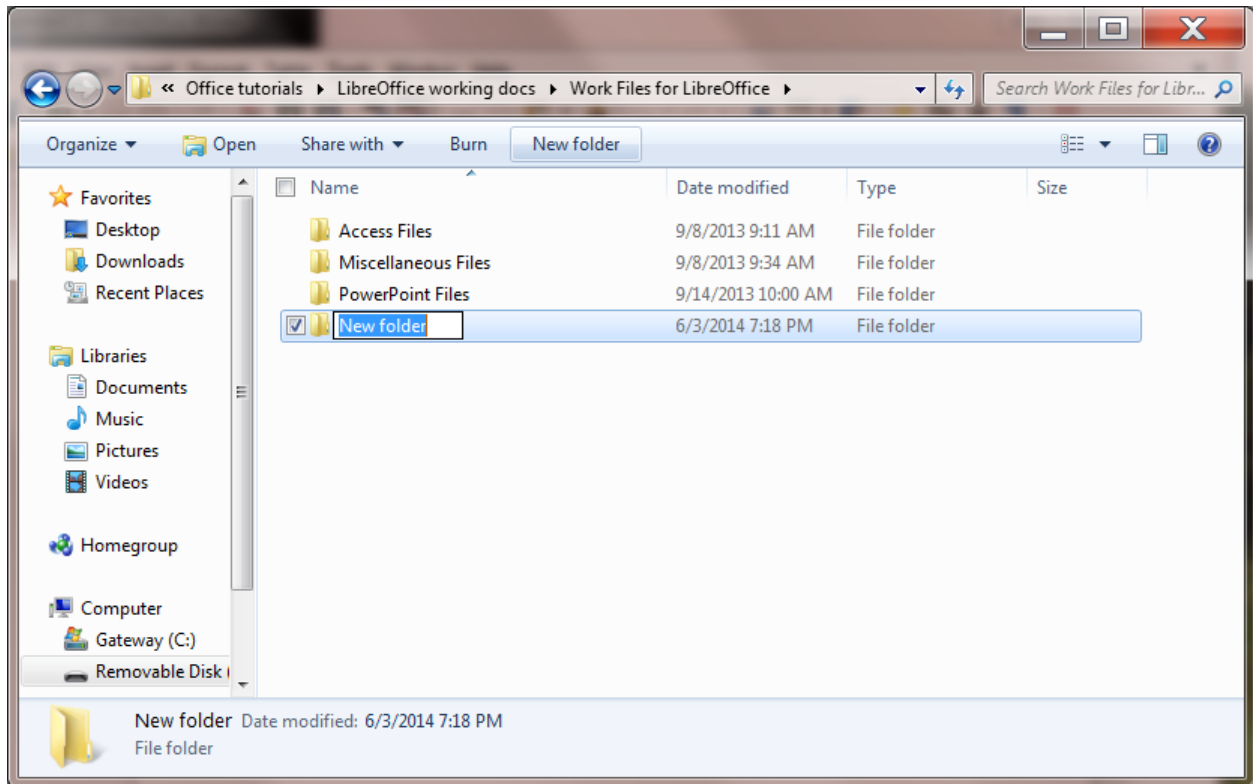


Fig. 9.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 9.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

9.1 Introductory THOUGHTS ABOUT PRESENTATIONS

Making a successful—well-designed, content-rich, pedagogically-sound—*Impress* presentation requires forethought and advance preparation. It's rather like what good cooks or chefs do before starting to cook a delicious dish of food. They read the recipe, make sure they have all the ingredients they need, gather all the ingredients together—the raw food such as vegetables and eggs and milk and wine and spices and other flavoring—what they call the *mise en place*. They make sure they have all the tools they need to do the job.

Good cooks don't start cooking till they're good and ready. In the same way, you have to get your thoughts together, know what you're going to talk about, and have your audio-visual material gathered together in one place (*mise en place*) so that when you come to create the presentation, it's a snap!

A good presentation, like a term paper, is usually based on an outline, such as is illustrated in Fig. 9.2.

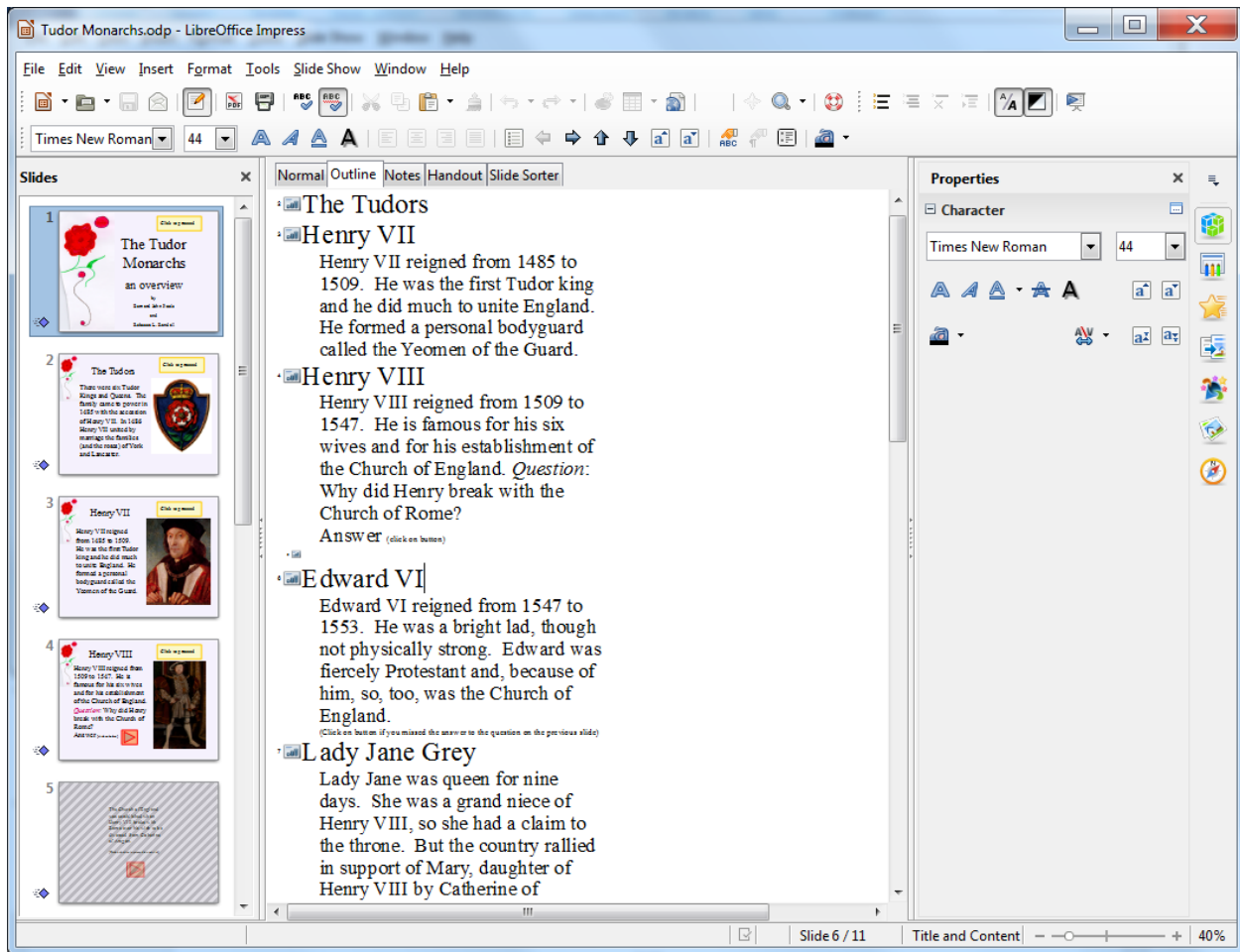


Fig. 9.2 Outline for the Tudor Monarchs presentation

You see on the left an outline of the text for each slide in the Tudor Monarchs presentation. Think of the titles and text for each slide as an outline you would have made for a high school or college paper. Similar, right? This is why the outlining tool is built into *Impress*—to help you plan.

Remember the golden rules of successful design: Rule 1—Plan; Rule 2—Plan; Rule 3—Plan! These golden rules apply whether you are designing a term paper, an audio-visual aid, a class outing, or a class syllabus and schedule.

You might begin with a brainstorming session to help you get an outline. During brainstorming, members of the group would come up with as many ideas as possible related to the topic of the project. Nobody's ideas are rejected in the early stages so as to encourage a fertile flow of useful suggestions.

The result of the brainstorming session might be a somewhat disorganized list of ideas. This list might have been entered directly into the computer during the brainstorming session, or it might have been collected on a blackboard or flip chart. Before changing the list into outline form you would re-organize it so that the ideas flowed naturally and logically from one to the other.

Along the way you might toss out some of the ideas for one reason or another. Eventually you'll have a working list which would end up as an outline, perhaps in a word processor document.

9.2 IMPRESS AT WORK

Let's see these ideas and others at work by looking at an example of an *Impress* presentation.

Turn on your computer, open **LibreOffice** then click on Open File and, in the Open dialog box, navigate to your **USB drive > Work Files for LibreOffice > Impress Files** folder and **double click** to open the

Tudor Monarchs presentation

Fig. 9.3 shows the Tudor Monarchs presentation in *Normal View* as it appears on your screen right after you open the document.

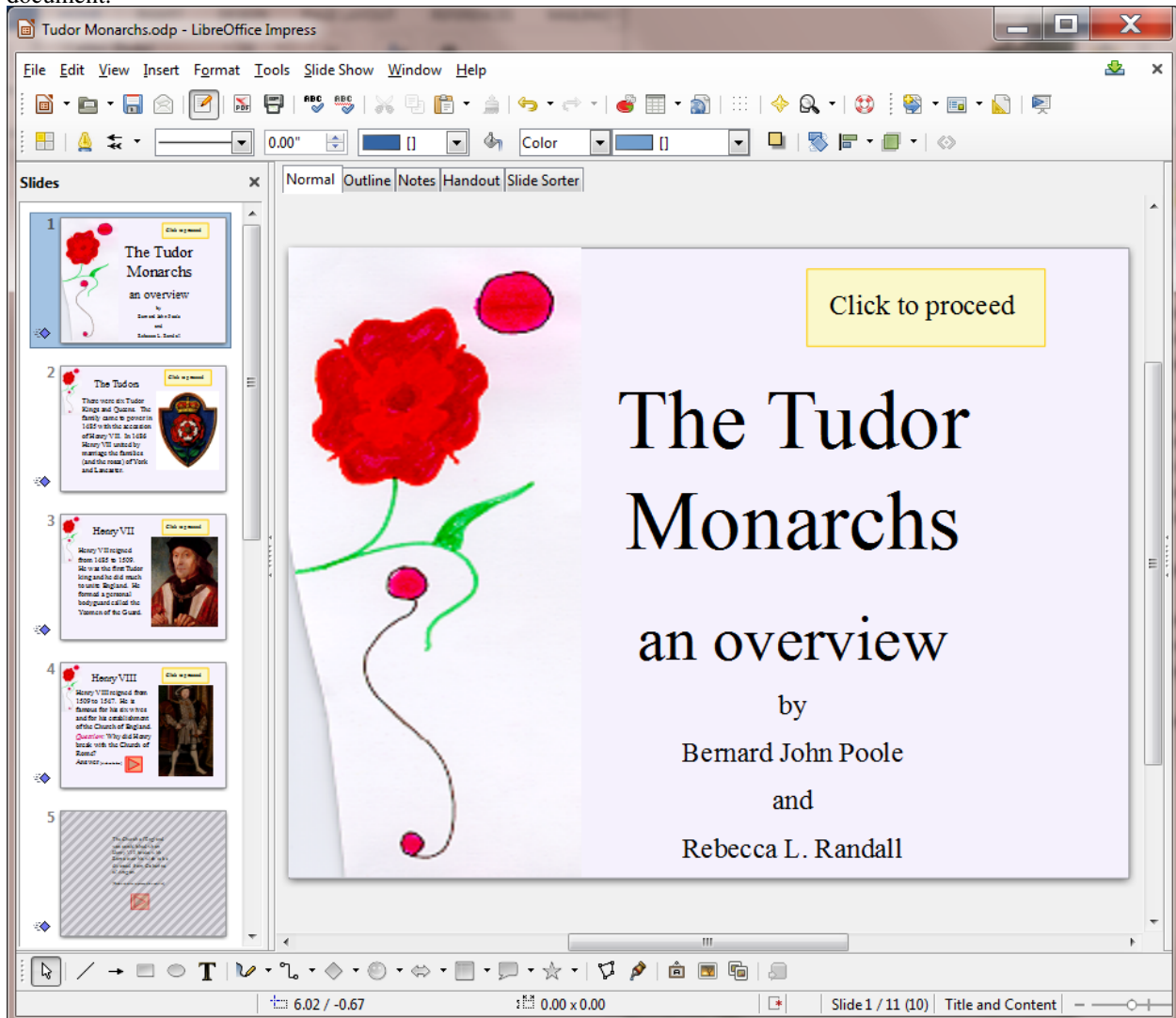


Fig. 9.3 The Tudor Monarchs presentation

Take a look at the Slide View tools in the upper left corner of the *Impress* window (Fig. 9.3 above). You'll use these tools a lot while you're developing your slides, so let's take a closer look at them right away and find out what each of them is about (Fig. 9.4).

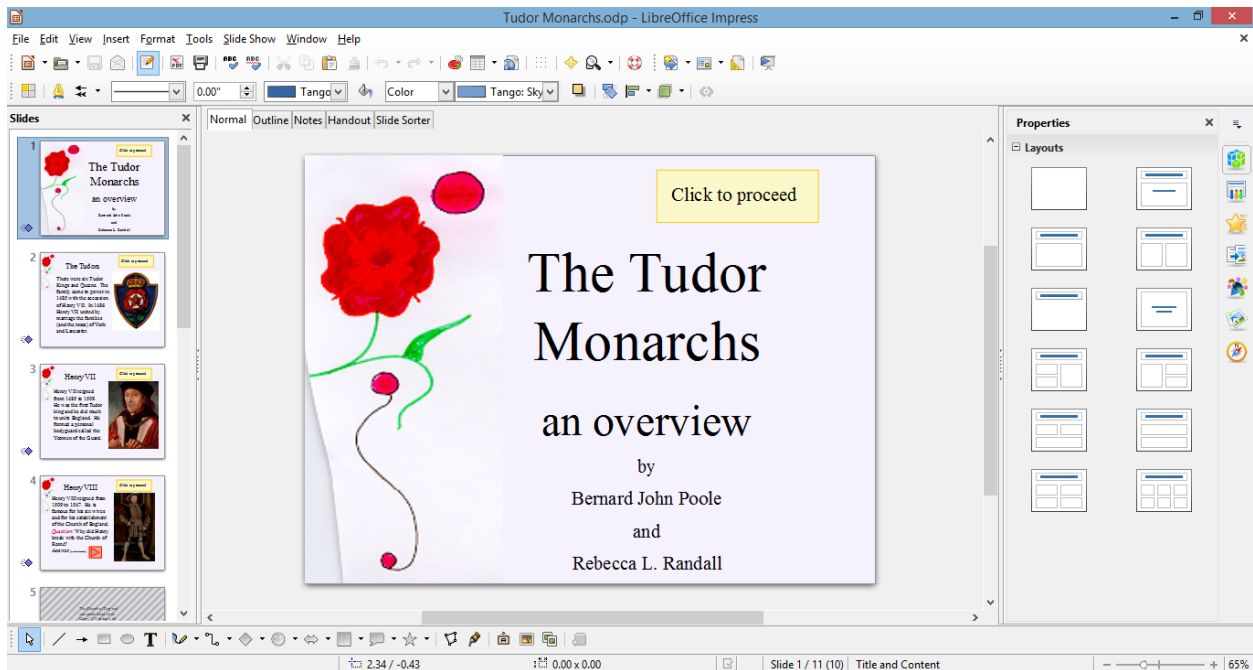


Fig. 9.4 The Slide View tools

Different ways to view the slides in your presentation

Normal view

This is the view you see illustrated in Fig. 9.3 above. It is the one you'll use most of the time while you're actually putting information on each slide. In this view, you have a left hand frame where you see thumbnails of all your slides in a scroll box. In the center of the window you have the slide you are actually working on—the active slide. Then, over in the right hand frame you have the Properties Pane (not shown in Fig. 9.3 above), where you'll find more tools to help you to develop your presentation.

Outline View

The Outline View lets you see just the *text* on each slide. If you want, you can use the outline tool to map out/plan the content of your show before you “pretty up” the show with graphics and colors and backgrounds and so forth.

Notes View

The Notes View is especially useful if you want to explain, or reinforce, the content of each slide, either for your own use as the presenter, or for your students, or for whoever is in your audience who would like more information than is on each actual slide. In the Notes View you are presented with a smaller version of each slide, one by one, with ample space for extra notes pertaining to the content of each slide, as illustrated in Fig. 9.5.

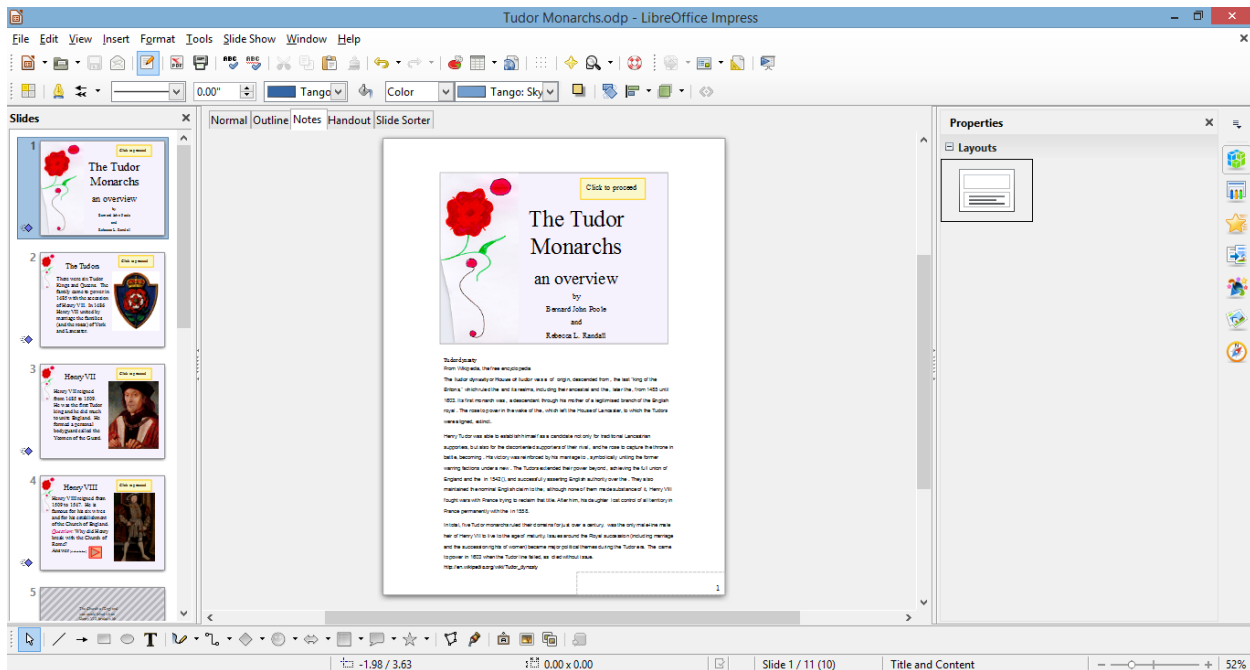


Fig. 9.5 The *Impress* Notes View showing the supplementary notes for Slide One

Handout View

Anyone who gives a presentation is, in a way, a teacher, and the people listening to him or her are, in a way, students, hoping to learn something they didn't know before.

One of the problems with being a student is that it's difficult to grasp right away what the teacher is trying to get across. Good teachers/presenters give their audience the opportunity to take away at least a summary of what they have had to say. Hence handouts; and *LibreOffice* makes handouts a snap.

Fig. 9.6 illustrates the *Impress* Handout View.

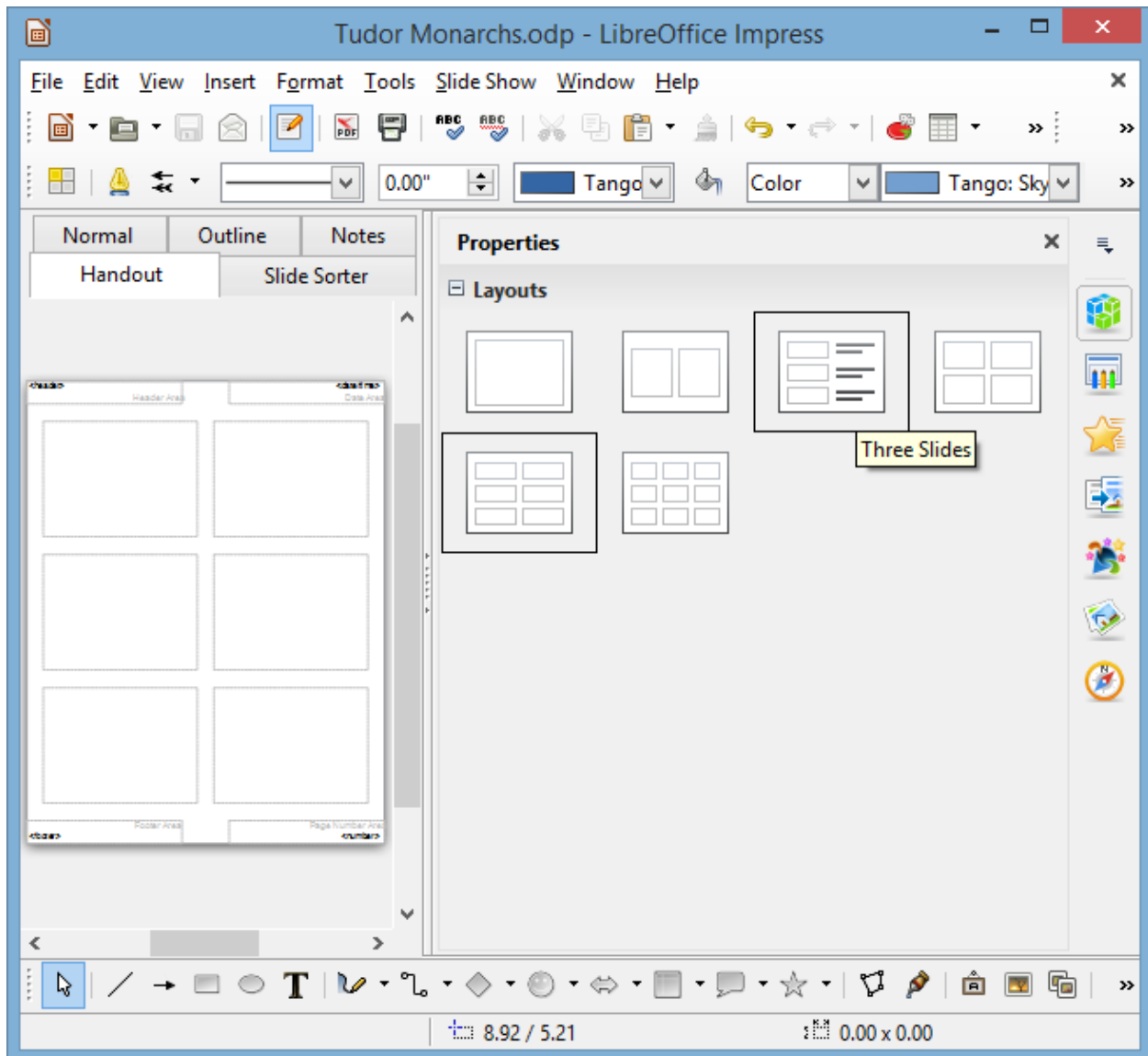


Fig. 9.6 The *Impress* Handout View

The best presentations do not overdo the use of slides! In other words, if you are presenting for 40 to 50 minutes, you shouldn't need more than half a dozen slides—ten max.

One good rule is based on Miller's Magical number (pertaining to short term memory). People can hold on to no more than about 7 ± 2 items—ideas, numbers, whatever—in short term memory before those items are very quickly gone! Keep it simple and attractive to the eye is the golden rule.

But reinforcing those ideas, numbers, or whatever with some kind of follow up or repetition significantly helps retention. Handouts are one way to serve that purpose, and the *Impress* Handout View makes it easy to format and print (or e-share through email, Facebook, and the myriad other online social media) the *Impress* presentation that you have so carefully designed and produced.

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Slide Sorter view

This is the view you see illustrated in Fig. 9.7, and it is the one you'll find most useful when you want to get an

overview of your show while you're working on it, since you'll be able to see most all your slides laid out for you on one screen or page.

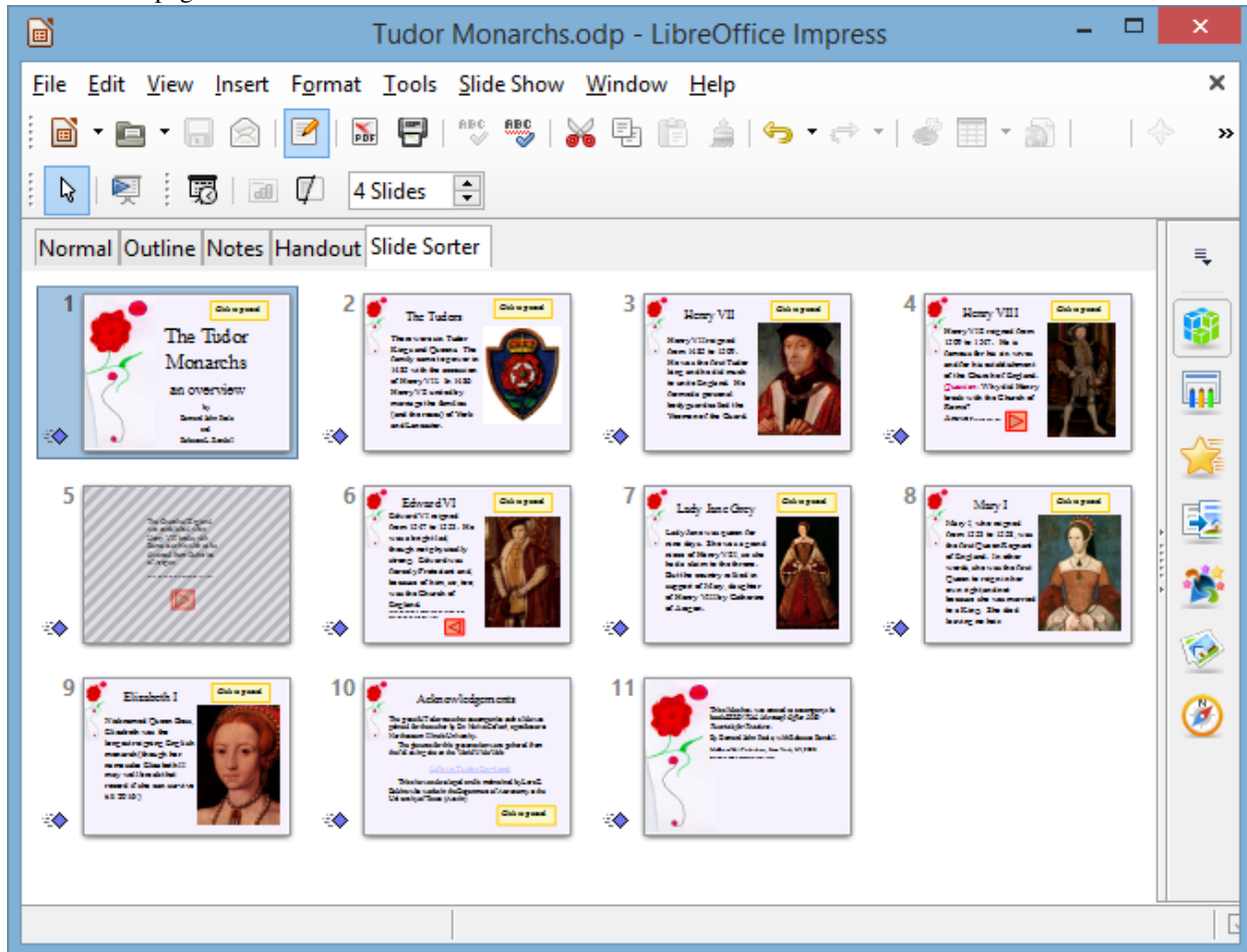


Fig. 9.7 The Slide Sorter View of the Presentation

You also can easily move your slides around, using the mouse to slide them into place, changing the order to suit your purposes. This is why it's called the Slide Sorter view.

You'll find yourself using these tools frequently to switch from one view to another as you are developing your *Impress* presentations. Let's further check out the Slide Sorter view now.

Click on the **Slide Sorter** tool in the **Slide Views** toolbar (Fig. 9.7 above)

Take a look at the Slide Sorter View window that is presented to you now (more or less the same as Fig. 9.7 above, though your screen may be a different width, so the slides may be arranged differently across the page).

The presentation you are looking at demonstrates some of the basic features of *Impress*. By the end of this lesson you will be able to build your own presentations along the same lines.

It's time you worked your way through the *Impress* presentation about the Tudor Kings and Queens of England.

Click on the **Normal View** in the **Slide Views** tools and, in the **Presentation** toolbar, click on the icon to **Start from first slide** (Fig. 9.8)

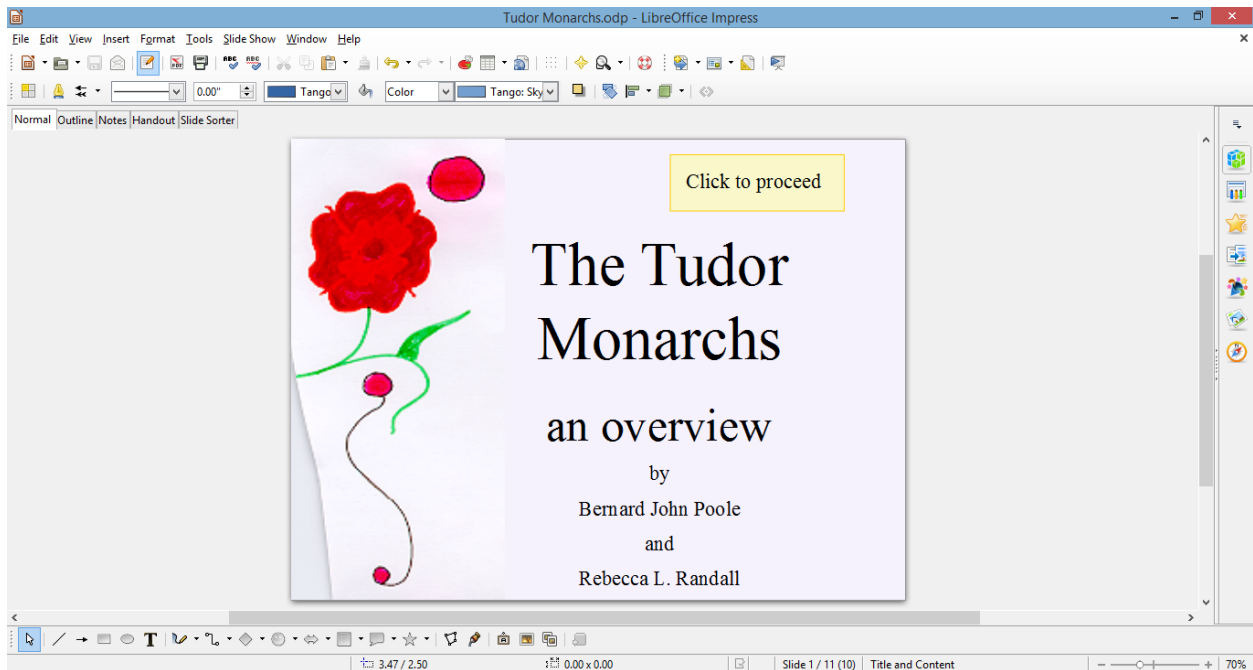


Fig. 9.8 *Start from First Slide* icon in the Presentation toolbar

Features to look out for in the demonstration presentation

While you click your way through the Tudor Monarchs presentation, look out for the following *Impress* features that have been used in the creation of the Tudor Monarchs slide show.

Transition effects and animations

The transition effects from one slide to another and the text animations (which determine how the text will arrive on each slide) have been set at *random* for the demonstration. This is to give you some idea of the variety of transitions and animations you can use in *Impress*.

But this is not necessarily a good thing to do. Normally you would *not* want to use many, if any, different transitions and animations since it might distract from the impact you are trying to make. A good designer homes in on a style that he or she likes best for a particular theme and tends to stay with it for all the slides in the show.

Inserting clip art, pictures and other media

LibreOffice offers a database of *clip art* and *other media* on a wide range of topics. This online database is available to all the software in the *LibreOffice* suite.

Fig. 9.9 illustrates the Gallery from which you can select clip art and other media (such as *photos*, *movie clips*, *sound files*, and so forth) to insert onto your slides.

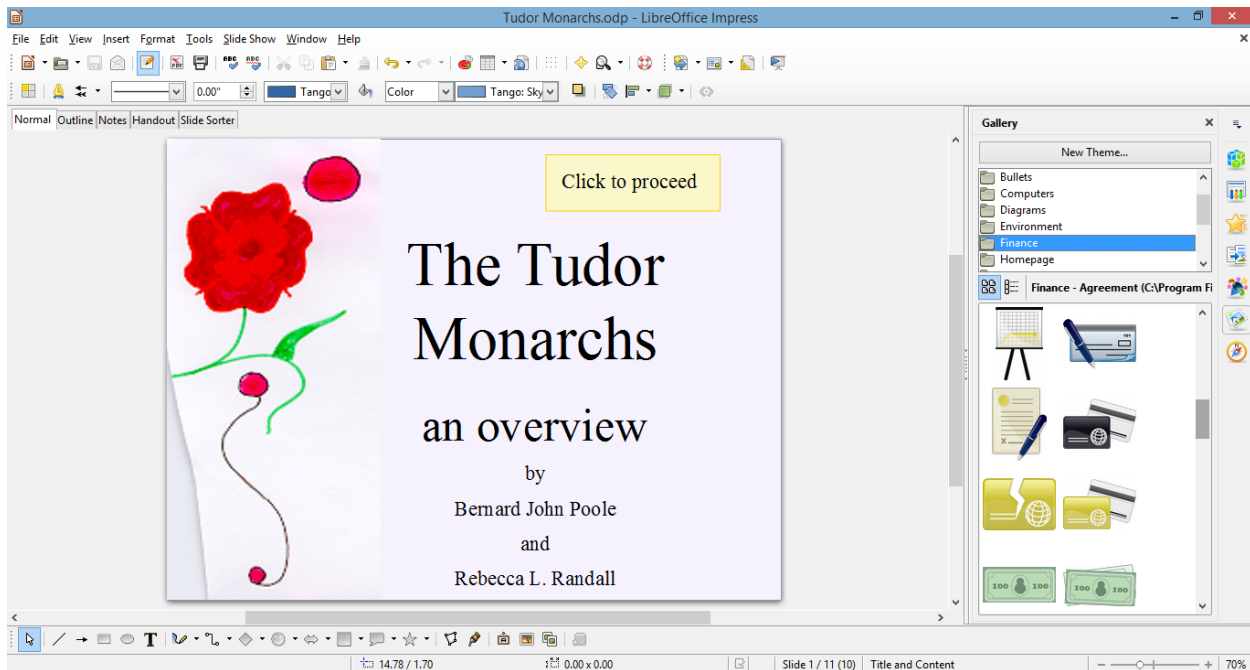


Fig. 9.9 Ribbon for inserting images, illustrations, and other media

You can download clip art, photographs, sound files, video clips and other media from a file you have saved on disk, or from collections available free of charge on the Web. Or you can bring onto a slide all kinds of charts and tables from other *LibreOffice* programs such as *Writer* or *Calc*.

You can also scan pictures directly onto a slide. So, if you have a scanner connected to your computer, you're in business.

If you're looking for multimedia material to accompany your slides, the Web is the place to go. Companies, universities, schools, and individuals, especially teachers, are creating and making available excellent multimedia materials. These materials are available, mostly free of charge, from websites such as *flickr.com*, *youtube.com*, and so forth.

Impress makes it easy to incorporate such material into presentations, with or without accompanying text.

Remember though: YOU **MUST** ALWAYS GIVE CREDIT FOR ANYTHING YOU ACCESS ONLINE.

*Buttons, Slide Controls and Hidden Slides *

Notice the use of *buttons* to allow the user to control movement through the slides, thus making slideshows both interactive and non-linear—in other words, the user has control over the sequencing of the slides.

For example, in the Tudor Monarchs slide show there is a *Hidden Slide* (slide #5) which is only able to be seen if, on slide #4, you click on the orange button to see the answer to the question posed there. Let's check this out (Fig. 9.10).

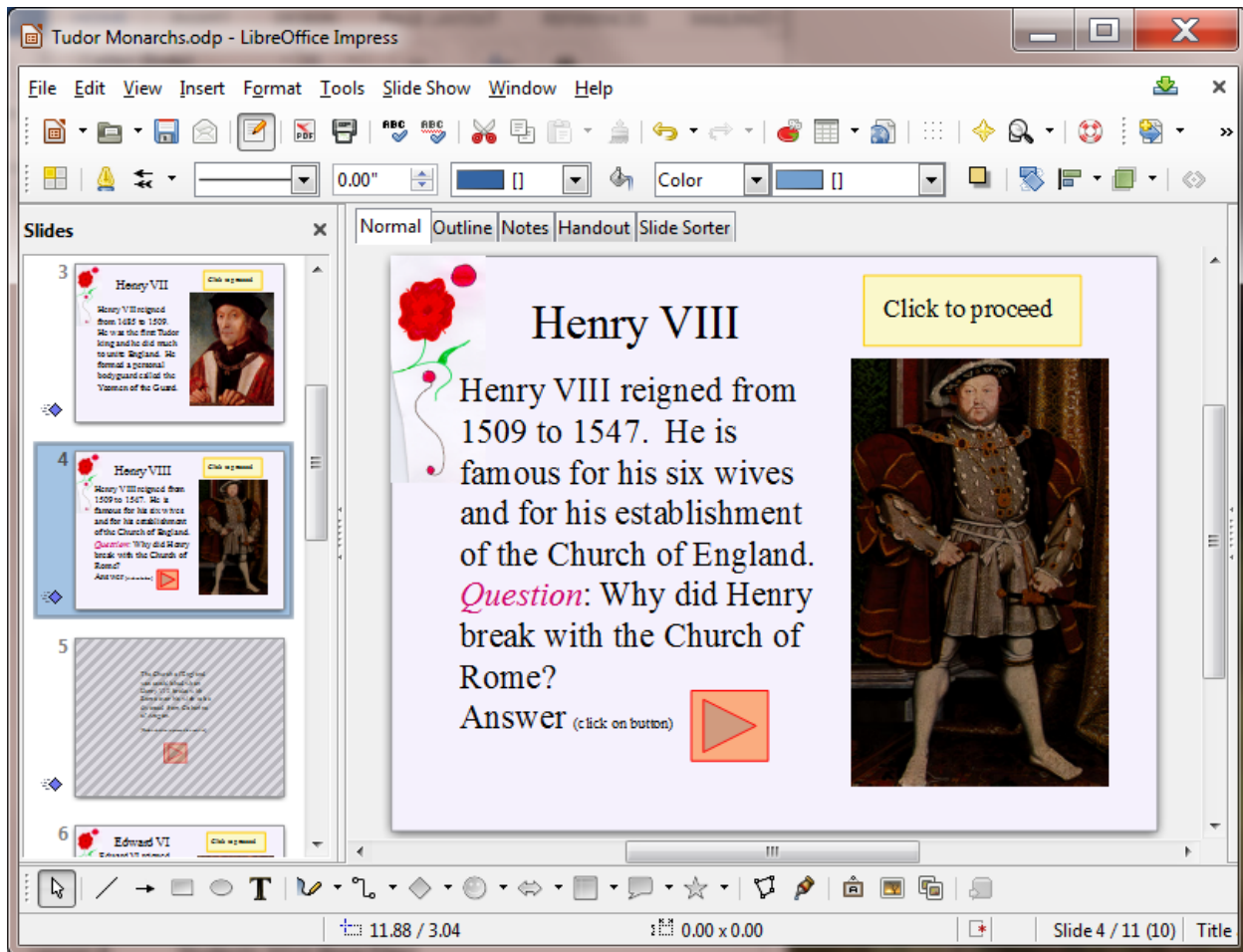


Fig. 9.10 Using buttons to control the progress through the slide show

If you are actually viewing the slide show, hit the **Esc**(ape) key on the keyboard to **exit** the slide show then, in the **Slides menu** on the **left** of the *Impress* window, click on **Slide #4** to make it the **active slide**

In the **Slide Show menu** click on **Start from current Slide**

Slide #4 is showing on your full screen as an active slide in the show.

Now, read the text on the slide, but **DON'T** click on the **orange button** towards the bottom of the slide to find out the answer to the question as to why Henry VIII broke away from the Church of Rome; instead click on the **yellow button** at the top of the slide to **proceed** to the next slide

So, you can create interesting *interactive* learning materials using *Impress*. Lesson 10 will help you learn more about interactive presentations such as this. Your students, too, will have a lot of fun using *Impress* to develop projects of all kinds for every subject under the sun.

Let's continue checking out the remaining *Impress* features.

Timing and other considerations

Fig. 9.11 shows the Slide Sorter View of the presentation. Fig. 9.11 also highlights the type of transition you can choose, how fast you want the transition to occur, whether you want a sound to accompany the transition from slide to slide, and so forth.

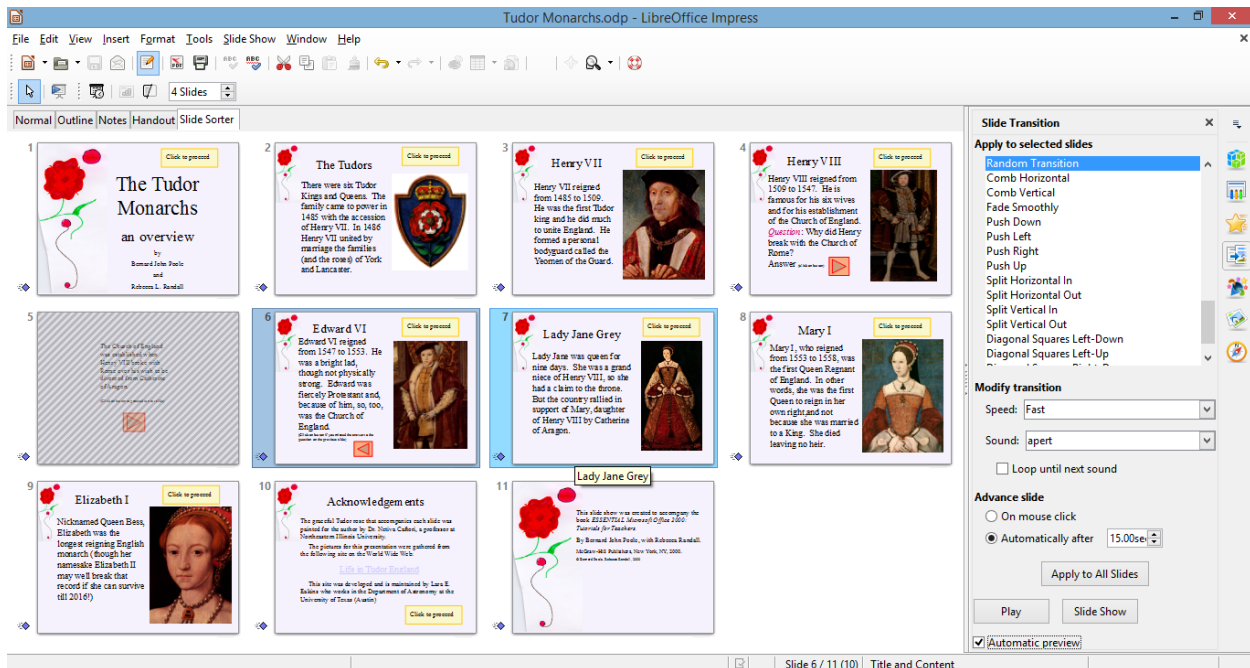


Fig. 9.11 The Slide Sorter View showing the Slide Transition settings

Notice, in the *Slide Transition* pane on the right hand side of the Slide Sorter window, that the transition (*Random Transition*) is set to *Fast*, with an accompanying sound called *Apert*. Each slide will advance automatically after 15 seconds, unless the user clicks the mouse on the “Click to proceed” button on each slide, in which case the slide will advance right away.

Acknowledgements: Always give credit where credit is due

The last slide in any presentation, just as the last item in a term paper or the credits that run at the end of a movie, should usually be your list of sources cited or used—your Acknowledgements slide (Fig. 9.12).

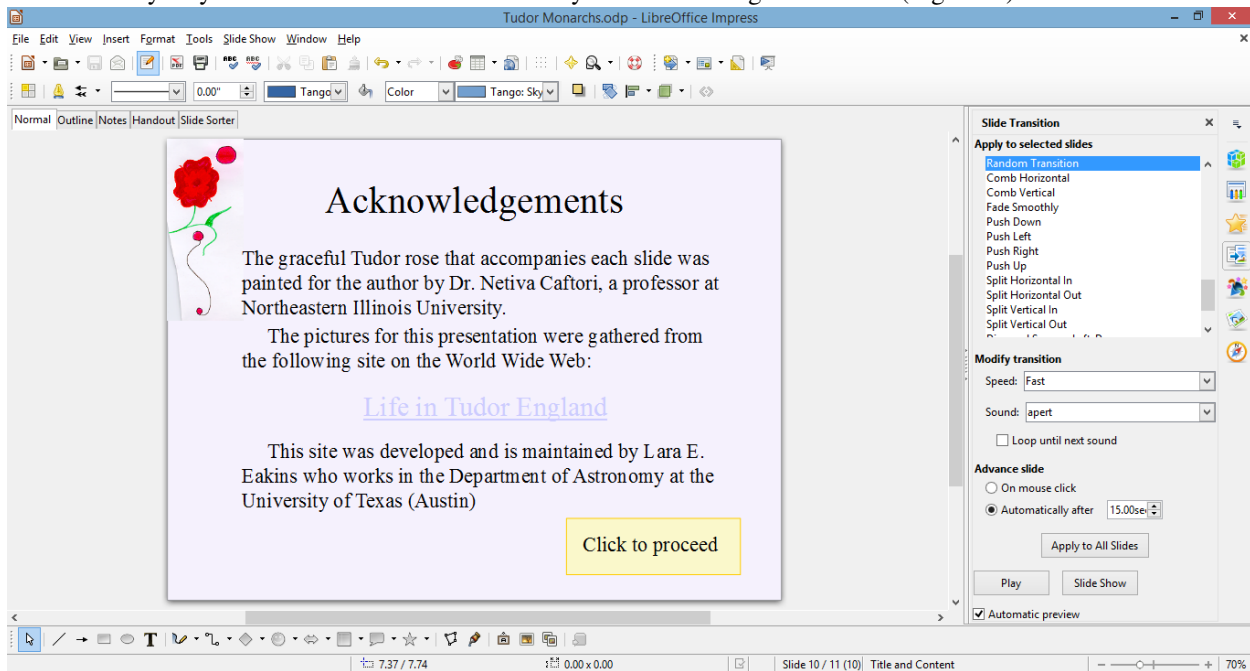


Fig. 9.12 The first Acknowledgements slide

So... If you haven't already done so, in the **Presentation toolbar**, click on the icon to **Start from first slide** (Fig. 9.8 on page 260)

Click your way through the presentation now (click on the **Buttons** on each slide to proceed to the next slide)

The slides have been timed to allow the user (right now, that's you) to easily view and read what is on each slide without feeling rushed. If you want the slides to proceed at a faster pace, simply click on the *Click to proceed* button on each slide.

When you have finished reviewing the **Tudor Monarchs** slide show, **exit** the show by **hitting** the **Esc**(ape) button in the **top left** corner of the keyboard

So much for an overview of *Impress*. No doubt you are anxious to start creating your own presentation. The next section will help you do just that.

Close the **Tudor Monarchs** presentation when you are ready to continue

9.3 BUILDING A NEW PRESENTATION

Preparation of the outline

You are going to prepare a simple outline, which will give you the experience to prepare your own outlines when you develop your own *Impress* presentations.

Whenever you're preparing a new *Impress* presentation, take your time. Think about it; gather your data; brainstorm, with yourself at least, and with friends if necessary. Don't just blunder along, OK? So let's begin.

From the **File** menu select **New**, then **open** a new *Impress* presentation

Go to **File > Save As**, navigate (Browse) on your Computer to your **USB drive** (Removable disk) > **Work Files for LibreOffice > Data Files** folder and **Create** a new folder called **Impress Documents**

Open the **Impress Documents** folder, name the new presentation **Screenbeans**, and click on **Save**

When you first open a new, blank presentation in *Impress*, the program presents you with the *Normal View* (Fig. 9.13).

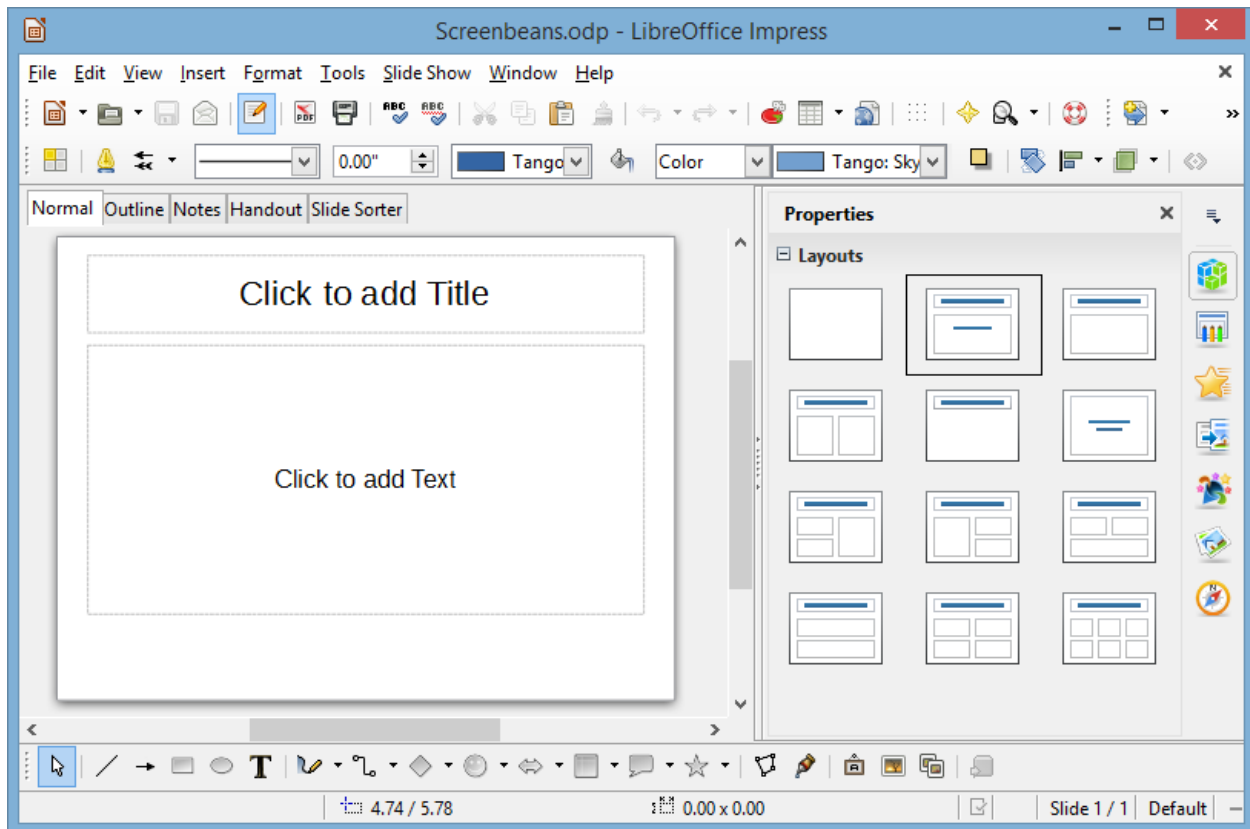


Fig. 9.13 New Presentation window in *Normal View*

The first slide, by default, is in the *Title Slide layout*. This is because you would normally want to start out a presentation with a slide that displays the title of your show, along with sub titles such as your name and so forth.

You don't *have* to use this slide layout, of course. *Impress* provides a set of *slide layout templates* from which you can choose when you are working on a slide, including one layout which is blank. The *Blank Slide* template allows you to create slides from scratch, entirely of your own design.

Let's take a look at these different Slide Layouts now (Fig. 9.14).

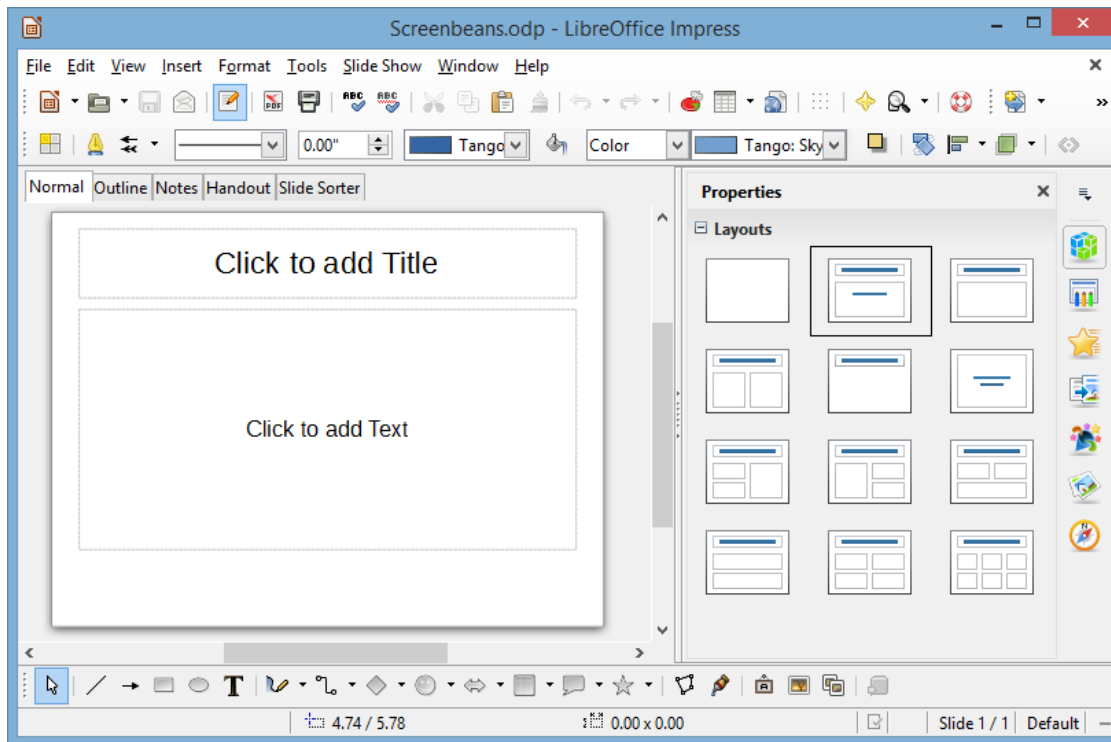


Fig. 9.14 Slide Layouts

Click on each of the layouts to check them out, then click on the **Title layout** last when you are ready to proceed with the lesson

Typing the outline entries

The *Normal View* is fine when you have your presentation built, bar the shouting, and you want to be able to check out and edit individual slides that you have already created. But when you are at the planning stages and you want to create an outline of the *text* you want to include on each slide, it is best to use the *Outline View*. *Impress* provides a lot of help such as this while you're developing your presentation. Let's switch to the *Outline View* now.

In the **View Ribbon > Presentation Views Group** click on the **Outline View** tab (Fig. 9.15)

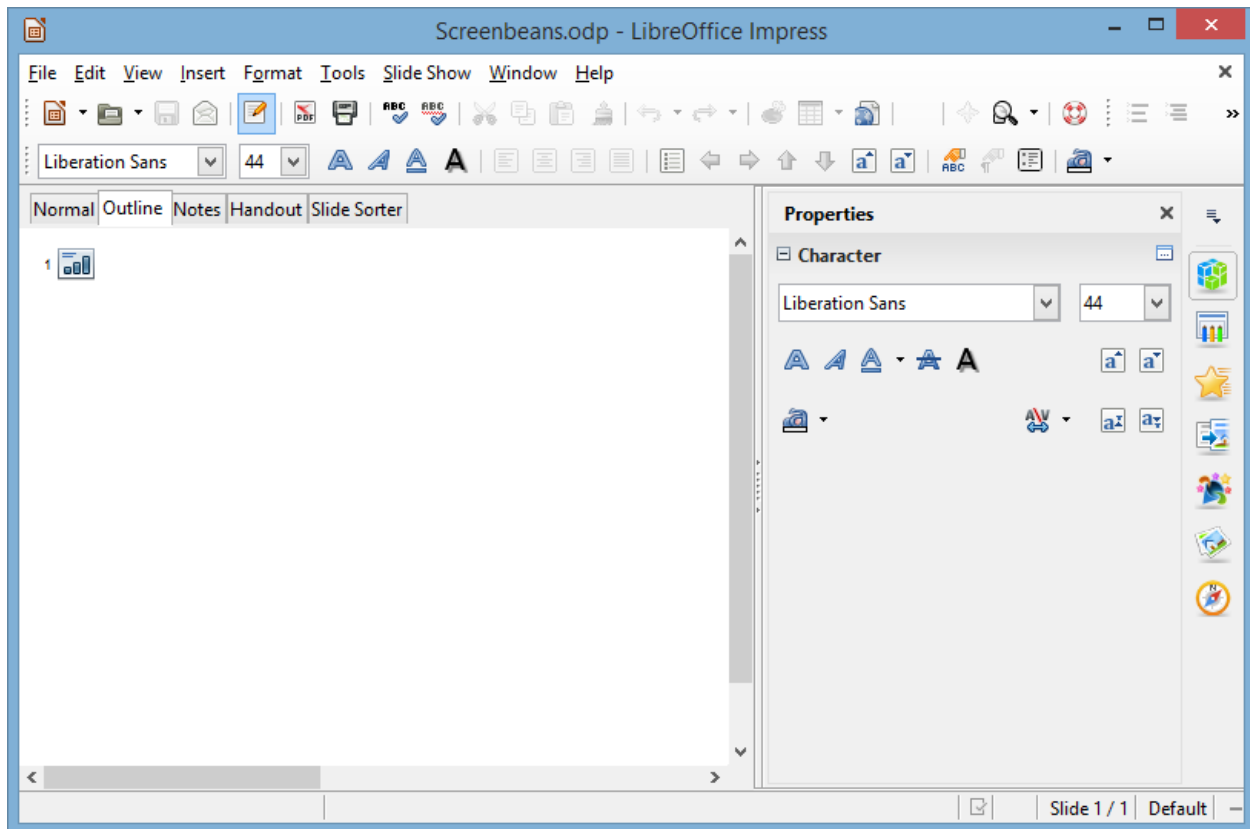


Fig. 9.15 The screen at the start of a new blank presentation

As you type the text for each slide, the text will be entered onto the slide itself with no extra effort on your part, thanks to *Impress*'s slide layout features. You'll see how this works when you switch back to Normal View after you have typed in the outline that you see illustrated in Fig. 9.16. Don't start typing text just yet, though. Refer to the outline as you work your way through the directions that follow.

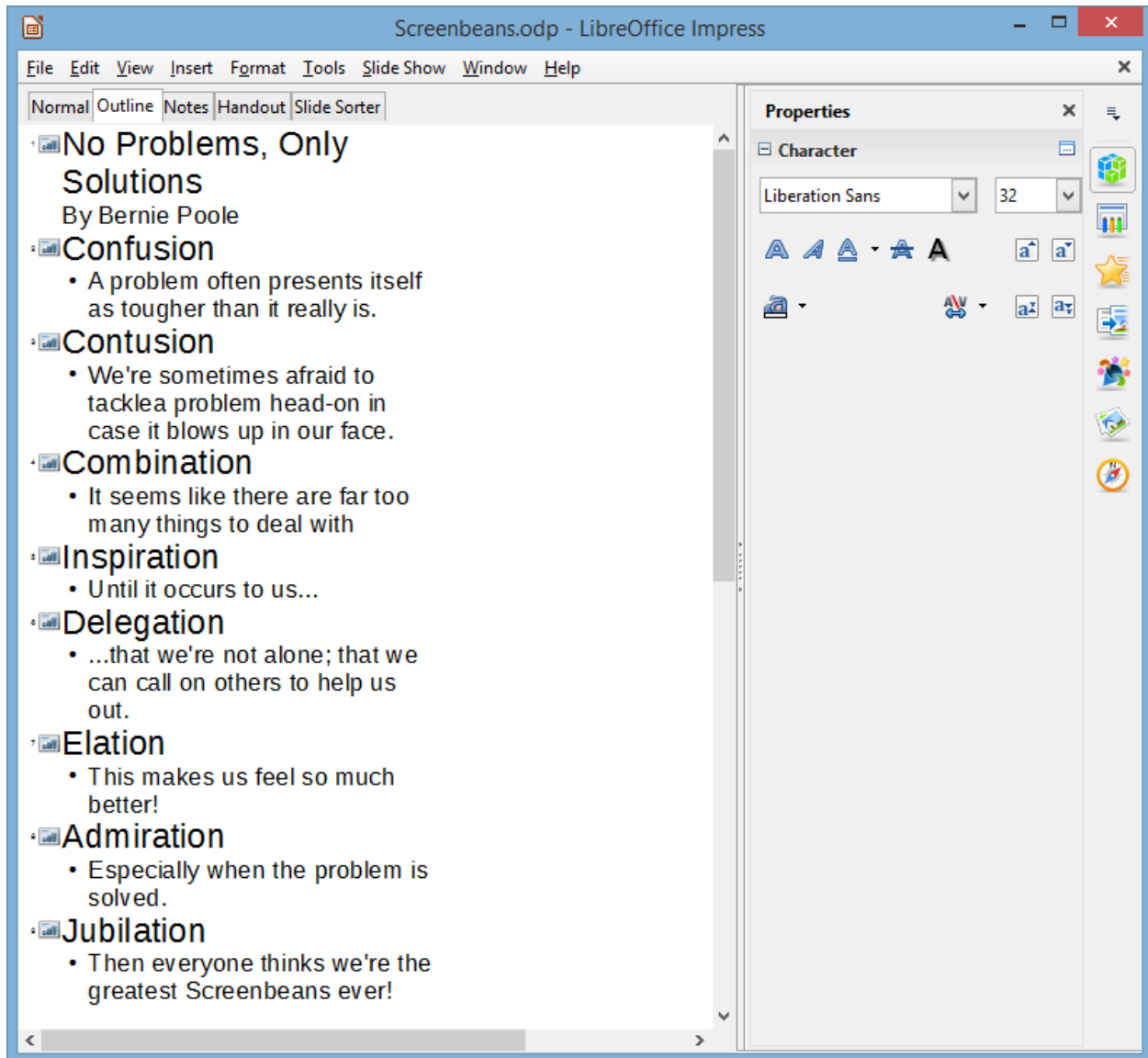


Fig. 9.16 The outline for the Screenbeans presentation

On the left side of the window, next to the icon for the first slide, type the title **No Problems, Only Solutions** (see Fig. 9.16 above) then hit **Enter** on the keyboard

Impress now goes to a new slide because it assumes that you have finished adding text to the first slide. But you need to add a sub-title on the Title slide. To do this, you must *Demote* the next set of text (*By [author's name]*) so that it stays on the same slide (which means you must *decrease its level on the slide*). You'll see how it works as you follow along in these directions.

Fig. 9.17 illustrates the *Demote* tool that you use to further indent the level of *By [author's name]* on the slide. Either side of the *Demote* tool are the *Promote*, *Move up*, and *Move down* tools.

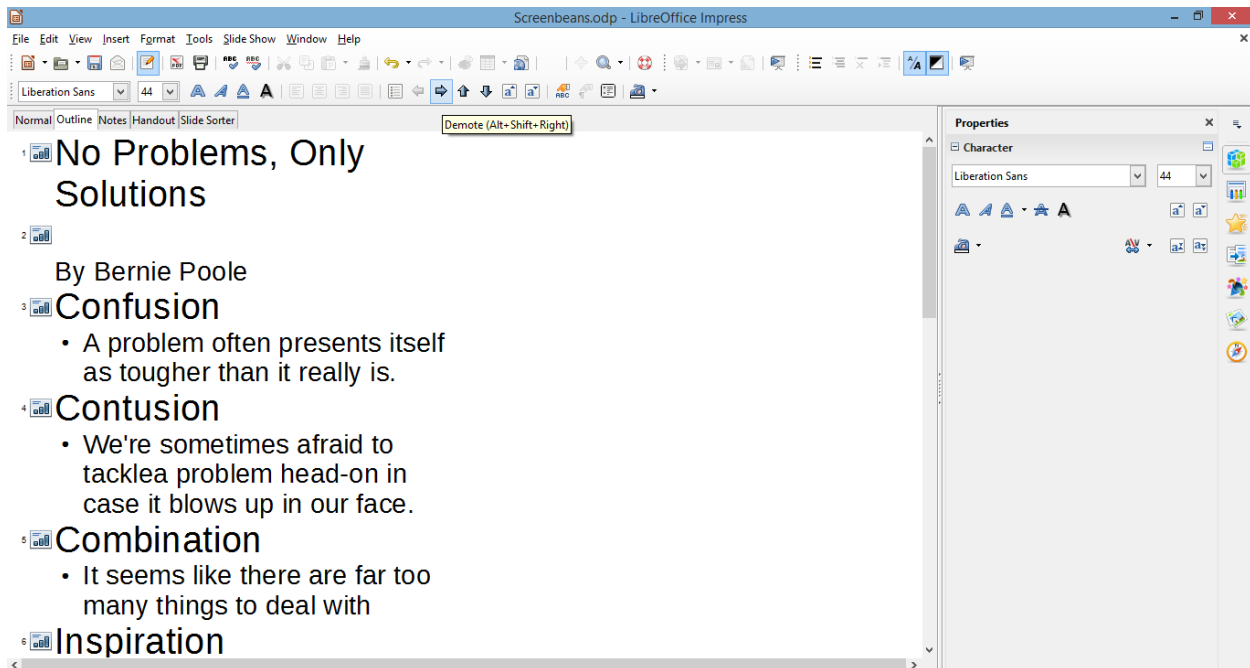


Fig. 9.17 The Demote tool

Click on the **Demote** tool now, then type **By [your name]**—type *your own name*, of course—not “your name” or “Bernie Poole!!”—and hit the **Enter** key

So now your outline entry for the first slide will look something like this (Fig. 9.18).

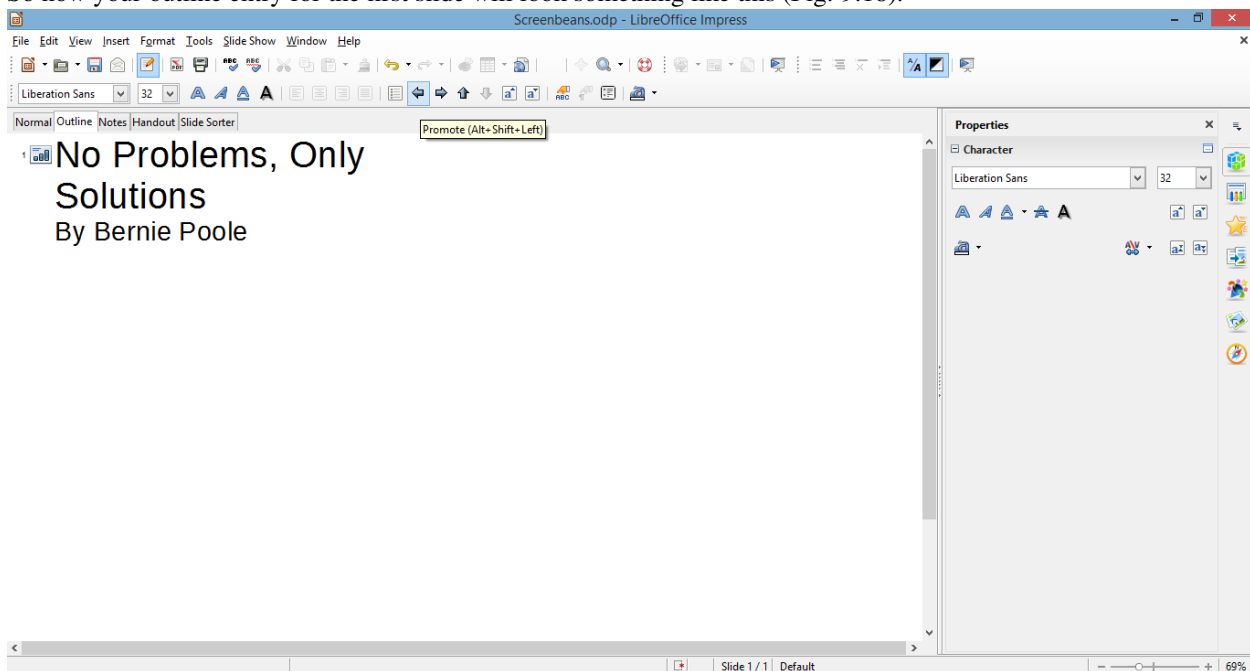


Fig. 9.18 The outline entry for the first slide

That’s all you need by way of text on the first slide. Now you need to set up for a new slide. To do that in the outline, you must use the *Promote* tool in the Text Formatting toolbar, which *raises* the level back to the top level of a New Slide. The Promote tool is to the left of the Demote tool (Fig. 9.18 above).

Click on the **Promote** tool and notice how the icon for a new slide (Slide #2) pops up, with the cursor

waiting for you to type in the text for this second slide

Now you are ready to type in the entries for the second and remaining slides. The content for all the slides is illustrated in Fig. 9.16 on page 266.

Return your attention to the **left hand frame** of the *Impress* window so you can continue with **Slide 2** of the **Outline**

Type **Confusion** for the second slide title, and hit **Enter**

Now you need to switch levels as you did for slide #1 between the Title entry and the Author's name entry.

****Switching levels ****

Let's review the steps. Switching levels means moving up or down in the hierarchy of entries on a slide by increasing (demoting) or decreasing (promoting) the indent of the text on each slide.

If you look at the text for the second slide (Fig. 9.16 on page 266), the word *Confusion* (the Title of the slide) is at the top level. Then what immediately follows (*A problem often presents itself...*, etc) is indented—it's lower level text (demoted). When you switch to the next level *down*, the text is automatically indented to the *right*, that is to say the level (in Impress speak) is *further indented* from the 1st level to the 2nd—or demoted.

So, to summarize, moving the text to the *LEFT promotes* the list level in an outline. Moving the text to the *RIGHT demotes* the list level in an outline. For the remaining slides you have to enter text not only for the Title of each slide, but also for the sub-text. This sub-text will be at a *demoted* list level compared to the Title.

Demoting to a lower List Level

As we already observed when you were working on Slide #1, to change levels in an outline, *Impress* provides list level control tools (Figs. 9.17 and 9.18 on page 267).

Go back and **take a look at Figs. 9.17 and 9.18** now before proceeding, then click on the **Demote** tool for the text you are going to type into the outline for slide #2

Look at your outline now and notice that the next entry you type will be indented and bulleted.

Type the **lower level text** for the second slide (*A problem often presents itself...*, etc.) from the illustration in Fig. 9.16 on page 266, then hit **Enter**

Promoting to a higher List Level

That is all you need by way of text for the second slide. As you can see, you must Promote to a higher level for the new slide 3. To do this you use the Slide Level tools once more.

Click on the **Promote** tool to **start a new slide** for the next text you are going to type into the outline

As you see, this begins a new slide (Slide #3). You should be starting to get the hang of this.

So go ahead and complete the rest of the outline (using Fig. 9.16 on page 266), **demoting** and **promoting** the text levels as you go along

After you have typed the **Title** and **text** entries for **slide #9**, be sure to navigate, if necessary, to your **USB/flash drive**

Work Files for LibreOffice > Data Files > Impress Documents folder and **Save this Screen-beans Impress slide show**

Click on the Slide Sorter tab to switch now to the Slide Sorter view (Fig. 9.19).

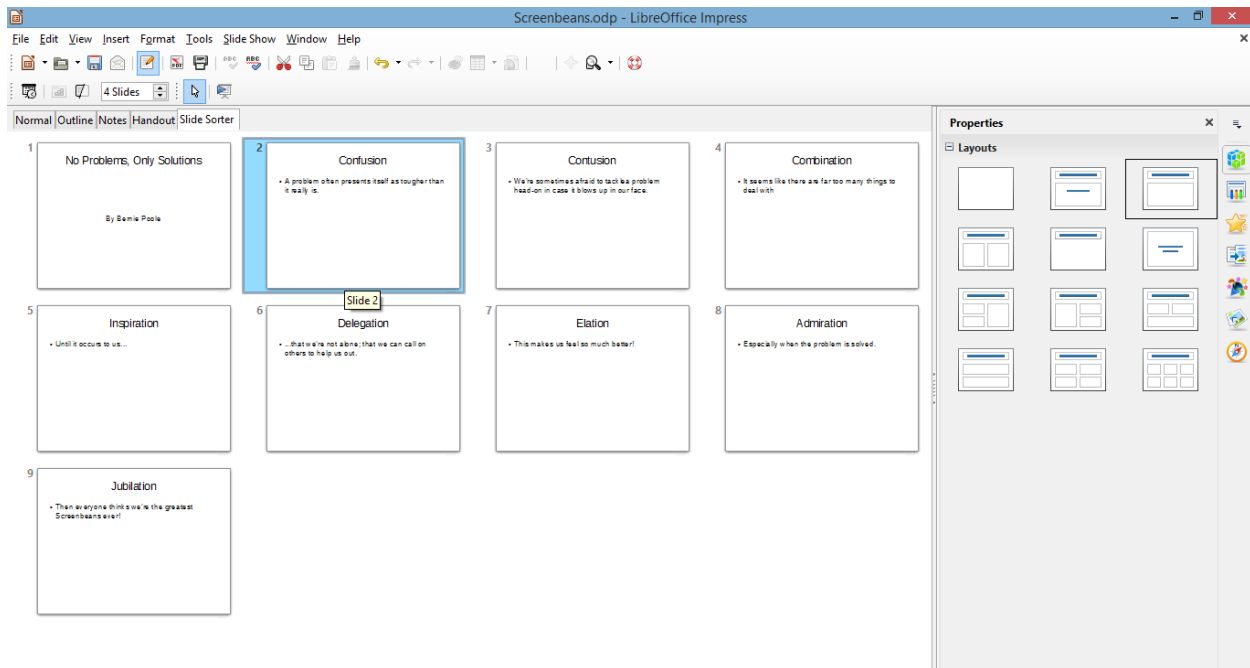


Fig. 9.19 The Slide Sorter view, showing the layout for Slide #2

In Fig. 9.18 above, notice that *Impress* automatically selected *Title and Content* layout for all the slides after the Title slide. But the layout you need for slides 2 thru 9 is Title and 2 Content. Let's fix this first.

In the **Slide Sorter** view, click on the **thumbnail** for **Slide #2** (Fig. 9.18 above), then hold down the **Shift** key and **keep it down** while you click on **Slide #9**

Slides 2 thru 9 should all now be highlighted.

With **Slides 2 thru 9** selected, in the set of **layout templates** in the **Properties** frame on the **right** of the screen, locate and **click** on the layout for a **Title and 2 Content** slide (Fig. 9.20)

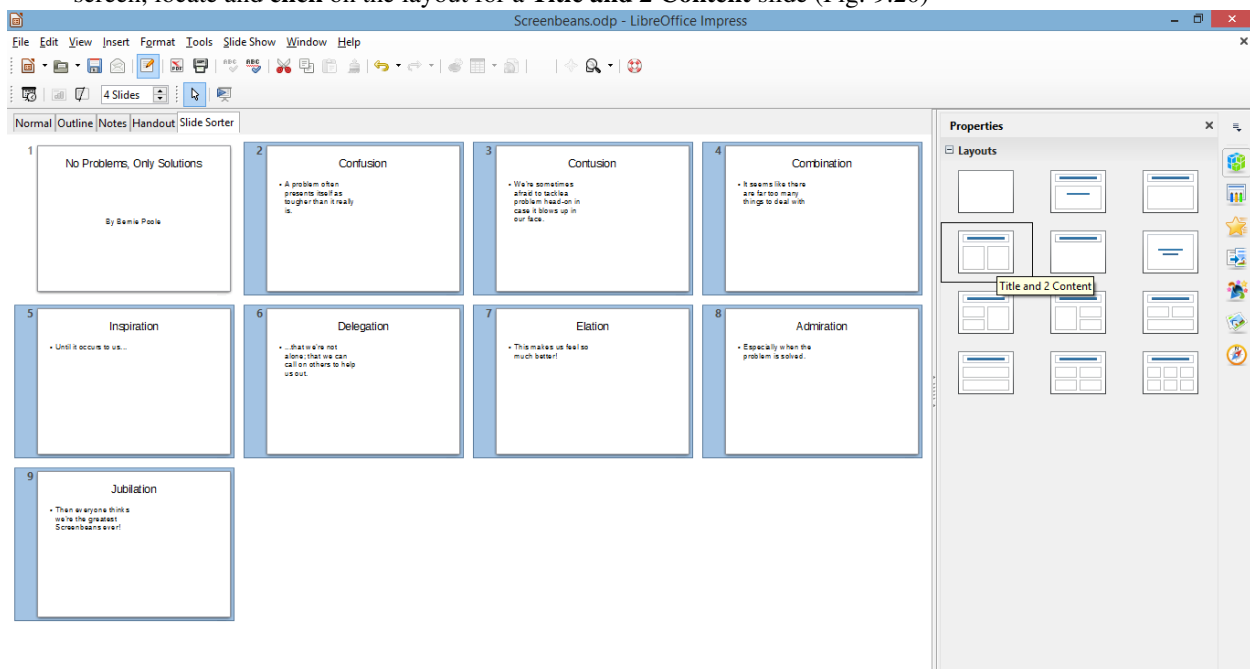


Fig. 9.20 Selecting the Title and 2 Content slide layout for slides 2 thru 9

Notice that you can see a thumbnail of each of slides 2-9 with, on the left hand side, the text you typed in, and, on the right, an empty space for further slide content, which can be more text, or a table from a *Base* database, or images, or a chart imported from a *Calc* spreadsheet, or even a movie clip.

Time to **Save** your work (**Ctrl+S**)

Notice, too, how easy it is to check out how your work is progressing on the presentation as a whole by using the *Slide Sorter* view.

Still in the **Slide Sorter** view, click once on **Slide #2** and then click on the **Normal** tab to go back to **Normal View** (Fig. 9.21)

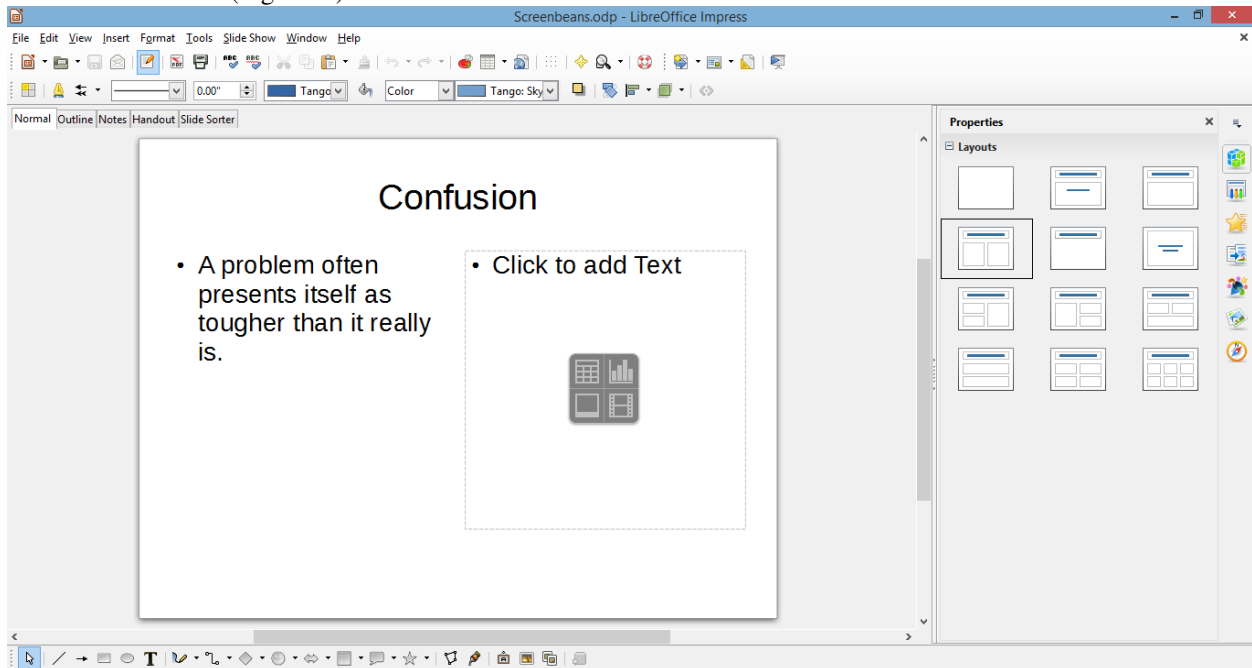


Fig. 9.21 The Normal View for Slide #2 with the five Content options annotated

In Normal View you see the slide as it will show in a presentation. All you have to do now is add more text, or any one of several different types of media in the *Content Placeholder* box on the right hand side of the slide (Fig. 9.21 above).

For this first *Impress* presentation we'll keep it simple, adding just an image to each of the last eight slides. In Lesson 10 you'll have the opportunity to practice adding a table from a *Base* database, a chart from a *Calc* spreadsheet, and a movie, too.

Adding pictures to the slides

For Slides #2 through #9 you are going to insert a Screenbean^[1] graphic in the *Content Placeholder*.

On the **right hand side** of **slide #2**, click on the **Insert Image** tool (the **lower left** of the four Insert object icons)—Fig. 9.21 above

This brings up the Insert Image dialog box (Fig. 9.22).

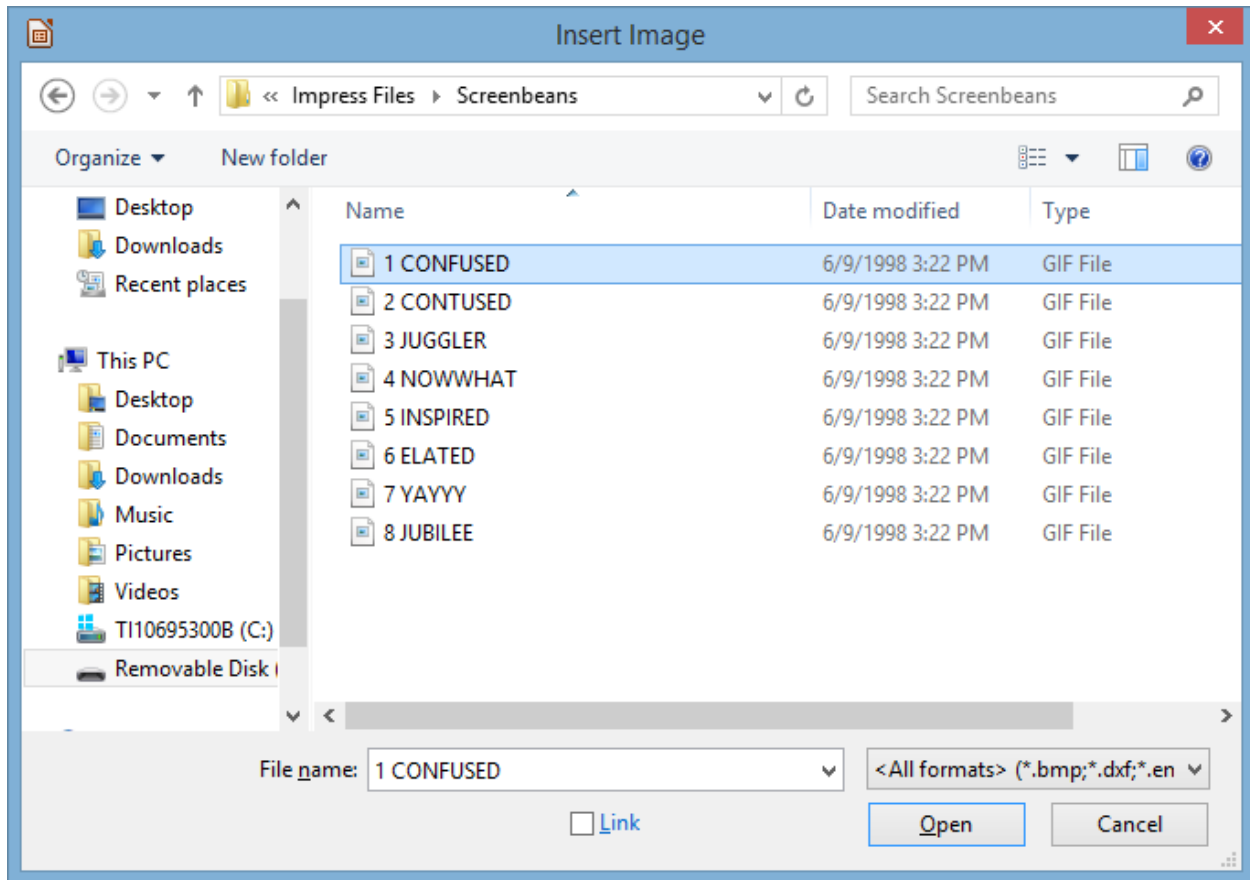


Fig. 9.22 The Insert Image dialog box

The set of Screenbean pictures that you are going to use for this presentation are from Microsoft's clip art gallery, and they may not be available on your computer since you may not be working online. So, for the sake of this exercise, a folder containing eight Screenbean clip art drawings has been prepared for you (Fig. 9.20 above). You'll find it on your USB drive, inside the *Work Files for LibreOffice* folder.

Navigate on your **USB drive** to your **Work Files for LibreOffice**

Impress Files > Screenbeans folder

In the Screenbeans folder there are the 8 pictures you need for the next 8 slides in the presentation. Fig. 9.23 lists the pictures in the order in which you should use them in the slides.

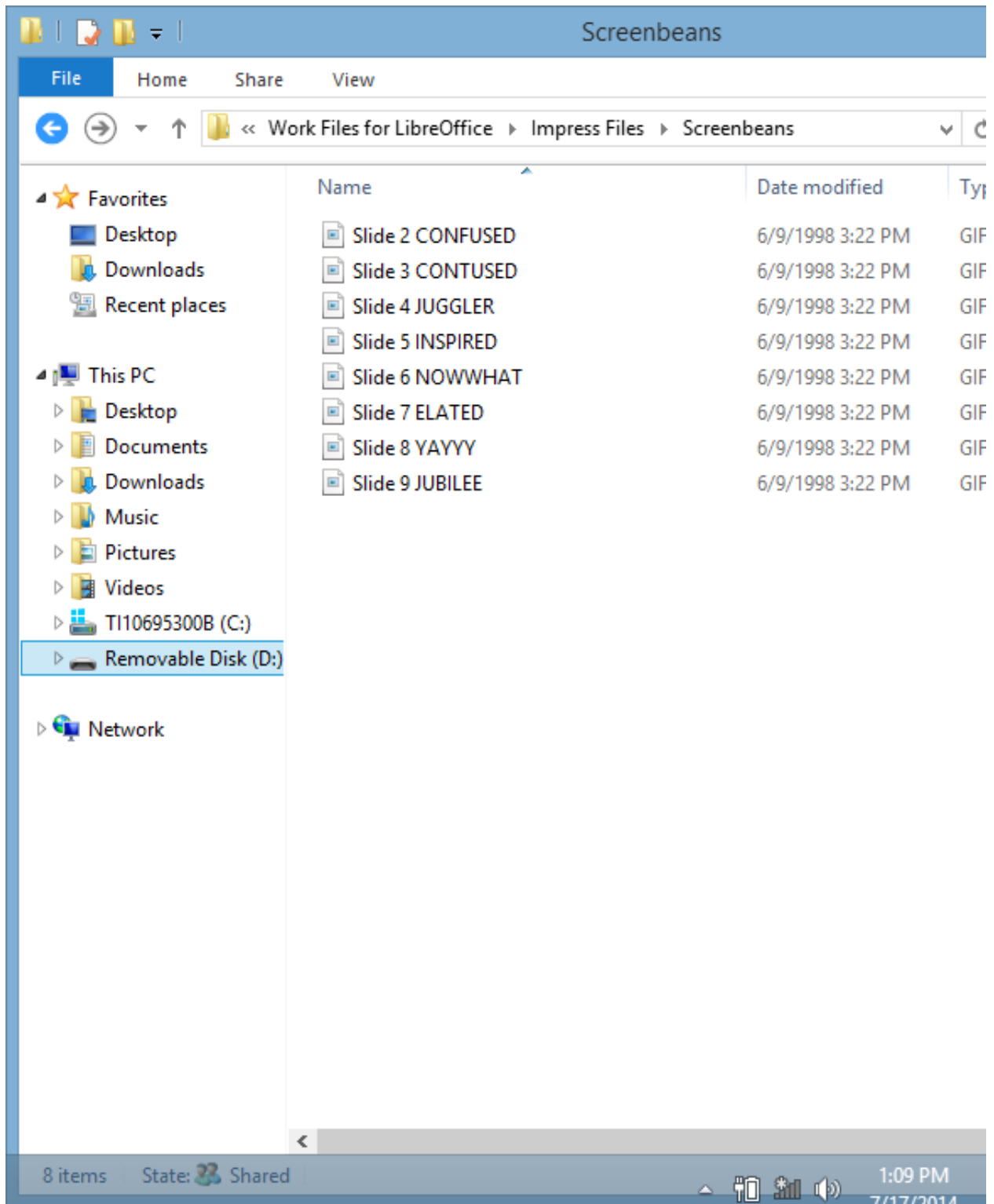


Fig. 9.23 The sequence you will use for the Screenbean pictures in the presentation

In the **Screenbeans** folder, **double click** on the **Confused** file (“Confused” with an “f”, not “Contused” with a “t”!)

Impress inserts the Screenbean figurine on Slide #2 inside the right side placeholder, with handles around it so that

you can re-size it, if necessary, to fit the space provided for it on the slide.

Check to make sure the art is **correctly positioned** on the **right side** of the slide (it should look something like Fig. 9.24), then click anywhere **off the image** in order to set it in place (though you can click back on it anytime to change the image's size and position)

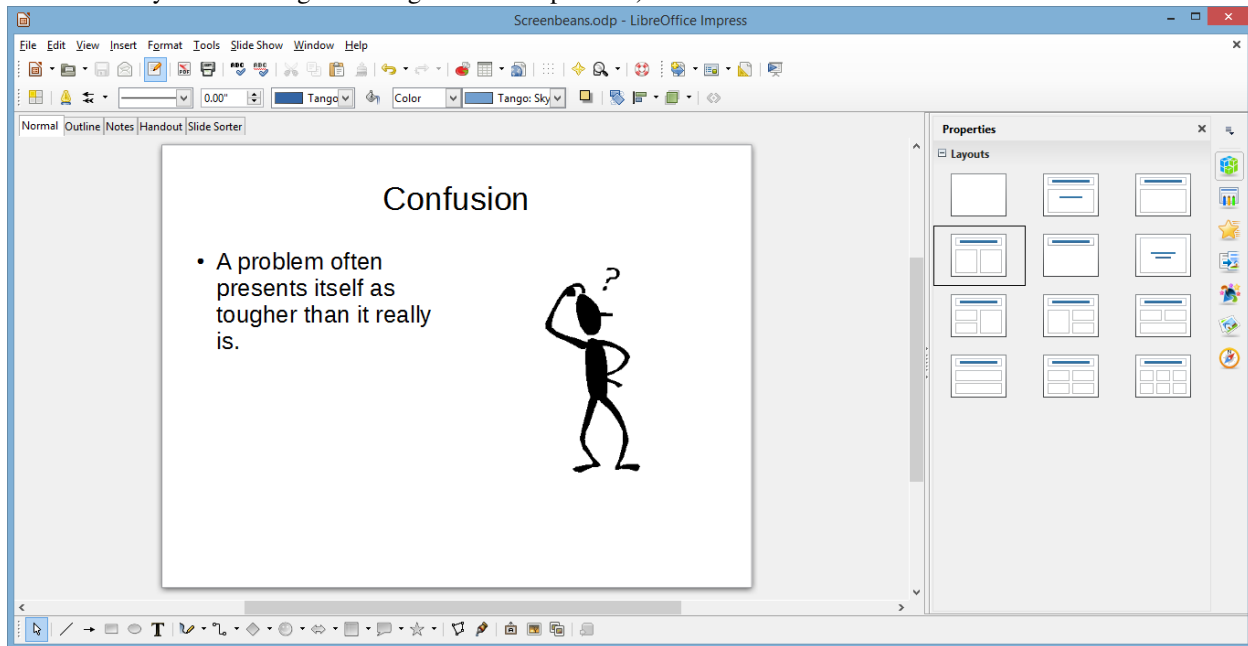


Fig. 9.24 Slide #2 with the image in place

Repeat this exercise for the next **seven** slides, working from the **Slide Sorter View**, **double clicking** on each slide in turn to bring up the **Normal View** for that slide, then loading the **Screenbean** images one by one in the order they are listed in Fig. 9.22 on the previous page

When you are done with slide #9, **Save** your work to this point, then click on the **Slide Sorter** tab

Your *Impress* presentation should now resemble Fig. 9.25.

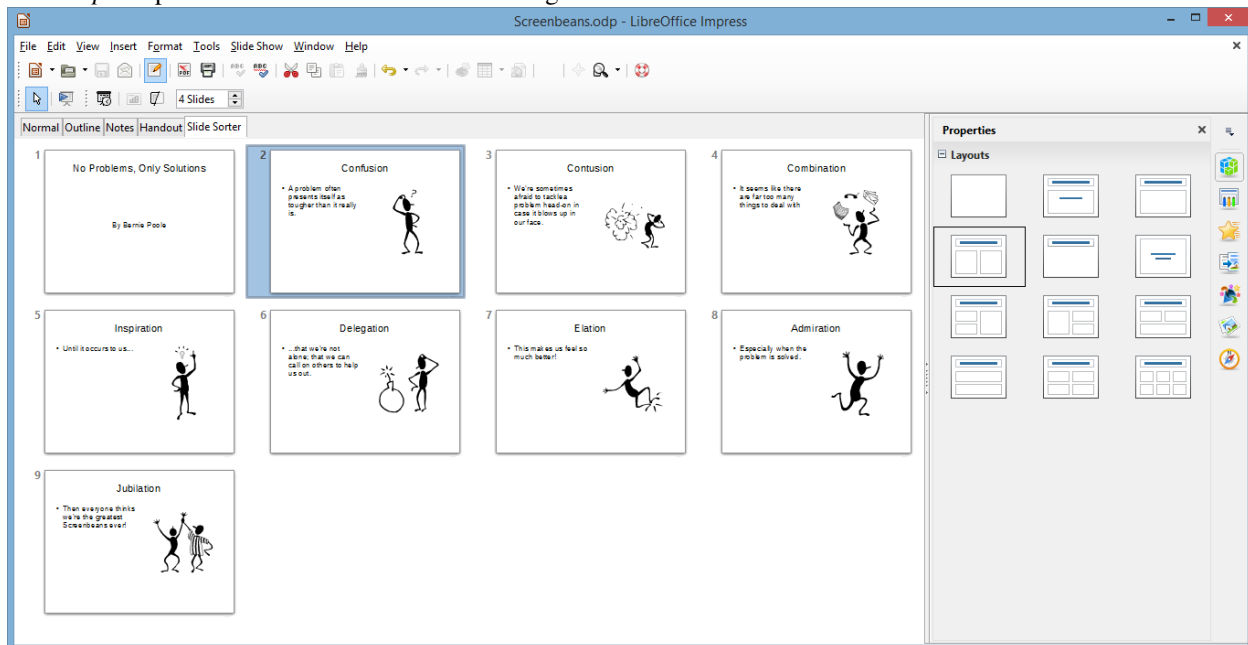


Fig. 9.25 Screenbeans slide show after inserting all the Screenbeans images

9.4 ADDING BELLS AND WHISTLES TO THE PRESENTATION

Resizing the Screenbeans on each of the slides

The Screenbean images on each of the slides are smaller than they need to be. If necessary you could also *crop* an image to select out just the part of the image you want to use. To do this you would *right click* on the image and, in the context menu that pops up, select the Crop option. You don't need to do that here, but you could if you wanted to.

In the **Slide Sorter View**, **double click** on **Slide #2**, then click on the **Screenbean image** to bring up the small green **handles** around it (Fig. 9.24 below); then grab any one of the **handles** to **stretch the image** so that it is **as large as possible** in the space on the **right side** of the slide; just **be careful not to distort** the image or to **overflow the borders of the slide**, or to drag the top of the image **higher than the top line of sub-text** (Fig. 9.26 below)

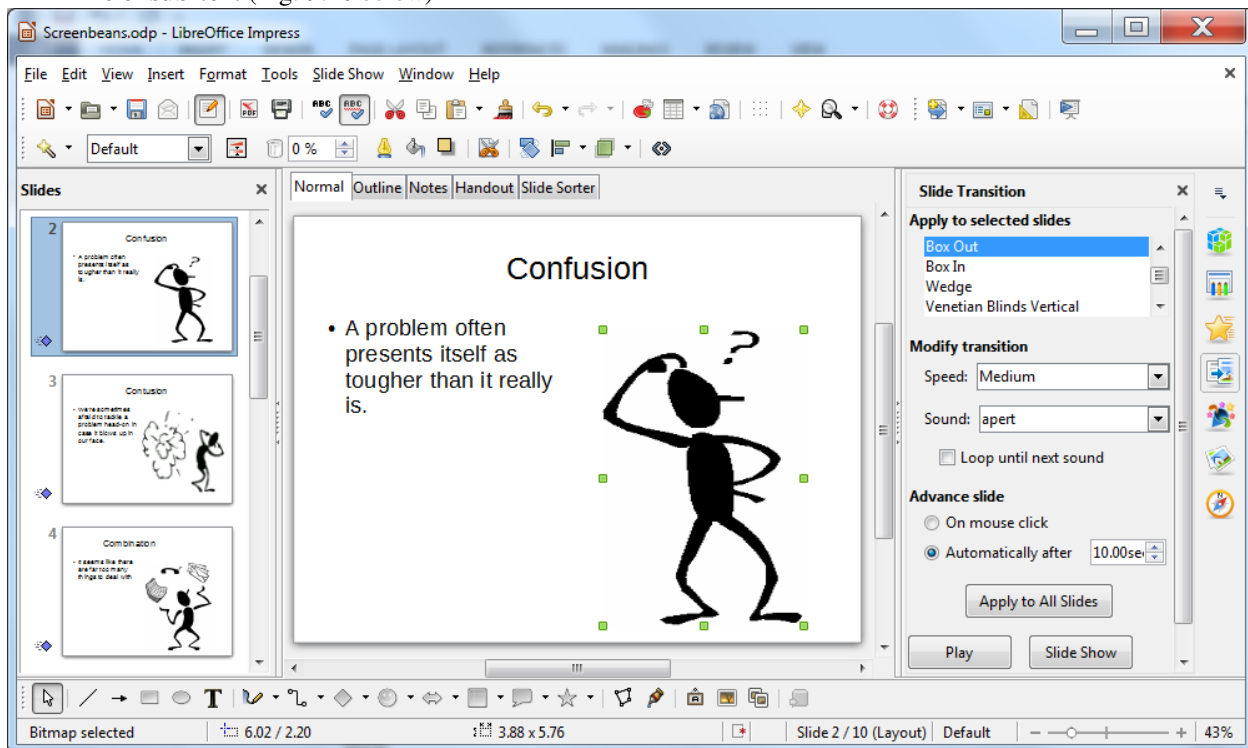


Fig. 9.26 Stretch the Screenbean using the corner handles

Now do the same with the **Screenbean images** on the **other 7 slides**—to end up with something like Fig. 9.27—then **Save** your work once more

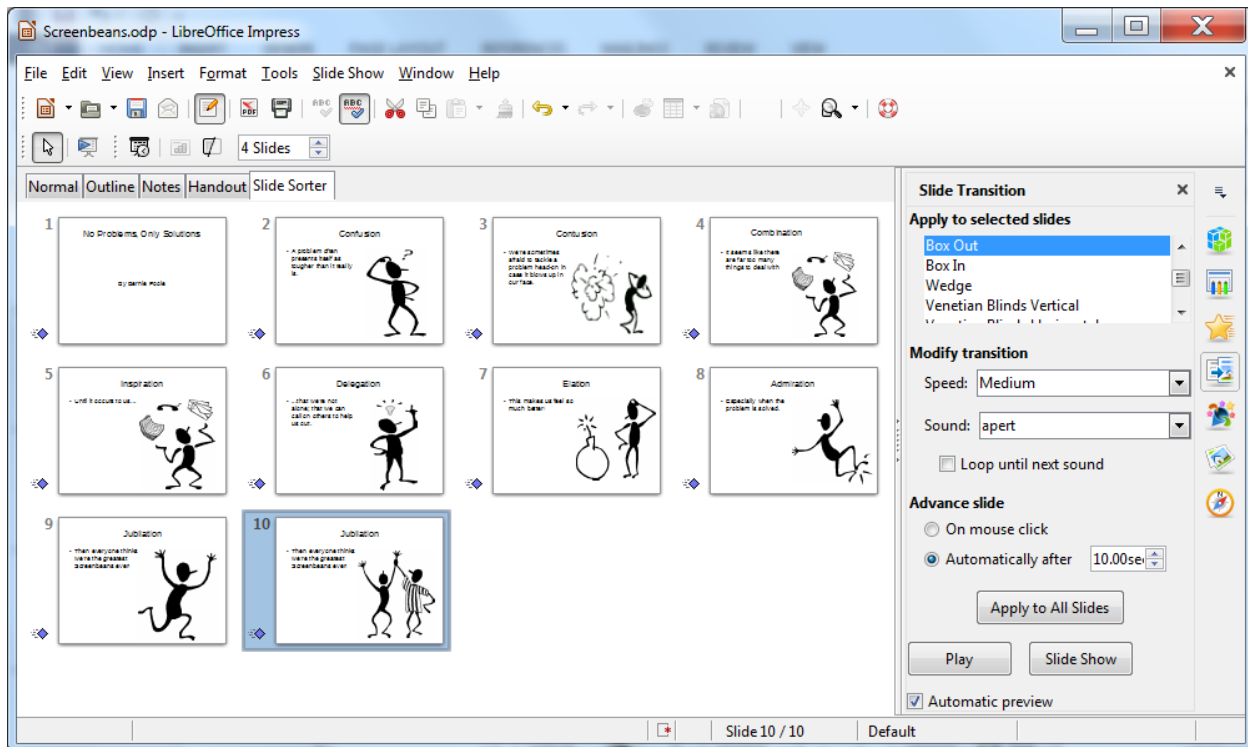


Fig. 9.27 Screenbeans show after resizing the images

Adding Transitions, Speed and Sound effects, and Timings

This task should best be done—and easiest to do—while you are in the Slide Sorter View.

If necessary, click on the **Slide Sorter View** again

For this exercise, you are going to add the same Timing, Sound effect, and Slide Transition to all the slides, though you could, if you wanted, use different timings, sound effects, and transitions for each individual slide. You'll practice doing this in Lesson 10.

Slide Transitions

In the **Edit menu**, click on **Select All** (or press **Ctrl+a** on the keyboard), then click on the **Slide Transition** button (Fig. 9.28)

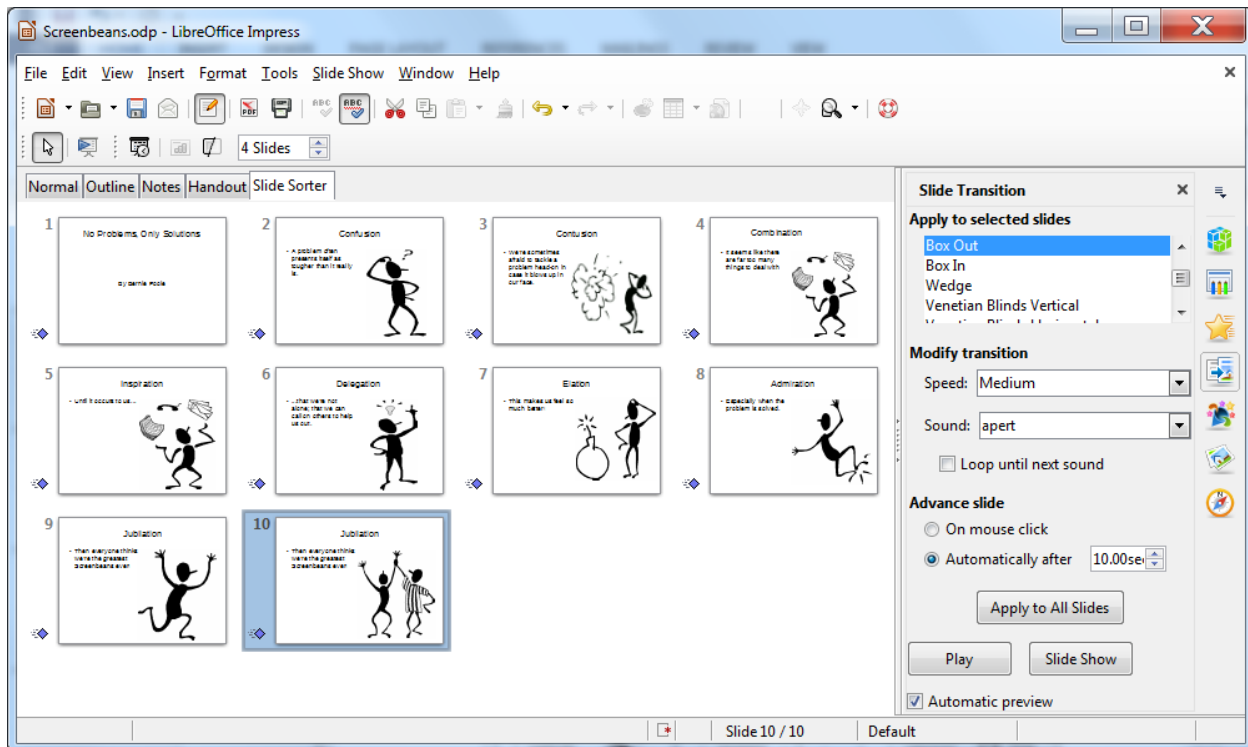


Fig. 9.28 The Slide Transition button

This Slide Transition button brings up, on the right side of the *Impress* window, the Slide Transition pane (Fig. 9.28 above).

To get a **Live Preview** of any of the transitions, make sure you check the box next to Automatic preview at the bottom of the Slide Transition pane (see Fig. 9.27 above)

Click on any **Transition** in the menu and watch the effect of the slide transition in the selected slide in the **Slide Sorter view**

Try several of them to get a feel for how they work, then select the one you most like

Speed and Sound effects

The Transition can be timed to happen at any one of three speeds: Fast, Medium, or Slow. We'll go with Medium speed, but feel free to choose whichever speed appeals to you. We're going to use the *Apert* sound effect, but again feel free to choose any sound effect that appeals to you.

In the **Modify Transition** section, select one of the three **speeds**, then select any one of the **sound effects**

Setting Timings for the slides

This will allow the user to advance to the next slide either manually (by clicking the mouse) or automatically (after 10 seconds is our choice).

In the **Modify Transition** section, click in the **check box** next to **Automatically after:** and increase the **Advance slide** time to **10 (ten)** seconds

You are applying these Timing and Transition effects to *All* the slides. But you should bear in mind that you could have different effects for each slide if you wanted, simply by going from slide to slide, setting the options, and not applying them to All Slides.

This is only a good idea if you are designing a slide show where your goal is to impress your audience (a) with your *Impress* skills, or (b) with your artistic/creative nature, or (c) you actually want to distract your audience from the flow of your presentation, or (d) you just have no idea what you're doing!

So, unless you know what you're doing, and for the sake of this exercise, let's apply these settings to All Slides.

Click on the button to **Apply to All Slides** (see Fig. 9.27 previous page), then **Save** the slide show (**Ctrl+s**)

Now would be a good time to check out the presentation, so click on the **Slide Show** button and sit back and enjoy what you've made of the show to this point (each slide will hold on screen for 10 seconds, which is ample time to read what's on the slide, but if you want to move the show along, just click the **left mouse button** or tap on your touch pad at any time)

Choosing a Master Page

Impress gives you all kinds of assistance in the design of your slides. So far we've used the basic set of *Slide Layouts*, which are OK when it comes to the general layout of each slide in your show.

The *Slide Layouts* help you throw together so-called "quick-and-dirty" *Impress* presentations, where you've planned what you want to "show and tell," but you haven't given much thought to how you want your show to look.

The easiest way to make your slides more interesting is to use one of the *Master Pages* that come with *Impress*, or those you create yourself. You can select from a set of pre-formatted slide *Master Pages* involving graphics, colors, and animations.

Let's check out some of these Master Pages now.

Stay in the **Slide Sorter** view, with **all the slides selected (Ctrl+a)**, then click on the **Master Pages** icon in the **column of icons on the right edge of the Impress window** (Fig. 9.29 next page)

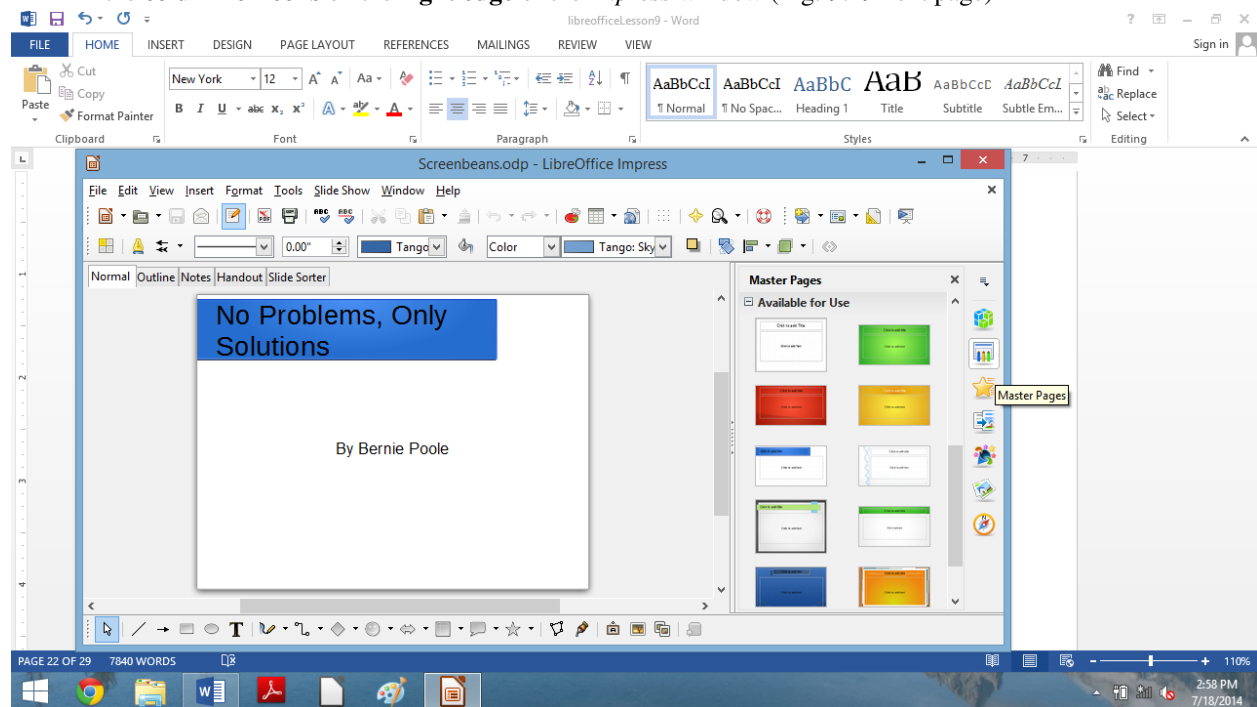


Fig. 9.29 The *Impress* Master Pages icon

Click on the various **Master Pages** designs to check them out

As you click on each one, wait while *Impress* updates each slide with the Master Page design. As you'll quickly see, the best Master Pages for the Screenbeans slide show are those that have a predominantly white background because the Screenbean images are themselves black on a white background. So the best Master Page is probably the one called *Bright Blue*.

For the sake of the exercises that follow, then, click to **select** the **Bright Blue** Master Page design, then **Save** this final version of the Screenbeans presentation

Impress quickly applies the selected design template to all the slides in your show.

Go to the **Slide Show** menu > **Start from first Slide** (Fig. 9.30) and take a few minutes to check out the show from start to finish

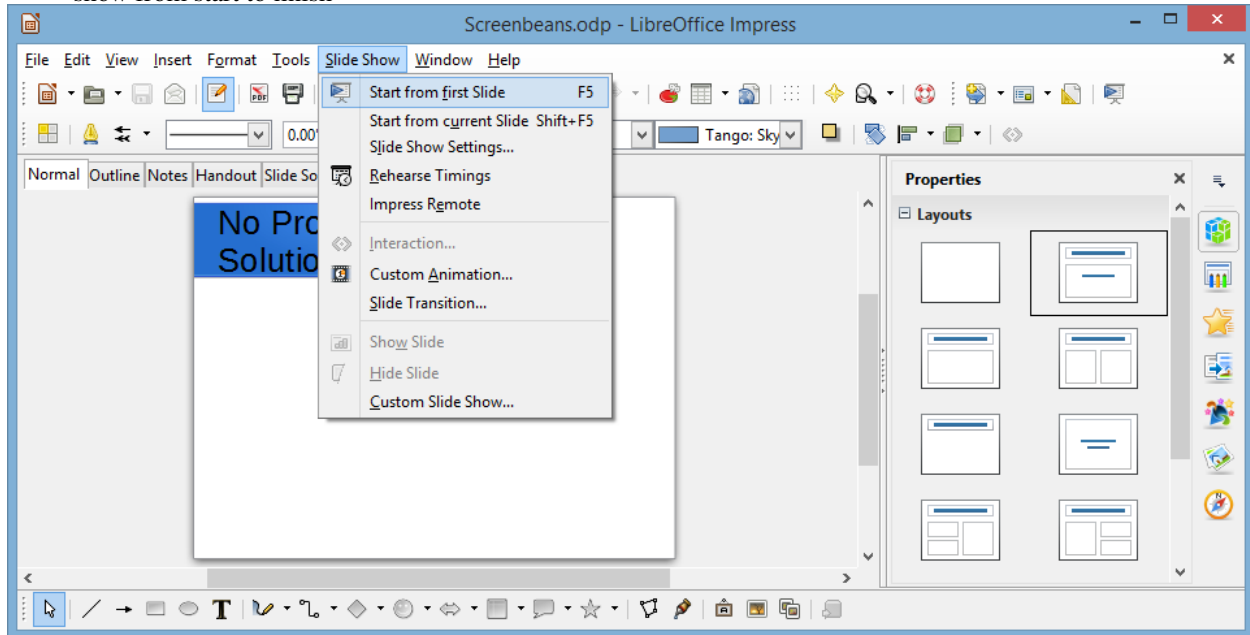


Fig. 9.30 Checking out the presentation

9.5 PRINTING PRESENTATION HANDOUTS

A nice feature of *Impress* is its ability to provide you with hard copy versions of the slides and/or of the outline text of a presentation. This is useful for the preparation of handouts for an audience such as a class or other lecture environment. Here are the steps to do this.

From the **File** menu choose **Print** (Fig. 9.31)

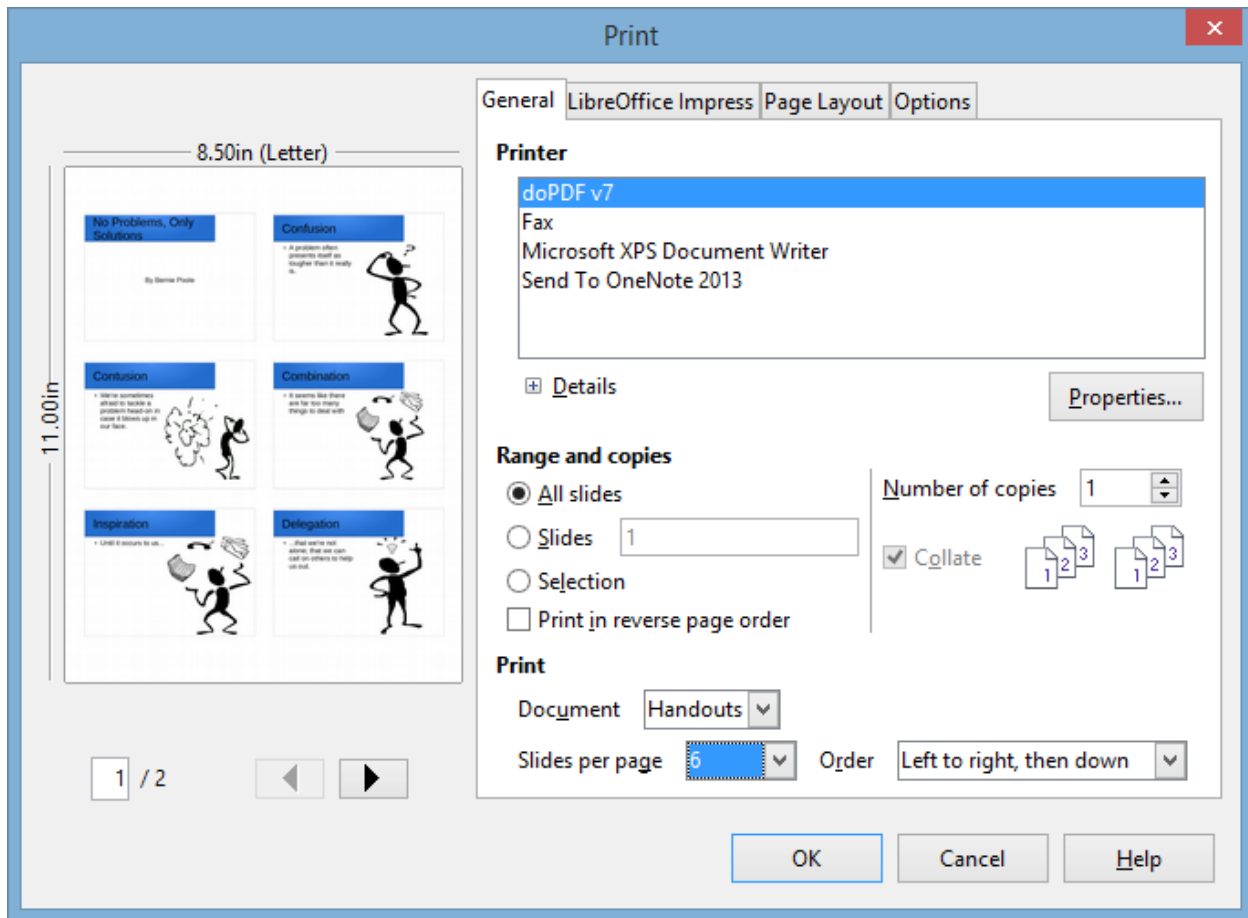


Fig. 9.31 Selecting the Handouts option for printing

All slides should be selected for the **Range and copies** section, and, in the **Print** section, click on the **down arrow** in the Document data entry box and, in the menu of options, select **Handouts** (see Fig. 9.30 above) and notice that the slides will be printed **six-by-six per page, left to right, then down**

Click on **OK** to print a copy of the presentation

In the handout options, you can choose two, four, six, or nine slides per page, and you can display the slides in order either horizontally or vertically. This handout can then be distributed to an audience or a class for note-taking, review or reinforcement.

Save this final version of the **Screenbeans** show then, before you finish, go ahead and make a **backup copy** of your **Screenbeans** presentation

SKILL CONSOLIDATION

1. Prepare a presentation on the subject of the American colonies. Make sure you have at least eight first level topics (eight slides), as well as a title slide and an acknowledgements slide.
2. Prepare a presentation on the subject of US Presidents (or any subject of your choice that you might use with a K-12 age group appropriate to your major). Make sure you have at least eight first level topics (eight slides), as well as a title slide and an acknowledgements slide.
3. Prepare a presentation on the subject of the American movie scene. Make sure you have at least eight first level topics (eight slides), as well as a title slide and an acknowledgements slide.

4. Prepare a presentation in a style of your own choosing with at least three levels on the subject of contemporary music. Make sure you have at least eight first level topics (eight slides), as well as a title slide and an acknowledgements slide.
5. Create a slide show with yourself as the subject—you the person, you the teacher. Use graphics drawn from any source you like. Make sure you have at least eight first level topics (eight slides), as well as a title slide and an acknowledgements slide.
6. Create a slide show on the subject of pets. Use graphics from clip art or created in a Drawing or Painting environment. Make sure you have at least eight first level topics (eight slides), as well as a title slide and an acknowledgements slide.
7. Create a slide show on the subject of geometric shapes. Use graphics drawn from clip art or created in a Drawing or Painting environment. Make sure you have at least eight first level topics (eight slides), as well as a title slide and an acknowledgements slide.

[^1]: Screenbeans are cartoon characters created by Microsoft, Inc.

3.10 Lesson 10 *IMPRESS* Beyond the Basics

10 *IMPRESS* beyond the basics

Making interactive, non-linear slide shows
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LEARNING OUTCOMES

In this tutorial you will be introduced to the basics of non-linear interactive *Impress* slide shows, along with some more advanced formatting and impact-enhancing tools. Amongst the skills you will learn are:

- Creating and using Master Pages to add slide controls to presentations
- Using hidden slides
- Formatting and enhancing graphics
- Inserting sounds, clip art, movies, and hyperlinks

BEFORE YOU BEGIN

Setting up for the tutorial

If you completed Lesson 1 of these tutorials, you can skip the rest of this section and proceed directly to the next section (*10.1 Creating a Master Page...—next page*). If you did *not* complete Lesson 1, then you must do this now, before proceeding with the rest of Lesson 10.

The set of *Work Files for LibreOffice* ideally should be stored on a Flash drive (USB drive) in three folders named *Base Files*, *Impress Files*, and *Miscellaneous Files*. You need to create a fourth folder for the *data files* that you will be creating while working your way through the tutorials. This fourth folder will be called *Data Files*.

Here are the steps to prepare these folders now before proceeding with this tutorial.

First, **Unzip** the set of **Work Files for LibreOffice** by **double clicking** on the File name on your computer (your instructor will help you with this if you are working with a class) and **Extract** them onto your flash drive

Double click on the **Work Files for LibreOffice** folder to **open** it

Now, inside the *Work Files for LibreOffice* folder you need to create a new, *fourth*, folder called *Data Files*. Here's how you do this.

In the **Work Files for LibreOffice** folder, select **New Folder** (Fig. 10.1).

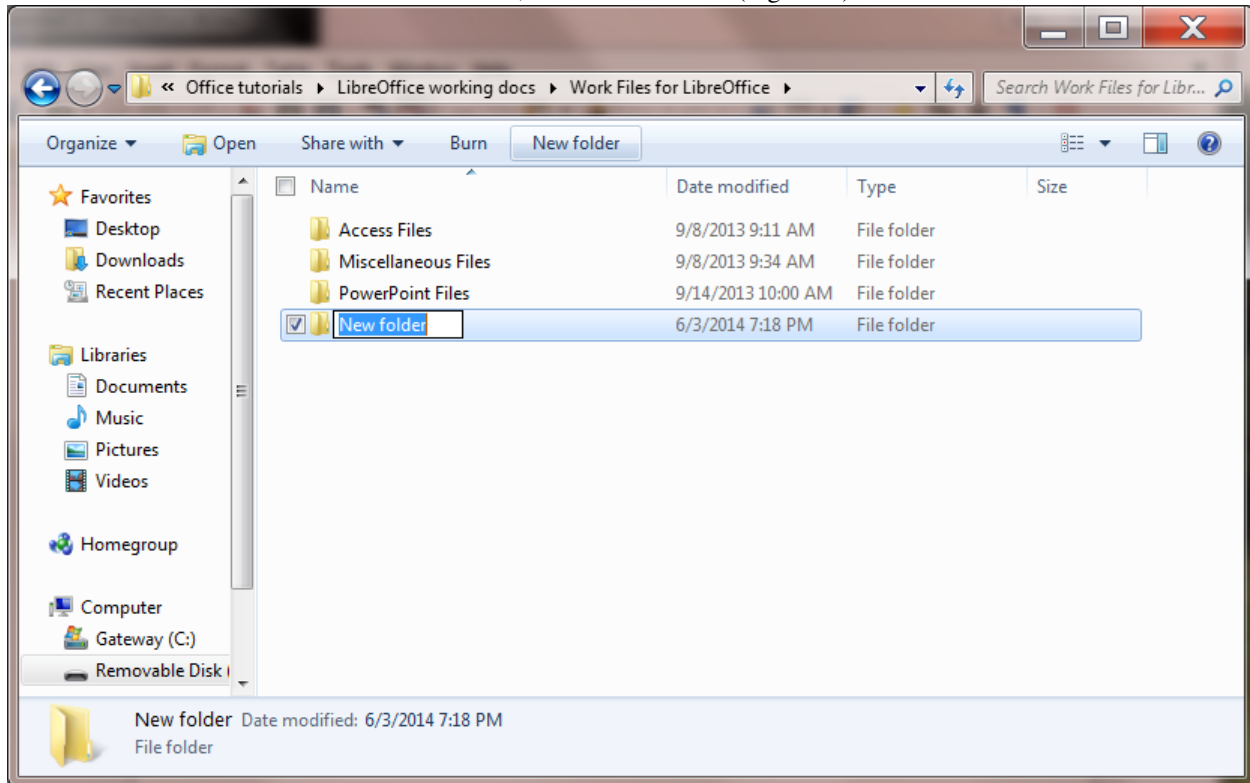


Fig. 10.1 Creating a New Folder

The system will create a new folder for you and then wait for you to give it a name of your choice (Fig. 10.1 above).

Call the new folder **Data Files**

During the course of these tutorials you will be storing many files in this Data Files folder.

10.1 CREATING A MASTER PAGE TO ADD SLIDE CONTROLS TO AN EXISTING PRESENTATION

Creating Slide Controls

Slide Controls (otherwise known, in *LibreOffice* speak, as *Interaction...*) are buttons or objects that you insert onto a slide or slides to tell *Impress*, by clicking on them, to advance from one slide to the next slide, or to the previous slide, or to the first slide, and so on (Fig. 10.2).

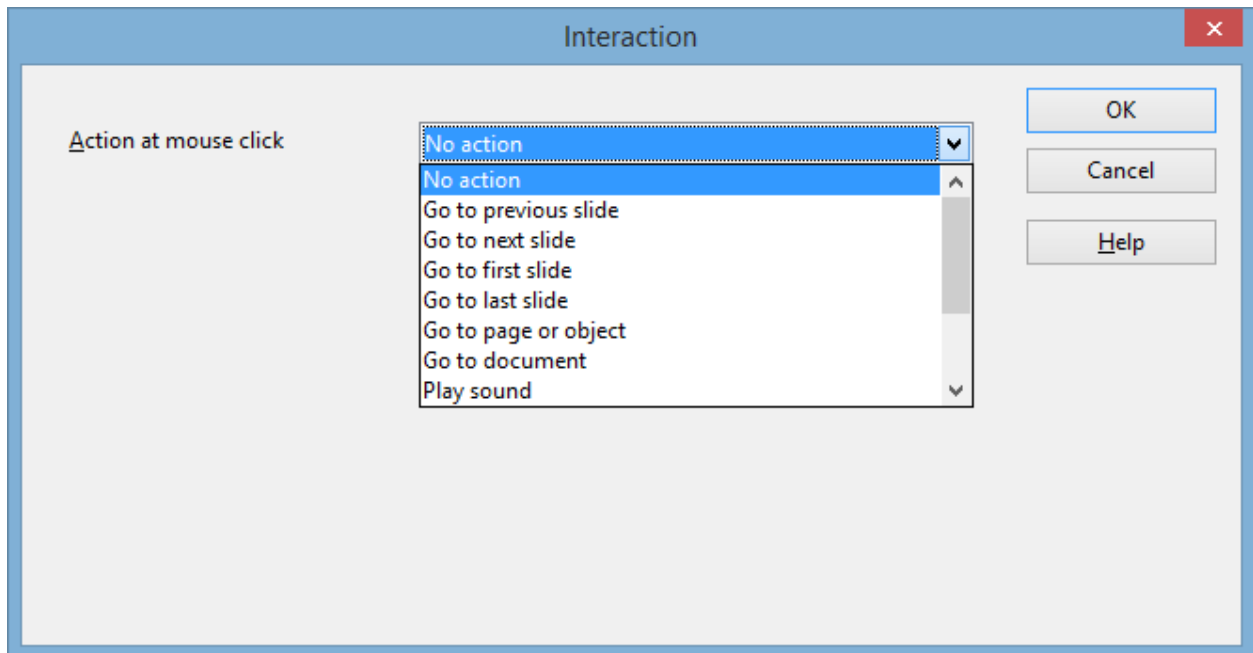


Fig. 10.2 Interaction options

Creating a standard set of Slide Controls is simple enough. The best way to do this is to create a *Master Page Template* which has on it the set of Slide Control buttons that you'll be able to use for any presentation that you'll be building, whether now or in the future.

Open a new *LibreOffice Presentation* document, and go to **File > Save As...** (Fig. 10.3)

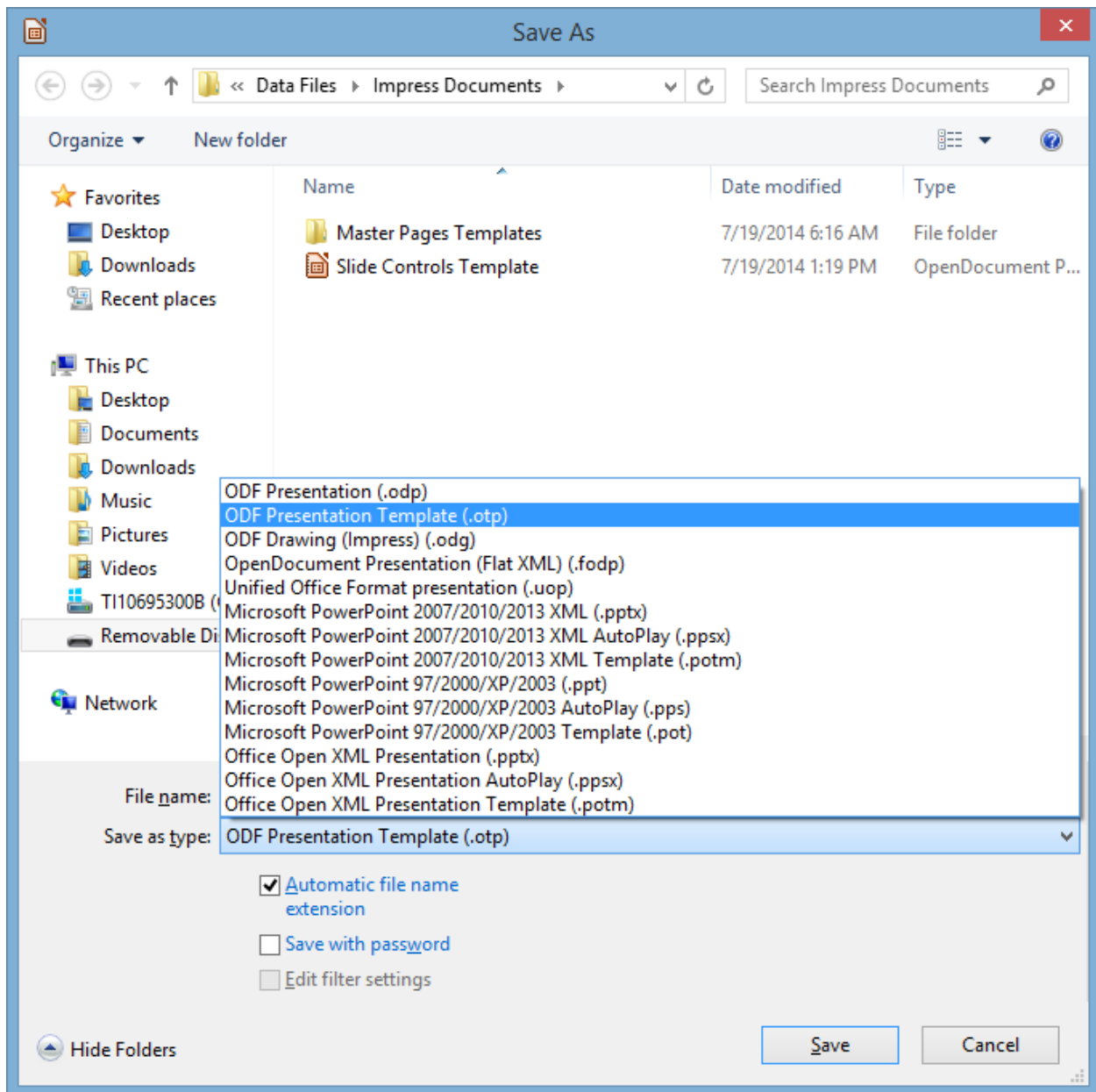


Fig. 10.3 Saving a Master Page Template

In the **Save As** dialog box, navigate to your USB drive > **LibreOffice Work Files** > **Data Files** > **Impress Documents**

Click on the **down arrow** at the end of the **Save as type:** data entry box (Fig. 10.3 above) and, in the **menu of file types** that pops up, select **ODF Presentation Template (.otp)**

Name the new document **Slide Controls Template** and click on **Save**

In the new *Impress* presentation document you want to start with a **Blank Slide** layout.

Select the **Blank Slide layout** in the menu of **Layout templates** on the **right** of the *Impress* window (Fig. 10.4)

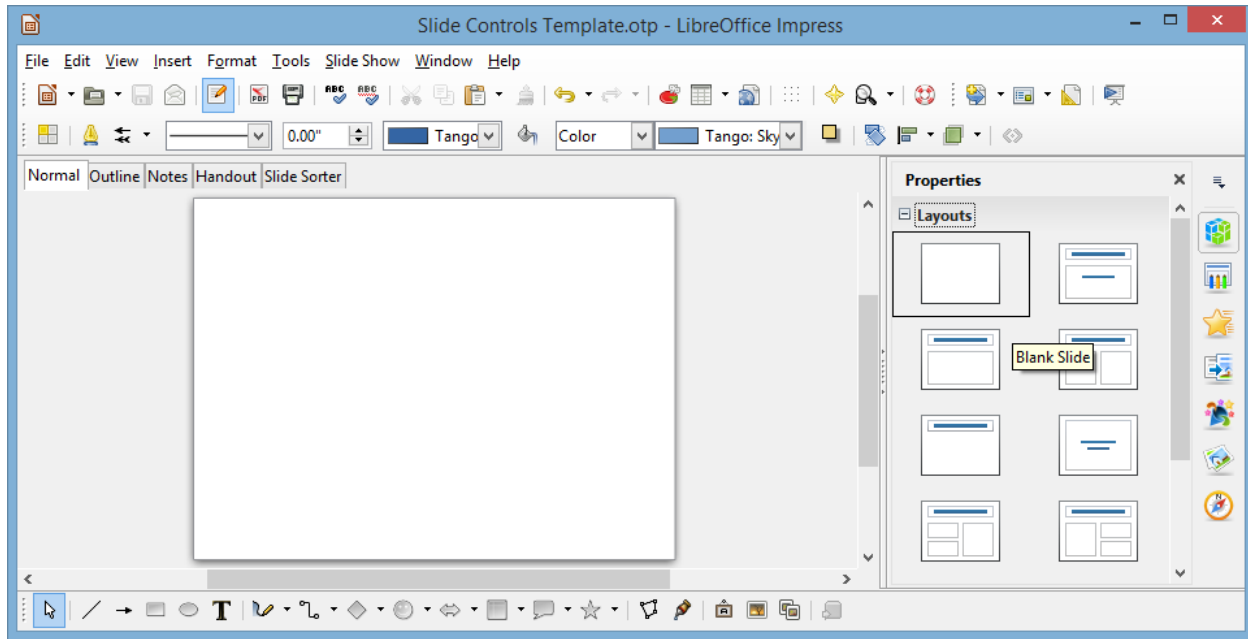


Fig. 10.4 Selecting the Blank Slide layout

Now you'll use two of the *Basic Shapes* in the Drawing Toolbar (Fig. 10.3 above) to create a set of Slide Control buttons. You'll end up with something like the set of Slide Control buttons illustrated on the *left* in Fig. 10.5.

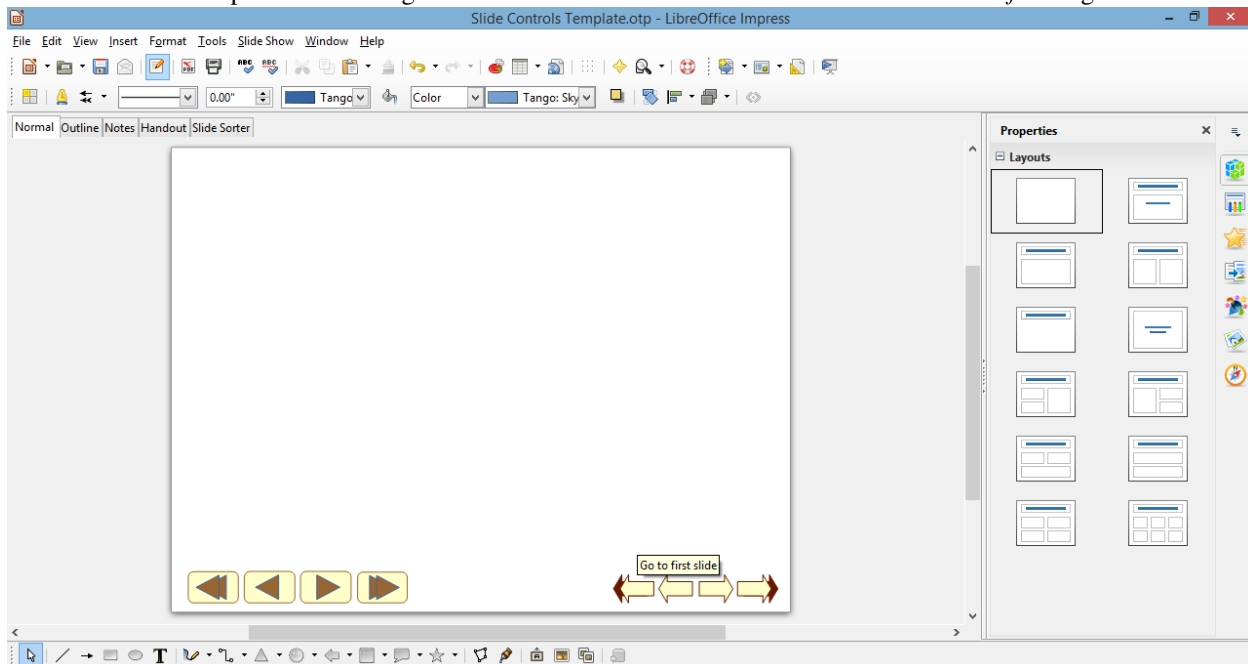


Fig. 10.5 Different Slide Control styles for a typical presentation

The set of Slide Controls on the *right*, which uses one of the *Block Arrows* in the Drawing toolbar, is another example of what you can do. Creating these Slide Controls is simple enough, though can be time-consuming because of the detail involved. Like all design, it involves your creative skills, and doing it will enhance those creative skills, so let's get on with it.

In the drawing tools set of **Basic Shapes**, click **once** on the **Rectangle, Rounded** tool and slide the pointer—which changes into a **plus sign (+)**—onto the slide (Fig. 10.6)

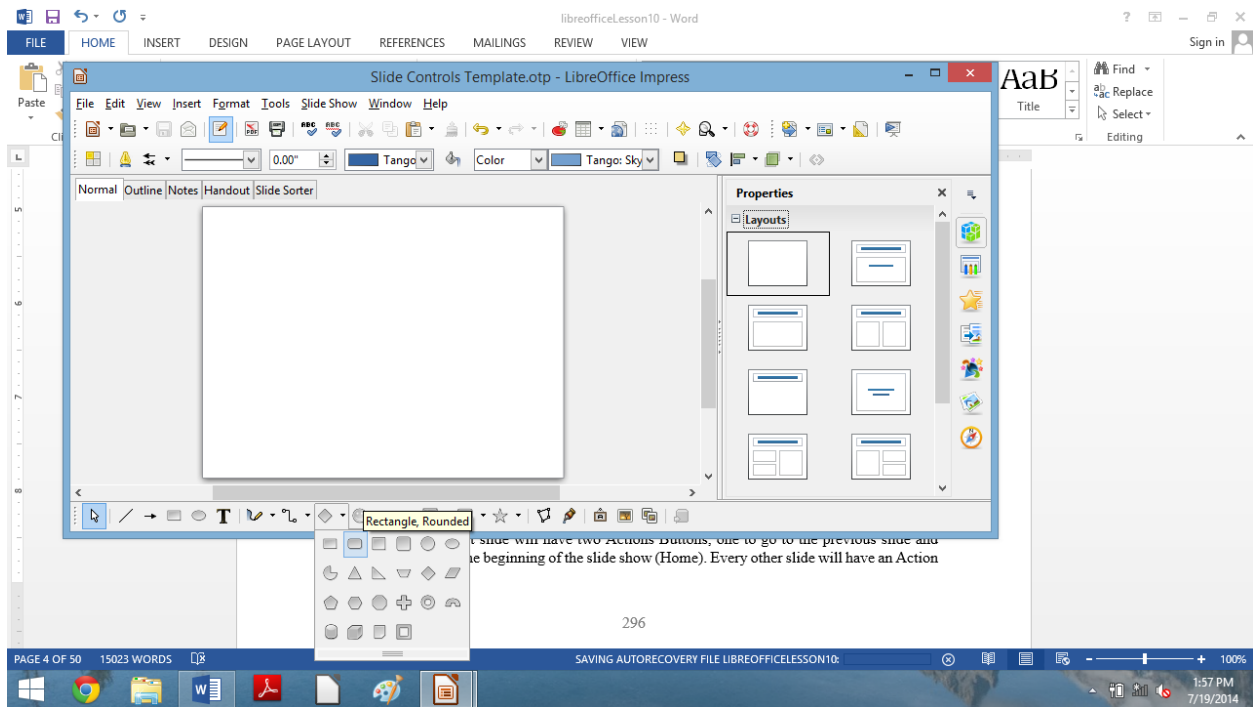


Fig. 10.6 Rounded Rectangle tool in the set of Basic Shapes

Drag with the pointer to draw a **rounded rectangle** near the **bottom center** of the blank slide (Fig. 10.7)

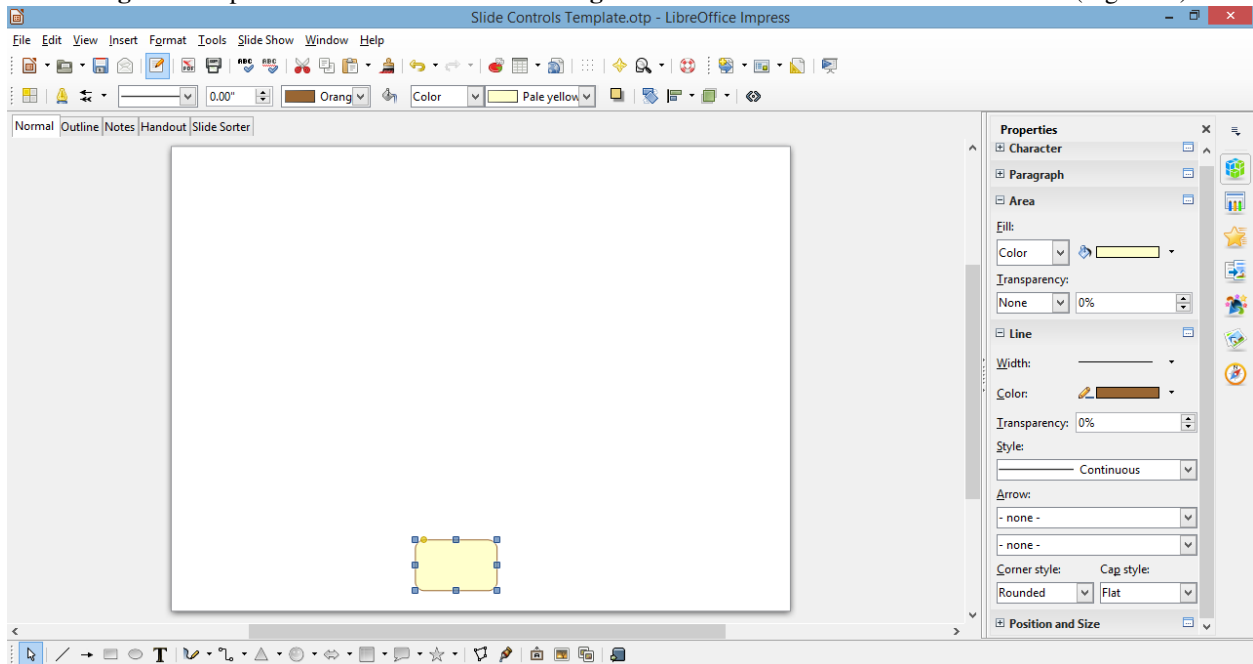


Fig. 10.7 Rounded rectangle

Now select any **color** to **Fill** the **Area** of the rectangle with some contrasting **color** for the **border** (see Fig. 10.6 above)

Next, in the drawing tools set of **Basic Shapes**, click on the **Isosceles Triangle** tool (Fig. 10.5 previous page) and **drag** with the pointer to draw a **small triangle** inside the **rounded rectangle** shape then use the **Rotate** tool to rotate the **triangle** to the **right 90 degrees** (Fig. 10.8)

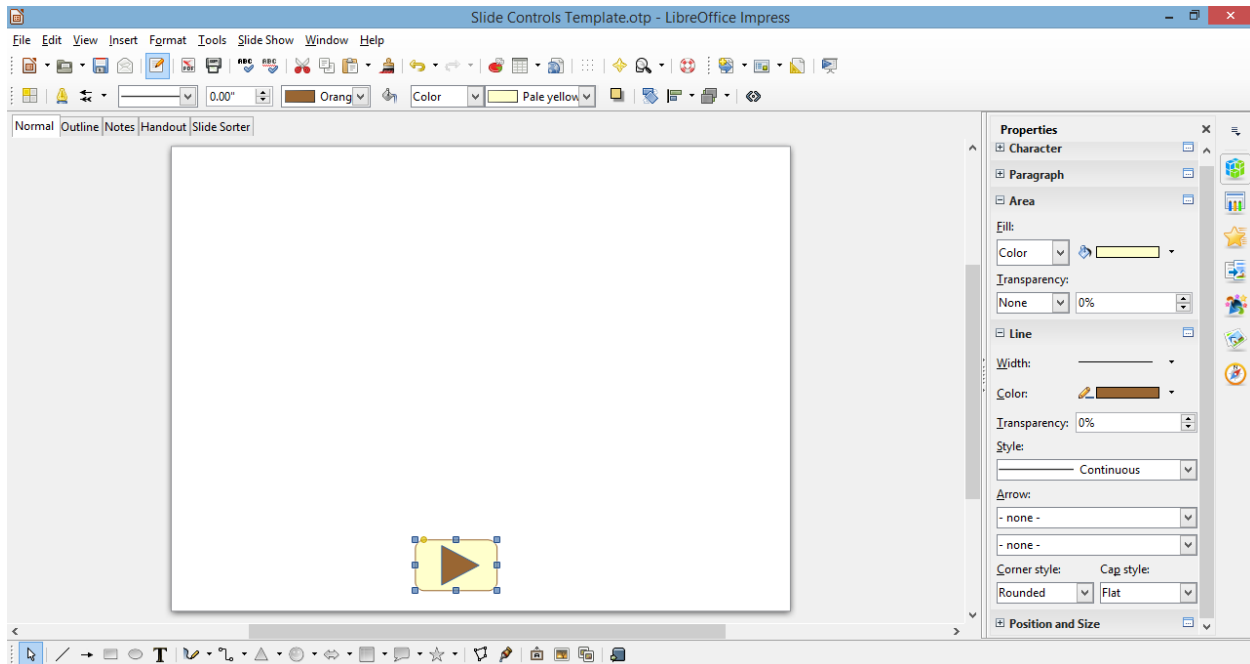


Fig. 10.8 The Triangle shape inside the Rectangle shape

Get the idea? If you've been successfully following along, you now know how to create any buttons you want. Feel free to create your own set of Slide Controls illustrated on the left in Fig. 10.4 on the previous page. But for the sake of this exercise (and maybe your sanity!), the author has completed the two sets of four buttons and saved them, with the name *Slide Controls Template*, in the *Impress Documents* folder as a *Master Page Template* so that you can use them for the exercises that follow.

Adding slide controls to an existing presentation

For the sake of uniformity, you are going to work with a version of the *Screenbeans* presentation you may have developed in Lesson 9 and which has been recreated especially for this tutorial.

In the *Impress* **File** menu click on **Open**

Navigate on your USB drive to the **Work Files for LibreOffice**

Impress Files folder, then **double click** on the file **Problems and Solutions** to open it

You'll be making changes to the Problems and Solutions presentation, and since you may want to have a friend work through this tutorial at a later date, it'll be a good idea to save the version you are going to work on in the Impress Documents folder in your Data Files folder, thus preserving the original version.

Go to **File > Save As...**, navigate on your USB drive to the **Work Files for LibreOffice > Data Files > Impress Documents** folder, then click on **Save**

You're going to put Slide Controls on each of the slides in the *Problems and Solutions* presentation. The Title slide will have two Slide Controls—one to go to the next slide and another to go to the last slide. The last slide will also have two Slide Controls—one to go to the previous slide and another to go back to the beginning of the slide show. Every other slide will have all four of the Slide Controls.

Fig. 10.9 shows you how the Title slide will look after you've added the Slide Controls.

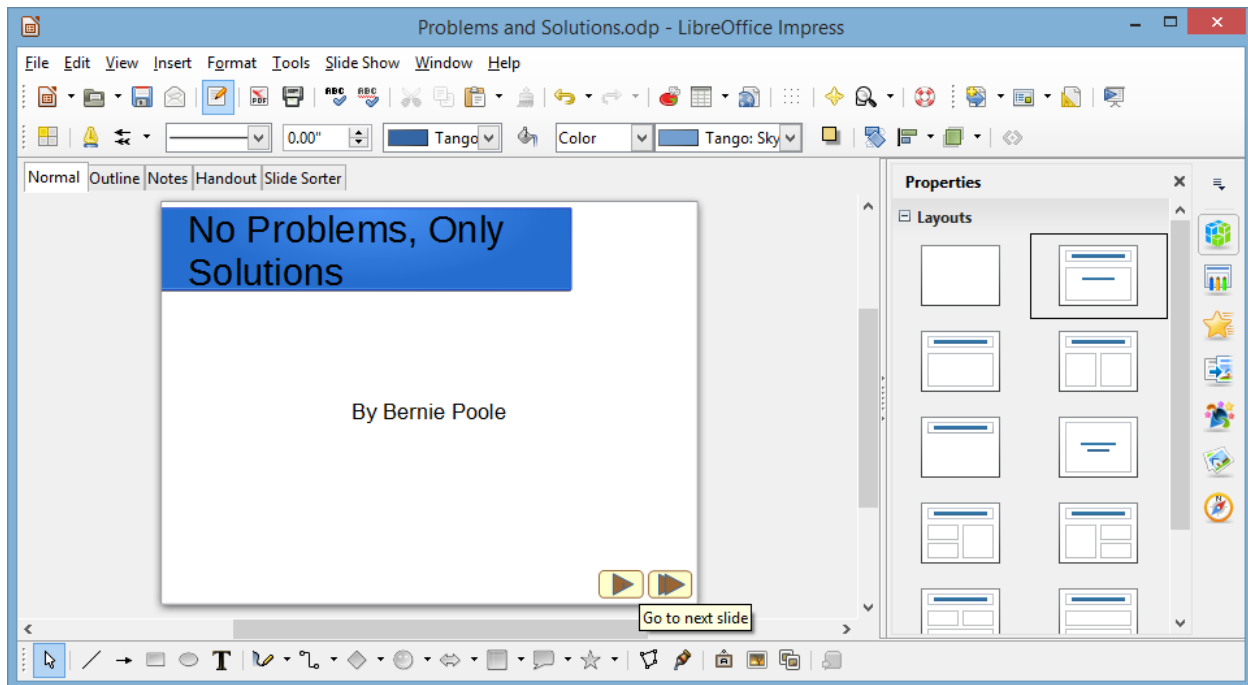


Fig. 10.9 The Slide Controls on the Title slide

The Slide Controls are waiting for you to copy them from the Slide Controls Template *Master Page*, so you need to open that file first.

Navigate on your USB drive to the **Work Files for LibreOffice**

Data Files > Impress Documents > Master Page Templates folder, then **double click** on **Slide Controls Template** to open it

For the Problems and Solutions Title slide you want just the last two of the Slide Controls—to go to the next slide and to go to the last slide (Fig. 10.10).

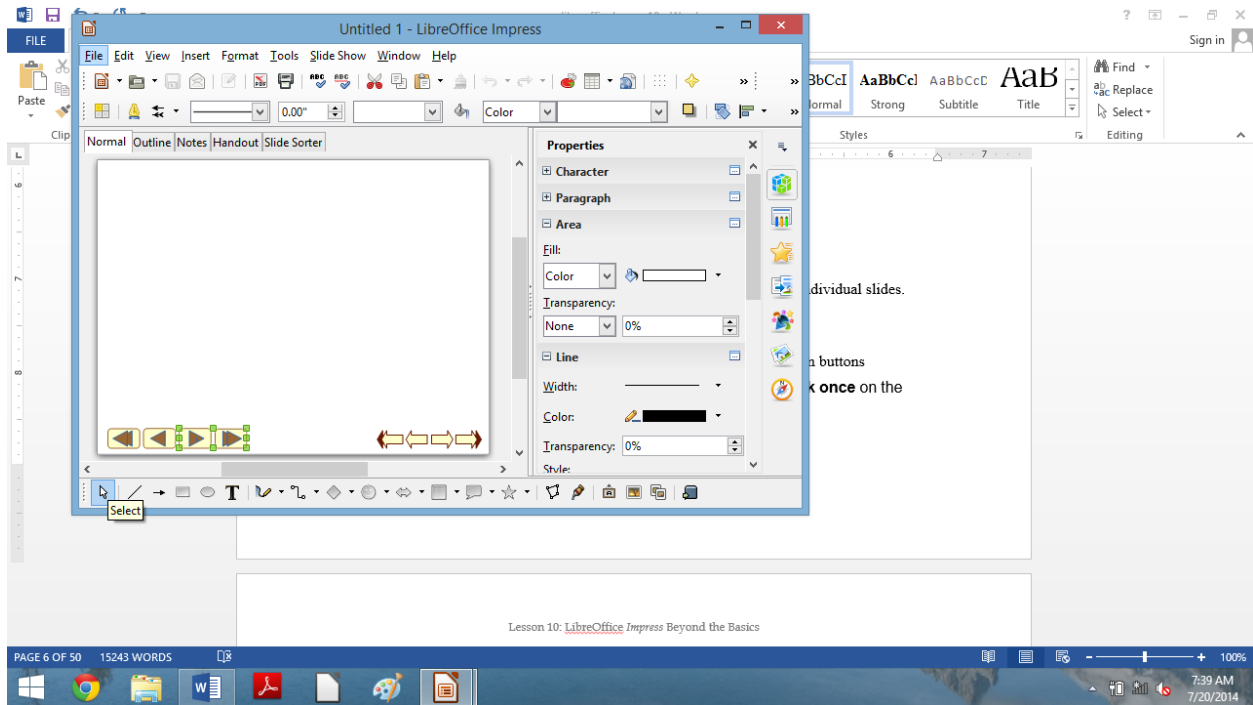


Fig. 10.10 Selecting and copying the Slide Controls

Make sure you have the **Slide Controls Template Title Slide** in **Normal View**, then, in the **Drawing toolbar**, click on the **Select** tool (Fig. 10.10 above)

Now **drag with the mouse** to select just the **last two** of the set of Slide Controls **on the left** (see Fig. 10.10 above), then hit **Ctrl-c** to **copy** those two Slide Controls to the **clipboard**

Switch back to the **Problems and Solutions** presentation, which is already open on your screen, and hit **Ctrl-v** to **paste** the **Slide Controls** from the **clipboard** onto the **Title slide**, then use the **arrow keys** on the keyboard to **move the Controls to the right** so that they end up in the **lower right hand corner** of the **Title slide** (see Fig. 10.9 on the previous page)

You can adjust the size of the Slide Controls any time you want by clicking on them and dragging on the *handles*.

If the **Slide Controls** looks too large or too small to you, go ahead now and click on them, grab one of the **handles** and **adjust the size** to your satisfaction

Save the presentation when you're satisfied everything looks OK on the Title slide

You should now see two professional-looking Slide Controls on the *Problems and Solutions* Title slide. We'll test them shortly. First, though, you're going to put *all four* of the Slide Control tools on the next *seven* slides.

As you did before, click on the **Select** tool in the **Drawing toolbar** and **drag around all four** of the **Slide Control buttons** to put the **green handles** around them (Fig. 10.11)

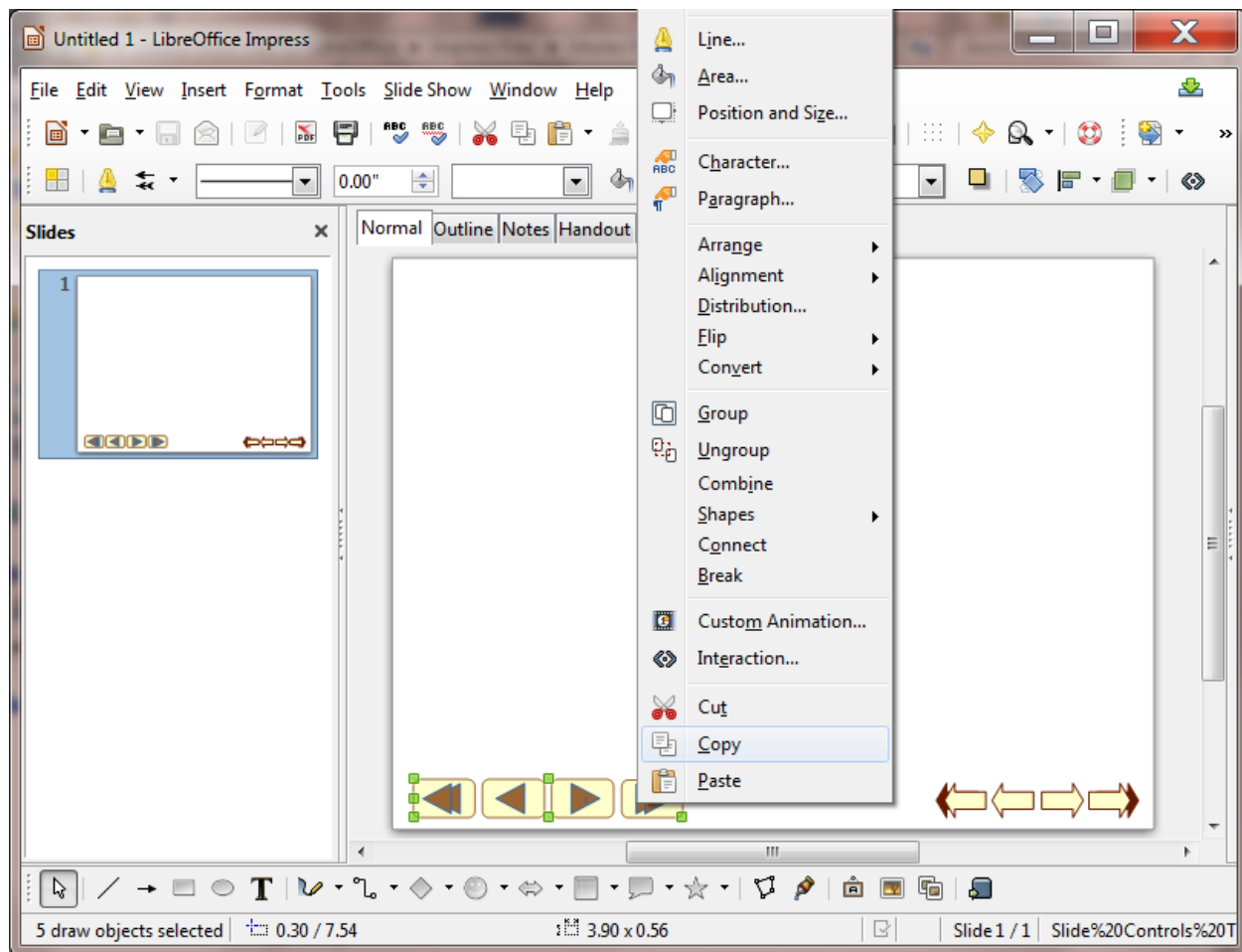


Fig. 10.11 Selecting and copying the four Slide Controls

Now **right click** on the **selected Slide Controls** and, in the **context menu** that pops up, select **copy** to copy the **Slide Controls** to the **clipboard**

In **Slide Sorter View**, **double click** on **slide #2** to bring it up in **Normal View**, and hit **Ctrl-v** to **paste** the **copy** of the **four Slide Controls** from the **clipboard** onto **slide #2**

Don't click on the Slide Controls—you want the **small green handles** to stay around them; again use the **arrow keys** on the keyboard to **slide** the **Controls** into position, this time in the **lower left hand corner** of **Slide #2** (Fig. 10.12)

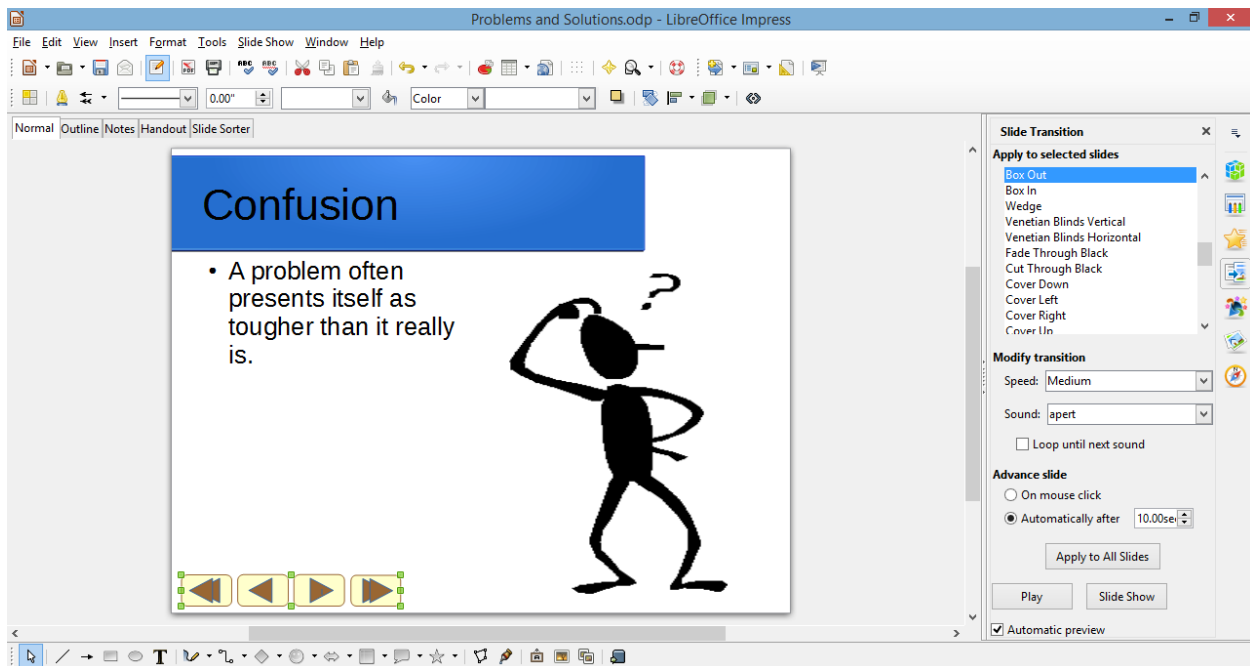


Fig. 10.12 Position the Slide Controls in the lower left hand corner of slide #2

Copying the Slide Controls to other slides

Next, you're going to put the four Slide Controls on each of the next seven slides. You already have them on the clipboard, so all you have to do is paste them as a group, slide by slide.

In the **Slide Sorter View**, double click on **slide #3** to bring it up in **Normal View**, and press **Ctrl-v** to **paste** the buttons onto the **third slide**

Notice that the buttons are pasted into the exact same place as where you positioned them on the previous slide (Slide #2).

Now go to each of the **remaining six (6) slides** in the presentation and do the same

Better **Save** your work to this point, then **switch** back to **Slide Sorter View** to see how everything looks—should be much like Fig. 10.13

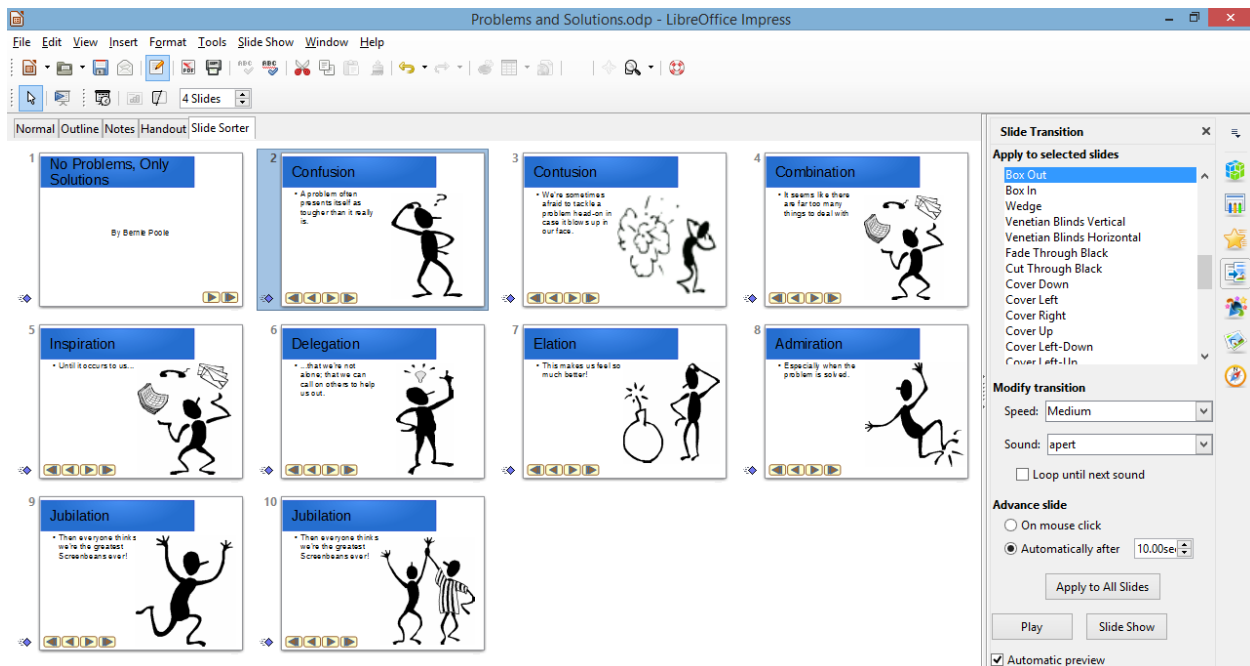


Fig. 10.13 All the slides now have the Slide Controls

Adding an Acknowledgements slide

The Problems and Solutions presentation is missing one final slide—the Acknowledgements slide, which should accompany any presentation where you use information or audio-visual material that is not your own. Adding a new slide to a presentation is easy.

First, you want the **Acknowledgements slide** to be that **last slide** in the show, so, in the **Slide Sorter View**, **right click** immediately **after** the **thumbnail** for **slide #10** to bring up the small **New Slide** dialog box

Click on the **New Slide** dialog box to start a **new slide (Slide #11)**

The layout for the new slide, as you can see, is the same as the layout for the previous 8 slides, namely a Two Content layout. But for the Acknowledgements slide it will be best if it is a Title slide layout.

In the **Slide Sorter View**, make sure **Slide #11** is selected, then click on the **Properties icon** at the top of the **set of design icons** on the **extreme left side** of the Problems and Solutions presentation window (Fig. 10.14) to bring up the **Layout menu** and,

in the **Layout menu**, select the **Title, Content** slide layout

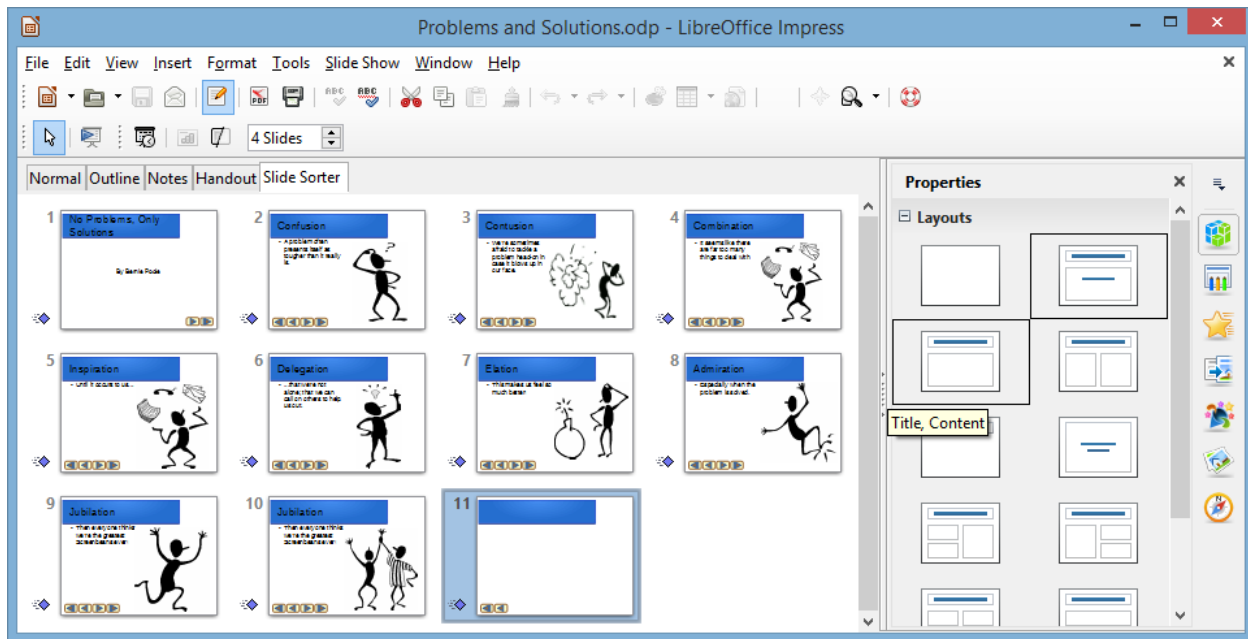


Fig. 10.14 Selecting the Title, Content slide layout

You've just pasted the four Slide Controls onto each of the previous 7 slides, so the buttons are still available on the clipboard for you to paste onto the new last slide.

Switch to the **Normal View** for **slide #10**, the last slide in the show, and hit **Ctrl-v** to paste the **four Slide Controls** here, too

As it happens, the set of buttons is slightly different on this last slide. You still want the Slide Control to go back to the *Go to previous slide*, and you need the Slide Control that returns you to the beginning—the *Go to first slide* Control. But you don't need a button to go to the *next slide*; nor do you need a button to go to the *last slide*; the Acknowledgements slide is already the last slide in the show.

So... first click anywhere on the slide (but **NOT** on the Slide Controls) to **deselect** the Slide Controls, then click on the **Select tool** in the **Drawing toolbar** and **drag around the two rightmost Slide Controls** to put the **green handles** around **just the two of them** (Fig. 10.15), then hit the **Del(ete)** key

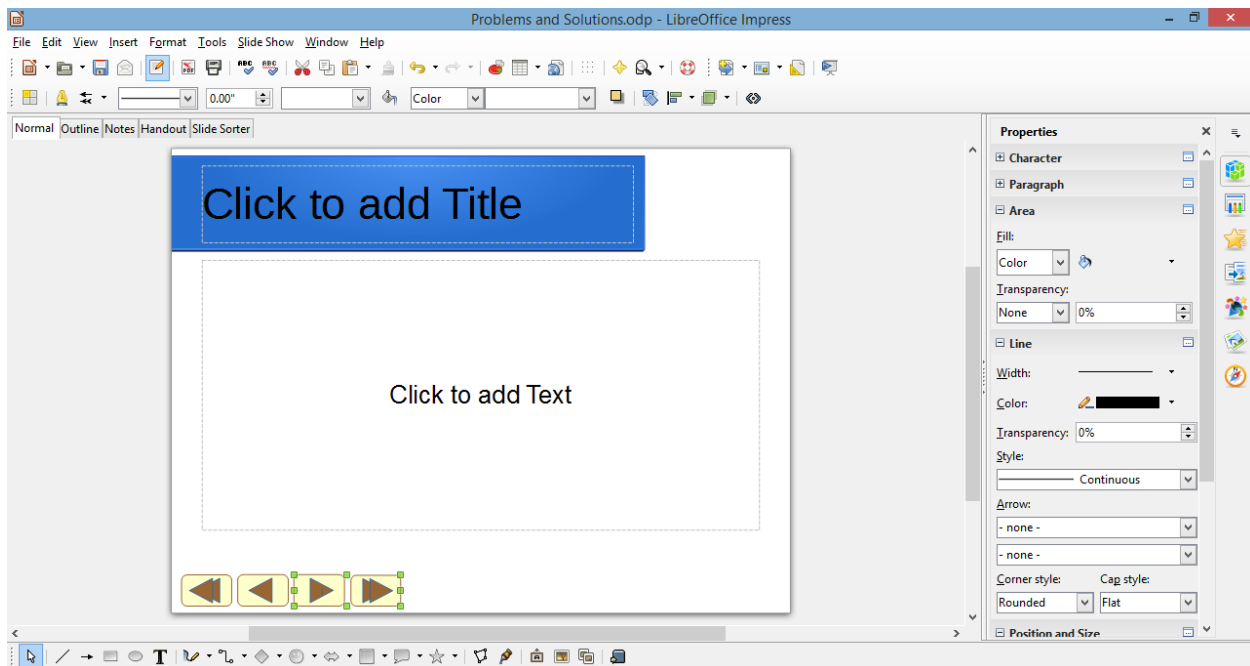


Fig. 10.15 Selecting just the two rightmost Slide Controls

Better **save** your hard work (**Ctrl-s**)

Now all you need to do is type the text onto this Acknowledgements slide.

Click where you see “**Click to add Title**” and, in the **Title box**, type **Acknowledgements**

Next, c

lick in the **Click to add Text** box and, by way of Acknowledgements, **type the text** you see in Fig. 10.16

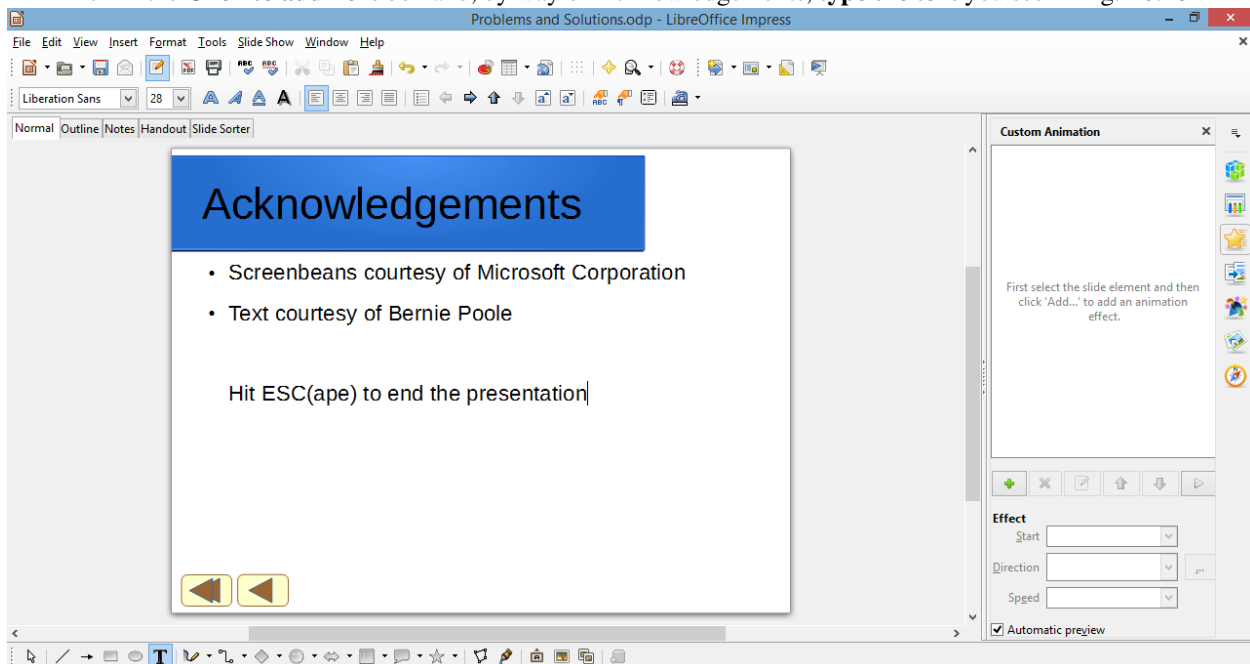


Fig. 10.16 Final version of the Acknowledgements slide

After you type the line: “Text Courtesy of Bernie Poole” hit **Enter**, then hit the **backspace** key to get

rid of the bullet, press **Enter** again, hit **backspace** to get rid of the bullet, then type the last line: “Hit Esc(ape) to end the presentation”

Finally, **drag across the three lines of text to highlight** them and, in the **Formatting toolbar**, change the **Font Size to 28**

Hit **Ctrl-s** to **save** this (almost final) version of the **Problems and Solutions** presentation

Your show is almost ready, but first you have to learn about hidden slides.

10.2 USING HIDDEN SLIDES

Hidden Slides are slides that will be bypassed, unseen by the user as he or she clicks through a presentation, *except* when the user clicks on a *Slide Control* that specifically sends them to the Hidden Slide.

Here are the steps to create a Slide Control on one slide which will take the user to a specific Hidden Slide in the Screenbeans slide show.

In the **Slide Sorter View**, **double click** on **Slide #2** (the **Confusion** slide) to open it in **Normal View**

Click to position the cursor **right at the end of the text** that you typed in the slide’s **text placeholder** (after the words ... **tougher than it really is**)

Hit **Enter** to go to a new line, then type ****If you’d like to read a quote about problem-solving, click here: ****

In the **Slide Sorter View**, **right click** between **Slide #2** and **Slide #3** and click on **New Slide** in the **New Slide dialog box** to insert a new slide (which will now become the new Slide #3)

Immediately, *Impress* inserts a new empty slide right after the second slide in the show.

Now, you want this to be a **Title slide layout**, so, still in the **Slide Sorter View**, and with the **new Slide #3 selected**, click on the **Properties** icon to bring up the **menu of slide layouts** and click on the **Title slide layout**

You want this new slide to be a Hidden Slide.

In the **Slide View toolbar** click on the icon to **Hide Slide** (Fig. 10.17)

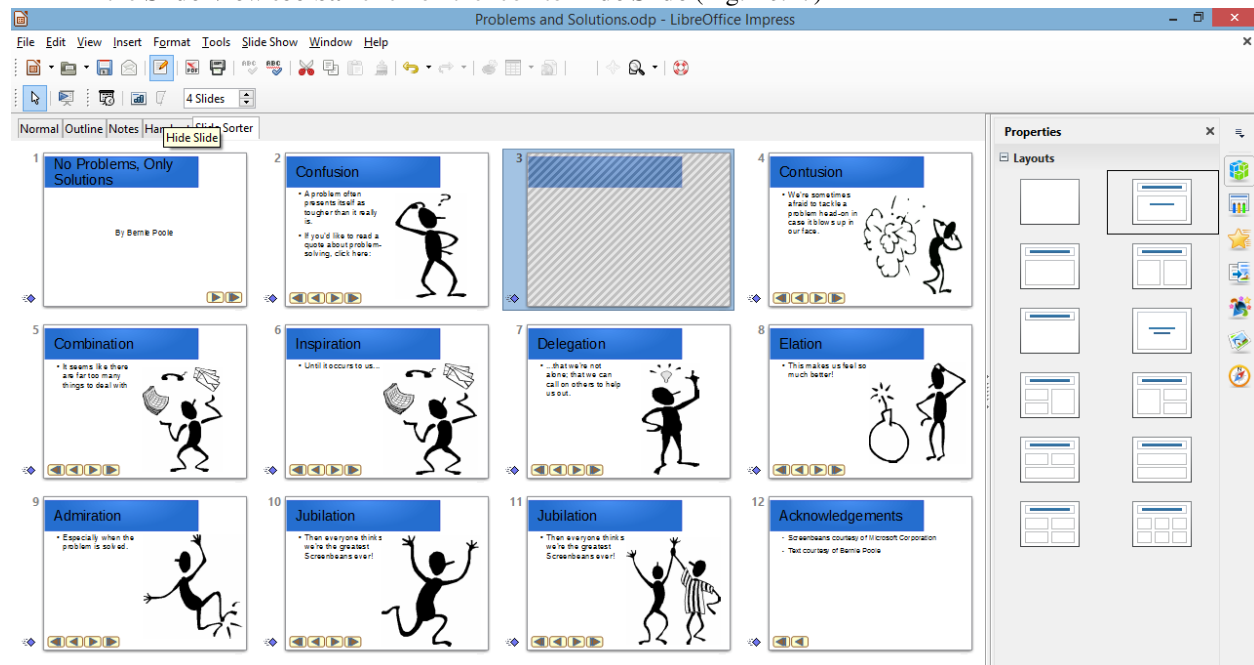


Fig. 10.17 The Hide Slide icon in the Slide View toolbar

Notice that now, in the Slide Sorter View, Slide #3 is screened out, which indicates that this is a Hidden Slide (Fig. 10.17).

Click in the **Title placeholder** on the new slide (where it says Click to add Title), and type the following quotation (including the quotes): **“Quality is in the details.”** then **drag** across the quote to highlight it and change the **font size** to **48**

Click in the **subtitle placeholder** on the new slide (immediately below the Title placeholder) and type the following: **Bernie Poole, Esq.**

The Hidden Slide with the quote is now complete. But it’s hidden, so you have to give *Impress* (and the user) a way to find it by creating a new *Slide Control* that links to it.

In the **Slide Sorter View**, double click on **Slide #2** (the **Confusion** slide) to make it the active slide in **Normal View**

In the **Drawing toolbar** click on the **Block Arrows** icon and, in the **Block Arrows menu**, select the **Notched Right Arrow** shape

Notice that the arrow pointer changes to a **cross hair** (+).

Without clicking the mouse button, roll the **mouse cursor** up over the slide and

position the cross hair **after the colon** at the end of **“If you’d like to read a quote about problem-solving, click here: “** (Fig. 10.18), then hold down the **left mouse button** and drag to create the **Slide Control** button that you are going to use to link to **slide #3—the hidden slide**

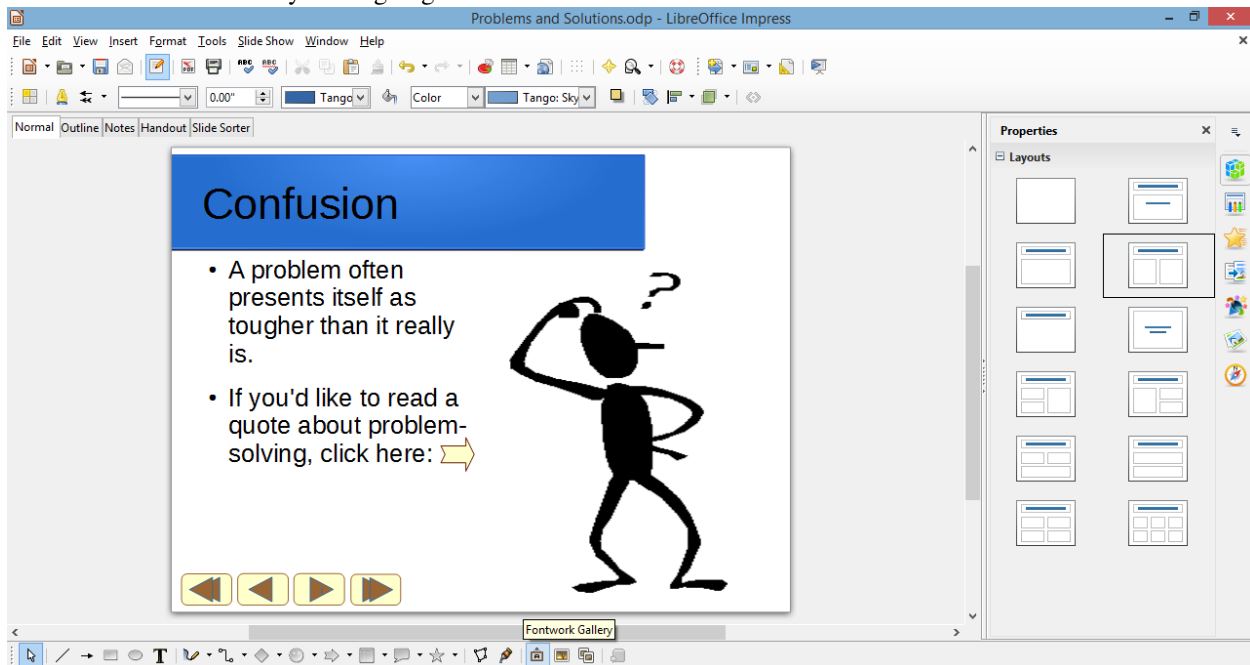


Fig. 10.18 Placement of the Slide Control linking to the hidden slide (slide #3)

Let go of the mouse button when you’re done—you can adjust the **size** and **position** of the button if you want by clicking on it and then dragging on the **handles** around the button

Now **right click** on the **new button** and, in the **context menu** that pops up, select **Interaction...**

In the **Interaction dialog box**, click on the **down arrow** at the end of the **Action at mouse click data box** (Fig. 10.19) and, in the **drop down menu**, select **Go to page or object**, then in the **list of slides** that is displayed, click to select **Slide 3**, then click on **OK**

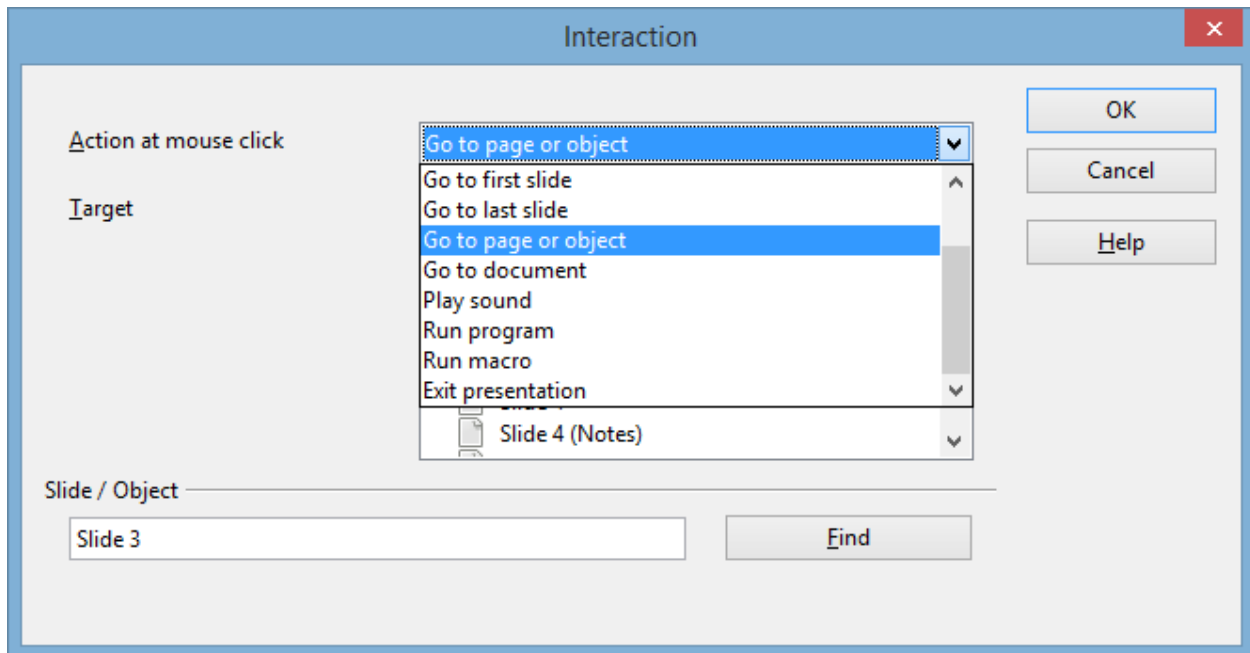


Fig. 10.19 Linking the new Slide Control to the hidden slide

This new Slide Control provides a link from slide #2 to the hidden slide #3. When you run the show shortly and get to slide #2, if you click on this Slide Control, you will go to slide #3. But if you do *not* click on this Slide Control, slide #3 will be bypassed because it is a hidden slide.

You have to do one more thing to complete the content on the hidden slide (slide #3). You need to put a Slide Control on slide #3 to go to the next slide (slide #4). Can you remember how to do it yourself? If so, go ahead; but if you need help, here are the steps to follow:

In the **Slide Sorter View**, double click on **slide #2** to bring up the slide in **Normal View**, then, in the **Drawing toolbar**, c

lick on the **Select tool** and drag to select the **third** of the **four Slide Controls** (the Slide Control to go to the **next slide**), right click on it, then, in the context menu that pops up, select **Copy** the Slide Control to the clipboard

Next, in the **Slide Sorter View**, **double click** on **slide #3** to bring up the slide in **Normal View**, and press **Ctrl-v** to **paste** the **Slide Control** onto the **hidden slide**

Then, **while the button is still selected**, **drag** on the **green handles** to make the Slide Control **about twice its size** and use the **arrow keys** to move it over to the **lower right corner** of the slide (Fig. 10.20)

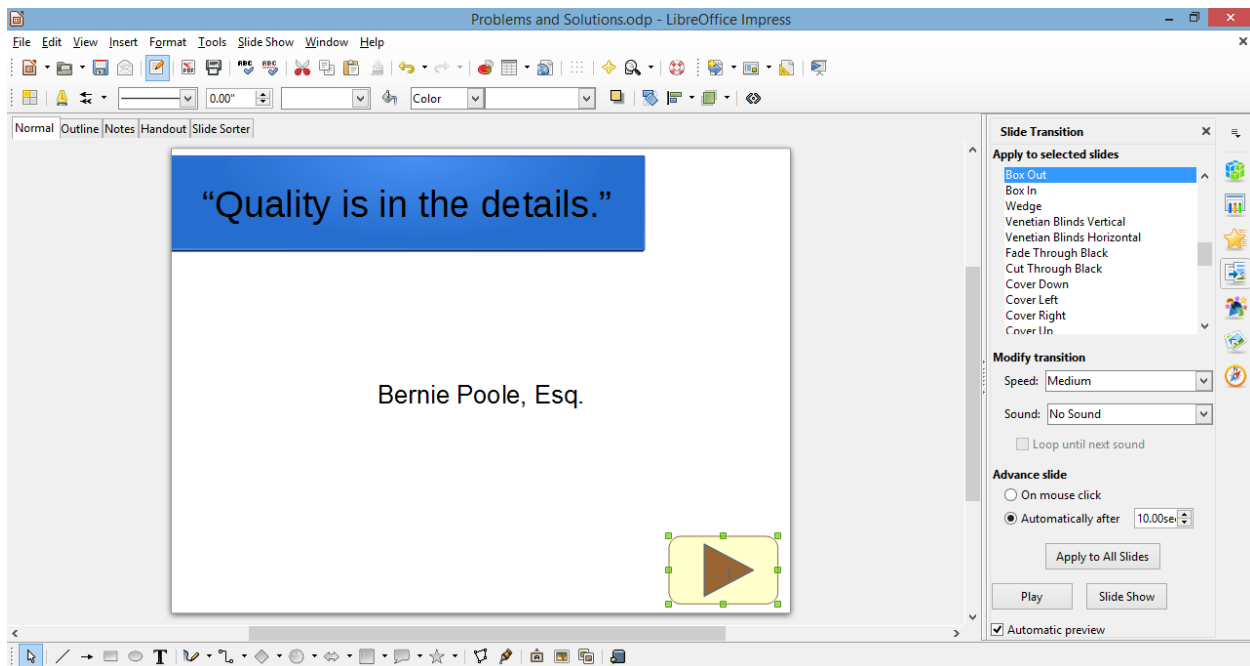


Fig. 10.20 The repositioned and resized Slide Control on the Hidden Slide

Right click on the **new Slide Control** and, in the **context menu**, select **Interaction... > Go to next slide**

Save all the good work you've done so far, then **Run** the **Problems and Solutions slide show** from the **start** (**Slide Show menu > Start from first slide**), trying out every slide, including the Slide Controls that you just created for the Hidden Slide

10.3 ANIMATION SCHEMES

Impress Animation is a way of bringing objects, such as text and pictures, to life on the screen, controlling and sequencing how text and other slide objects emerge onto the screen during a presentation—sliding in from the right or left, or fading in, and so forth. Let's try some of the *Impress* Animations now, using the Screenbean figures as our models.

The Screenbean figure must be **selected** in order to apply animations and other effects to it, so, in the **Slide Sorter View**, click on the **thumbnail** for **slide #2** (the slide with the **Confused Screenbean**) and click to **select** the **Screenbean figure** (you'll see the green handles around it)

Right click on the **Confused Screenbean figure** and, in the **context menu** that pops up, select **Custom Animation**

This brings up the Custom Animation pane on the right side of the *Impress* window (Fig. 10.21).

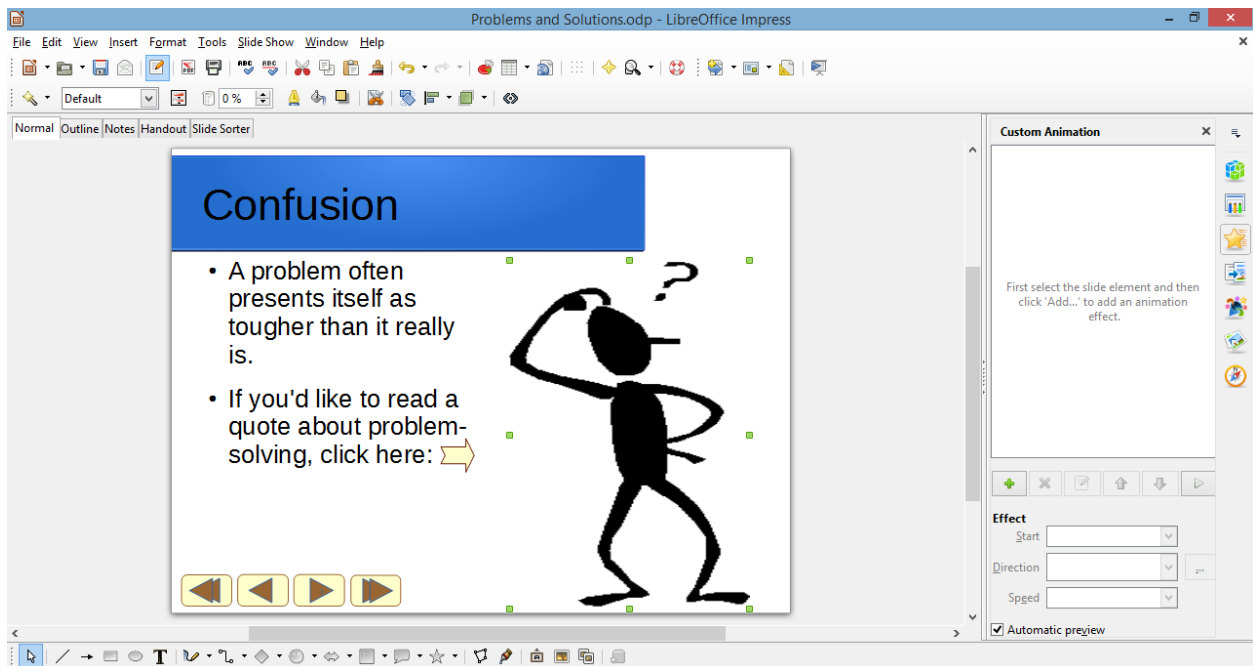


Fig. 10.21 The Custom Animation pane

Click on the **green plus sign/cross** to bring up a **menu of built-in LibreOffice animations** (Fig. 10.22)

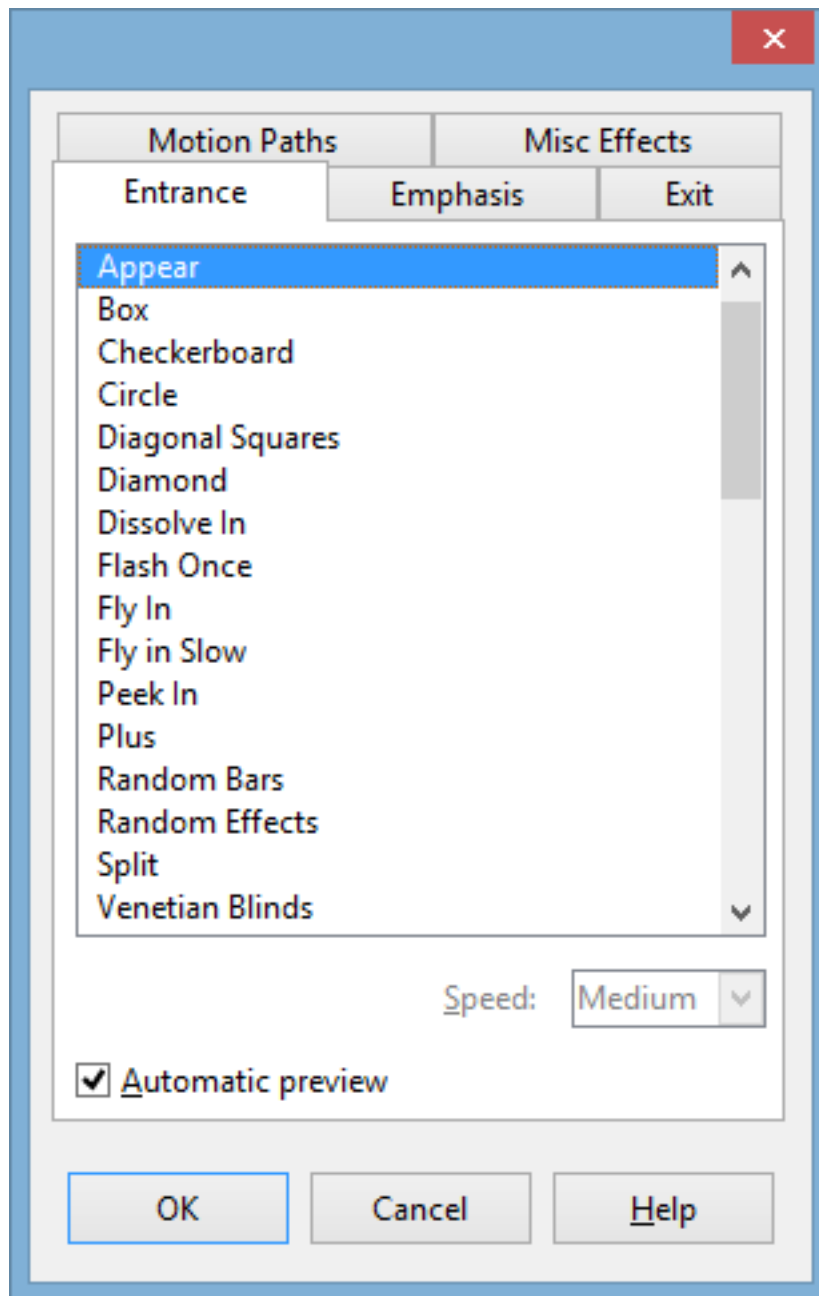


Fig. 10.22 *LibreOffice* Animations dialog box

For the Screenbean figure on **Slide #2**, in the **menu of built-in *LibreOffice* animations**, select the first option: **Appear**, click on **OK**, then, in the **Effect section > Start entry box**, select **After Previous** (Fig. 10.23)

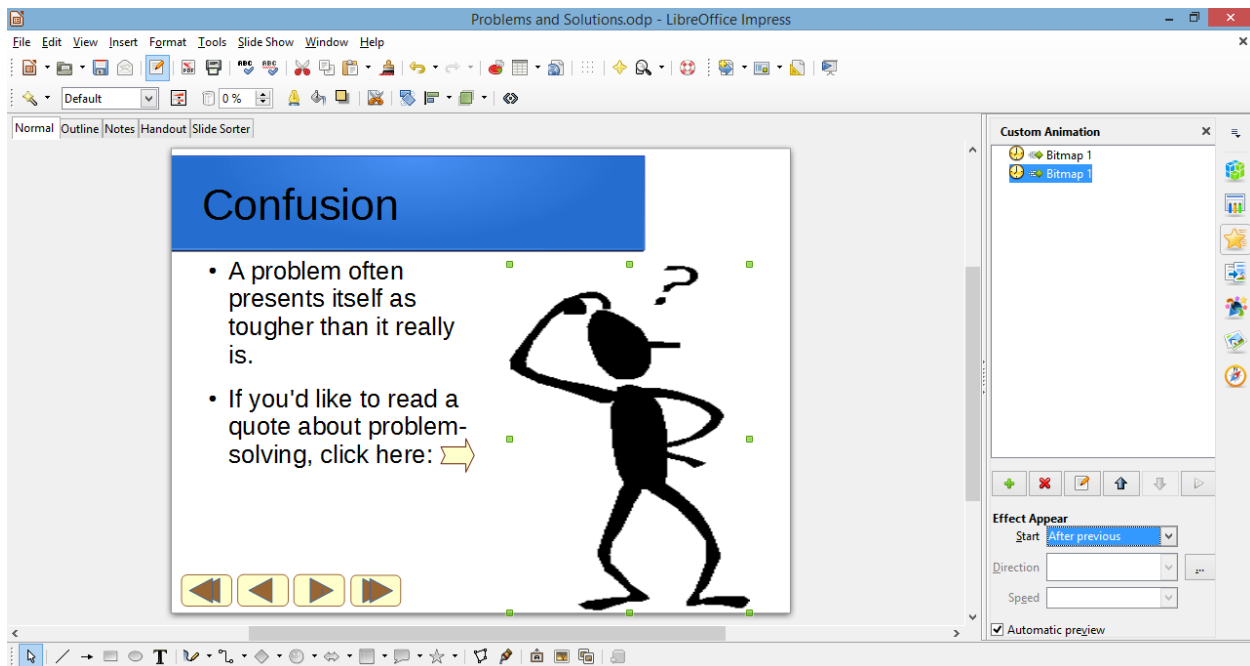


Fig. 10.23 Effect section > Start data entry menu

To check out the animation, go to the **Slide Show menu > Start from current Slide** and watch as *Impress* gives you a demo of the effect

In the **Slide Sorter View**, switch to **Slide #4** and take a few minutes to preview a few other **animations** to get a feel for what is available

When you are done experimenting, go from **Slide #4 to Slide #10** and, for each Screenbean figure, select any one of the **Animations** you like, then, in the **Effect Appear** section, select the option to **Start > After Previous**

When you are done selecting animations for all the Screenbean figures, **Save** the presentation, then go to the **Slide Show menu > Start from current Slide** to check out the Problems and Solutions presentation once again

Pretty cool. So *Impress* makes it easy for you to experiment with different schemes, try them out, remove them if you don't like them, and start over—all part of the design process.

In the **File** menu select **Close**

You can change any sequence, and you can also sequence the items to come onto the screen all at once, and so forth. There will be occasions when you will want to alter the sequence because, for example, you may decide that you want to talk about one topic ahead of another. Also, you may want the presentation to be presented as a running display in a conference room or in the lobby of a building.

Bear in mind that it's not a good idea to apply Animation Schemes everywhere, on all the slides. Animations are best used sparingly, to highlight specific ideas, or to spice things up in a presentation. But too much spice can overwhelm a presentation and take away from its enjoyment or effectiveness.

10.4 Interactive *IMPRESS* AT WORK

Let's start by looking at an example of an interactive *Impress* presentation.

You should still have the **Work Files for LibreOffice** folder available in the USB port on your computer, so

in the **File** menu select **Open**

Navigate (Browse) on your computer to your **USB drive > Work Files for LibreOffice > Impress Files** folder, then **double click** to open the **Mammal Test** presentation

You're going to examine the *Mammal Test* interactive presentation which has been prepared for you and which will demonstrate the various features of what makes a presentation interactive and non-linear.

In the **Slide Show** menu select **Start from first Slide** to view the presentation

Follow the directions to move through the slides—be sure to **click on the answers** when indicated

Answer at least one question *incorrectly* so you can see how the presentation takes you back to re-answer a question should you get it wrong

Make sure your speakers are turned up so you can hear the **sound**, and notice the **clip art** and **animations** that are added to this show

Features to look for in the demonstration presentation

General layout of an interactive presentation used for assessing knowledge

Think of a test in your classroom. You start with a title on your test, so the students know what subject matter the test is on and who wrote it. Then you have an introduction, which might further define the subject matter for the test. Alternatively, if used as a review, the introduction might summarize the concept being tested.

A good interactive slide show thus begins with a *title* and an *introduction slide* (Fig. 10.24).

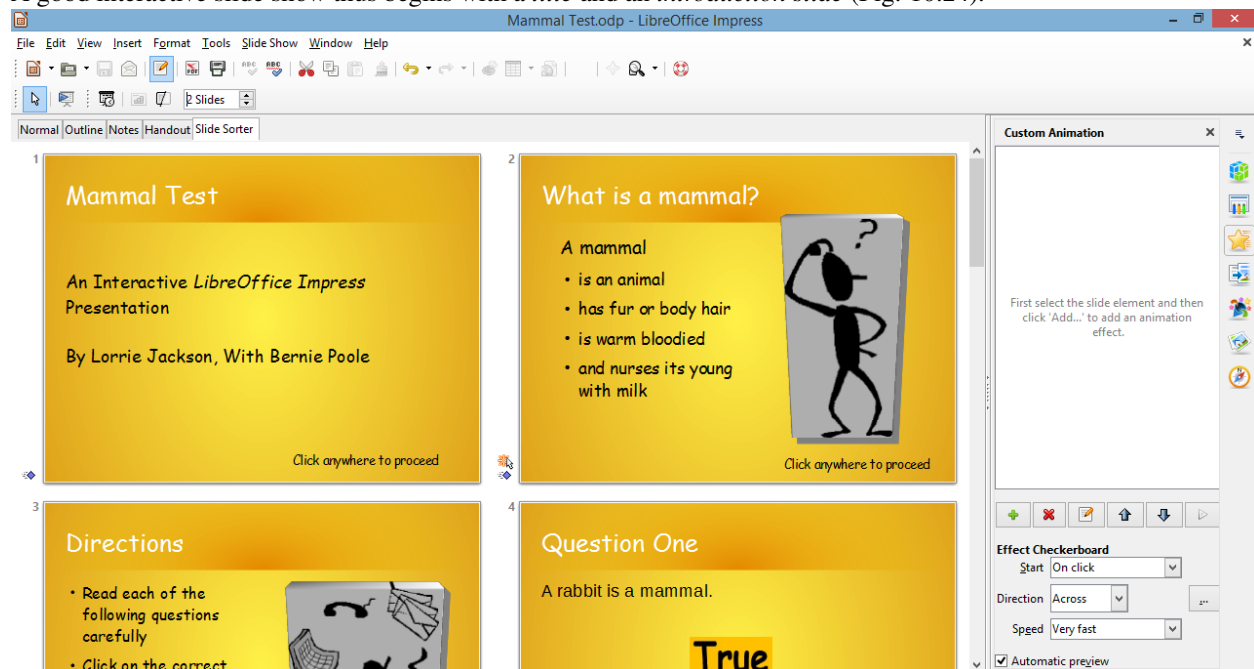


Fig. 10.24 Title and Introduction Slides

You then move to the set of directions which tell the user how to complete the test. The test questions follow right on after the directions.

An effective interactive slide show should have a *directions slide* because a good teacher never assumes that all the students know how to take a particular test. After the directions come the *question slides*, which contain the questions themselves and the options for answers (Fig. 10.25).

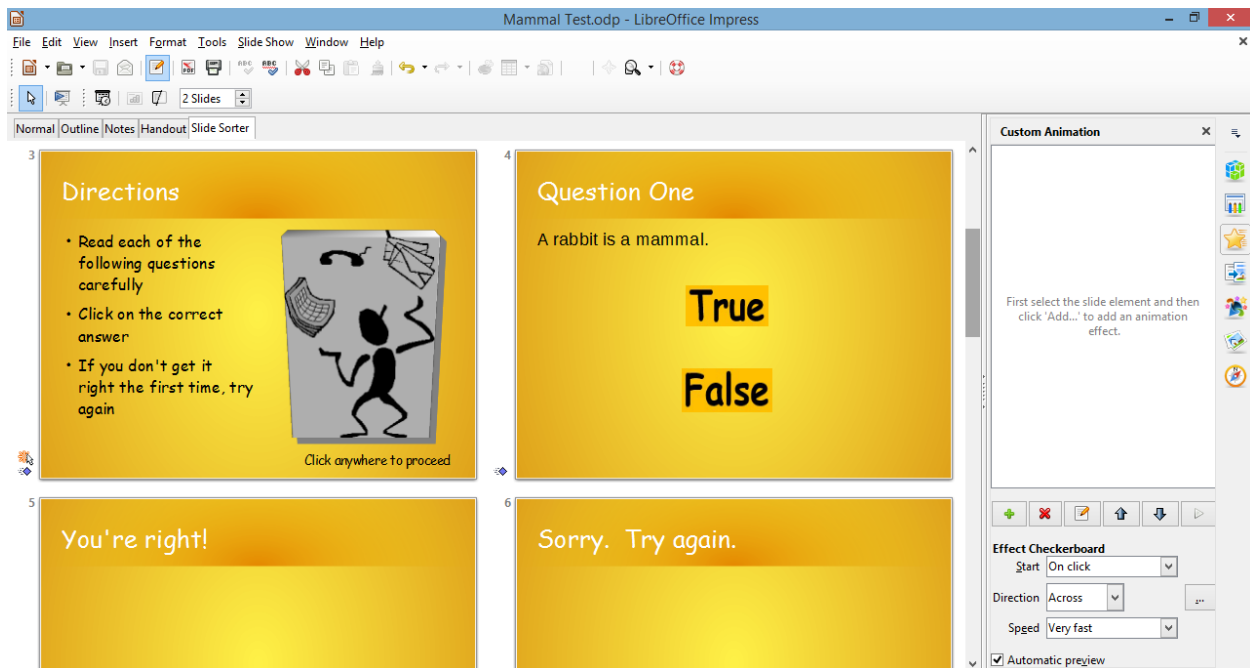


Fig. 10.25 Directions and Question One Slide

An interactive *Impress* presentation has the same elements as any *Impress* presentation, with one significant difference: it has *question slides* and *feedback slides*. In your class, you grade papers and return them, giving the students feedback on their answers.

So, in the Mammal Test slide show, we have *feedback* slides that tell the user “You’re Right” or “Sorry. Try Again.” (Fig. 10.26).

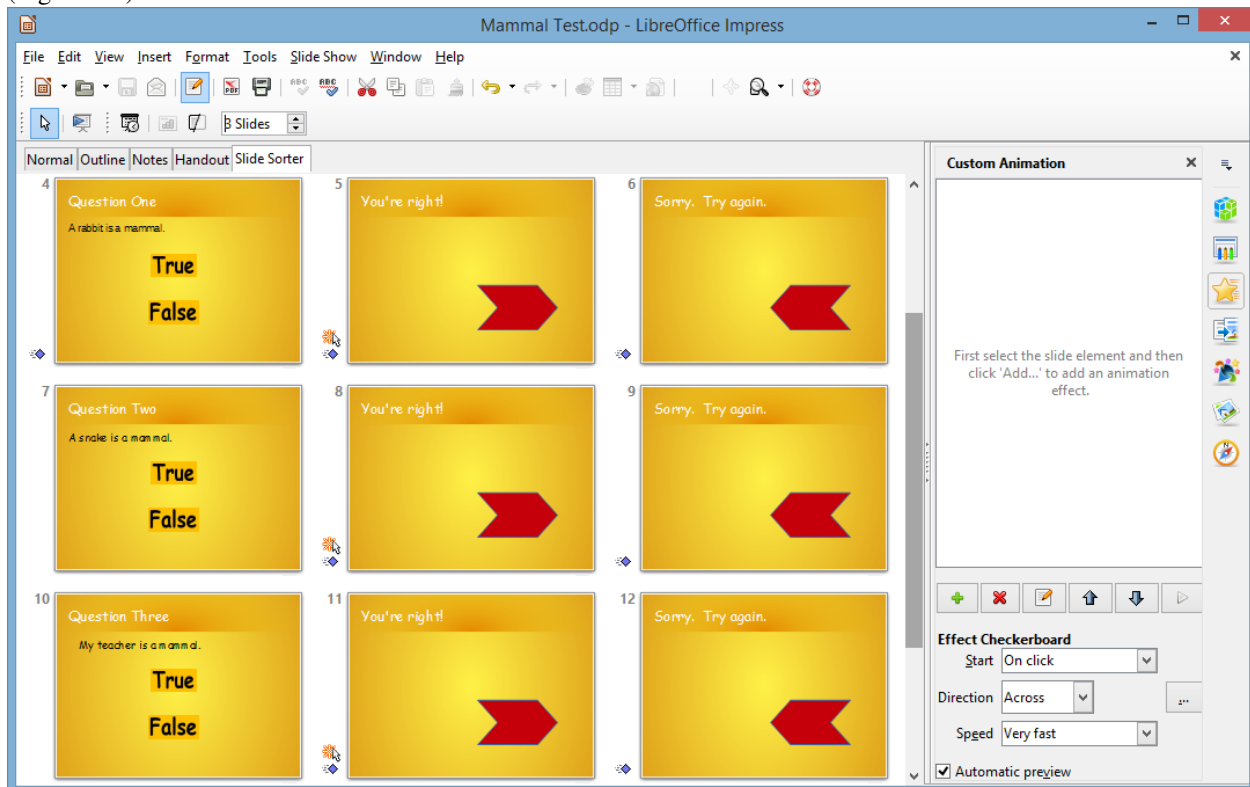


Fig. 10.26 Question and Feedback Slides

Lastly, in an interactive *Impress* presentation it's appropriate to have a *concluding slide* which tells the students they're done, followed by an *Acknowledgements* slide (Fig. 10.27).

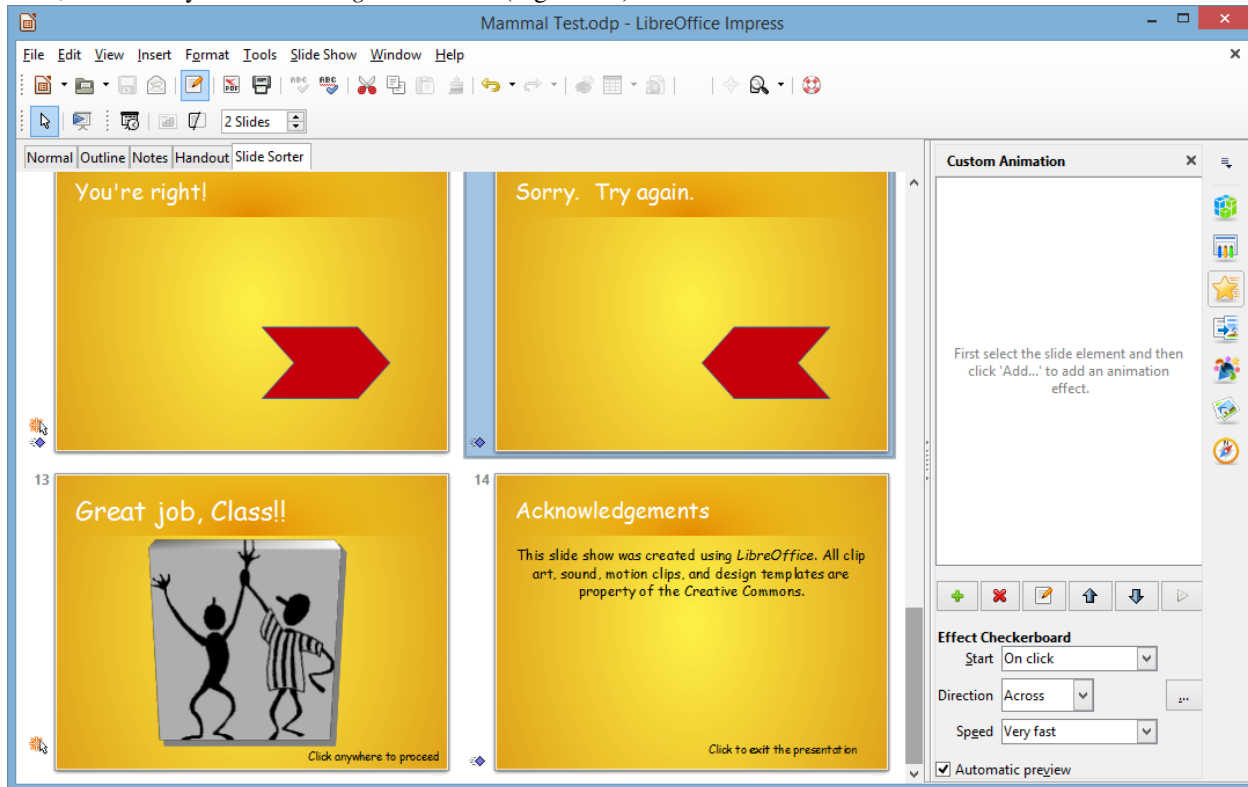


Fig. 10.27 Ending and Acknowledgment Slides

In this way, you set good precedent for citing sources, and you also clue your audience to the fact that it's over! We'll talk more about the layout of an interactive *Impress* slide show as you begin creating your own.

Slide Controls and Hyperlinks

In order to move outside the linear box of traditional *Impress* presentations, we've used *Slide Controls* and *Hyperlinks*. Slide Controls are the buttons that control your progress from slide to slide as you work through the presentation. In the case of the Mammal Test presentation, they let you either move on to the next question or re-answer the previous one.

An *Impress* hyperlink, on the other hand, links you directly to a location outside the presentation; if you are on the Web, the hyperlink takes you from one Web site to another, or from a website to your email program. If you are in an *Impress* presentation, the hyperlink might take you from a slide to your E-mail program, or from a slide in your presentation to a page on the Web.

Notice the transitions and animations in the Mammal Test presentation. The presentation has a simple, clean style—no excessive bells and whistles; just enough to keep the users' attention.

So much for an overview of using an interactive *Impress* presentation. It's time to create your own interactive quiz.

Click anywhere to **exit** the slide show, then **close (File**

Close) the **Mammal Test** presentation when you are ready to continue with the tutorial

10.5 BUILDING AN INTERACTIVE, NON-LINEAR PRESENTATION

You are going to use *Impress* to prepare a Class Test about the U.S. states and capitals, which will give you the experience to prepare more detailed interactive tests on your own.

Open **LibreOffice** and go to **Create > Impress Presentation** to start a new slide show

You should always immediately save a new document; this allows you to give the document a name, as well as the opportunity to save it in a location you want on your disk drive (so that can more easily find it again later!).

Go to **File > Save As** and, in the Save As dialog box, navigate to your **USB Drive > Work Files for LibreOffice**

Data Files > Impress Documents folder

Give the new presentation the name **States and Capitals Quiz**, and click on **Save**

It is usually a good idea to create the text outline for your slides before you select a template for your design theme, slide transitions, animations and so forth. This is because different templates have different slide layouts (bigger title boxes, less room for bulleted lists, and so on). So you will want to get a feel for what will be the text on each slide, before you proceed with design considerations.

This brings to mind a good rule of thumb when creating anything that is designed to provide information for the purpose of effective communication: *Substance Before Style!* Or, to put it another way, *Content Counts!* Keep this in mind when developing any *Impress* presentation.

get to work

Title slide, Intro slide and Directions slide

Fig. 10.28 a-c illustrates the content you will be entering for the first three slides. Follow the directions on the next page to complete this first part of the exercise.

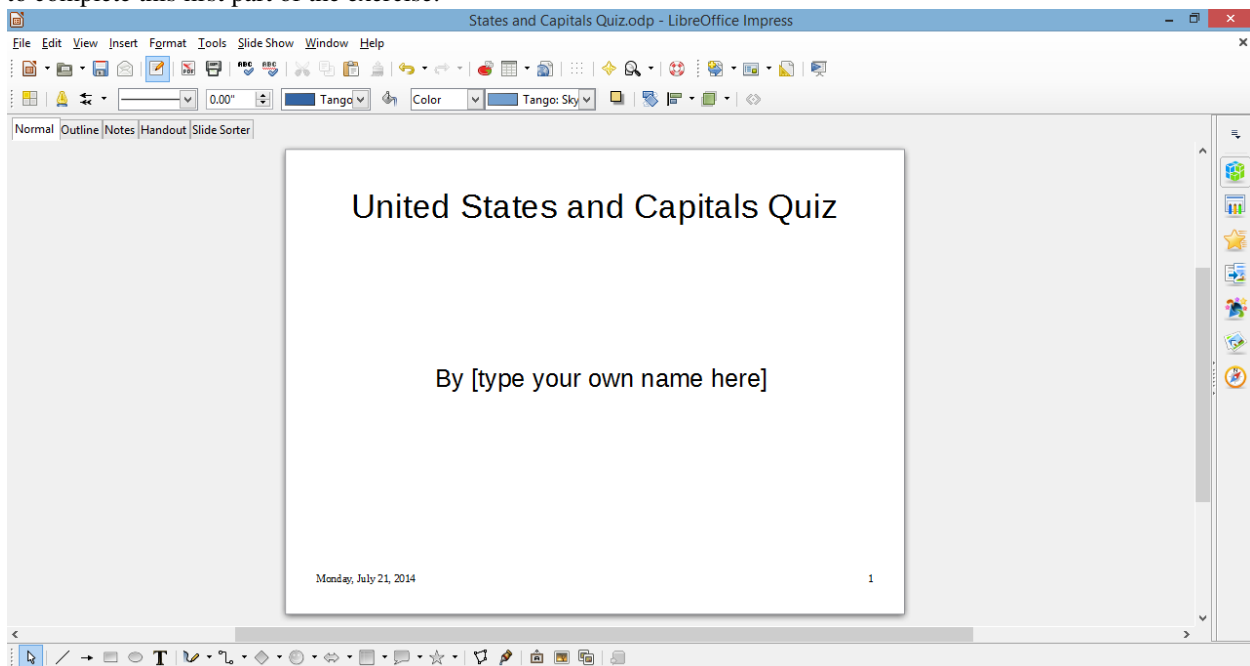


Fig. 10.28a Content for Slide 1

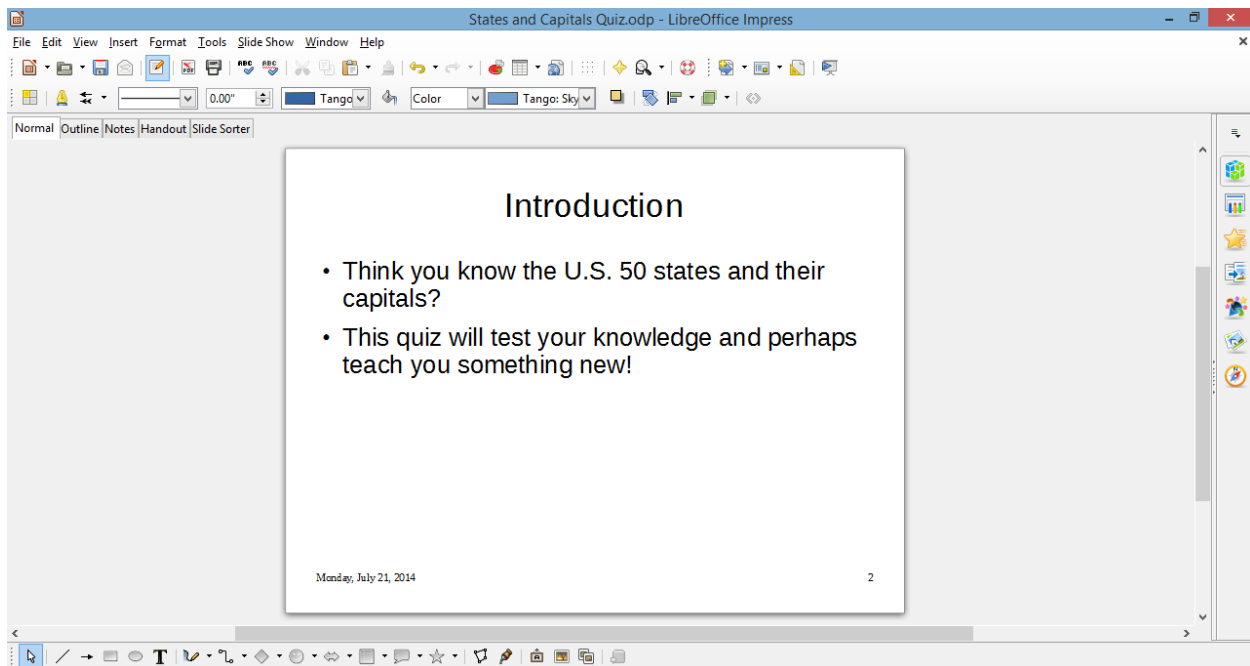


Fig. 10.28b Content for Slide 2

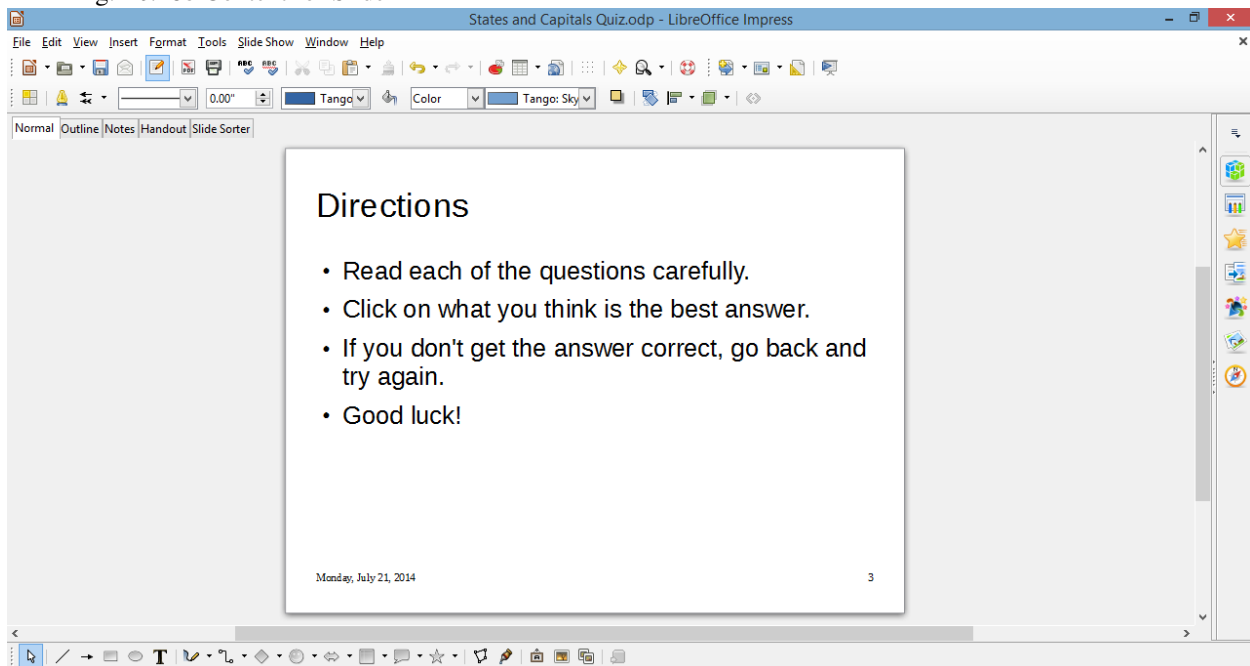


Fig. 10.28c Content for Slide 3

For this presentation you'll enter the text directly onto each slide using the *Normal View* (Fig. 10.29).

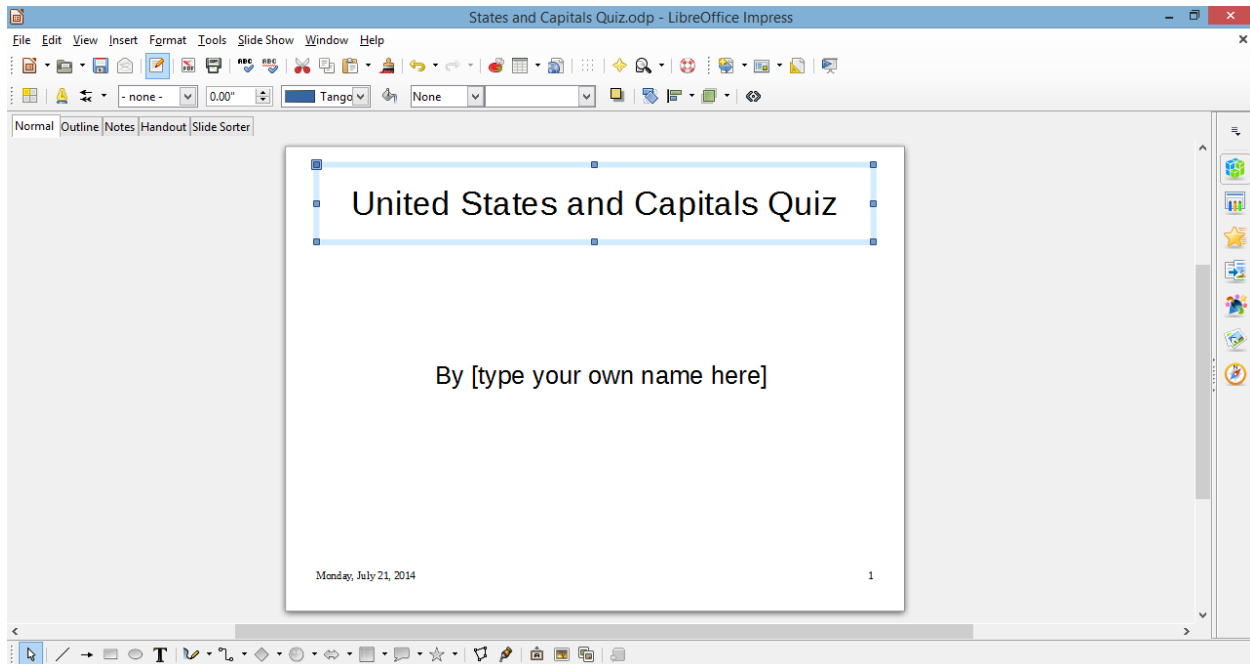


Fig. 10.29 Enter the text directly onto the slide

Entering data directly onto slides can be tricky because you have to be careful how you use the *Enter* and *Tab* keys, so follow the directions carefully.

The default layout for the first slide in any new *Impress* show is always a Title slide.

In **Normal View**, click inside the **Title box** (Fig. 10.29 above) and type **U.S. States and Capitals Quiz**, then hit **Ctrl-Enter** to move the **cursor** down to the **sub-title** box

Hit the **backspace** key to get rid of the **bullet**, in the formatting toolbar click on the **Center alignment** icon, then type, **By _____** (type your name in the blank)

The sub-title *By _____* (your name) should now be in the sub-title box of your first slide.

Now, in the **Insert menu** select **Date and Time...** to bring up the **Date and Time dialog box** (Fig. 10.30)

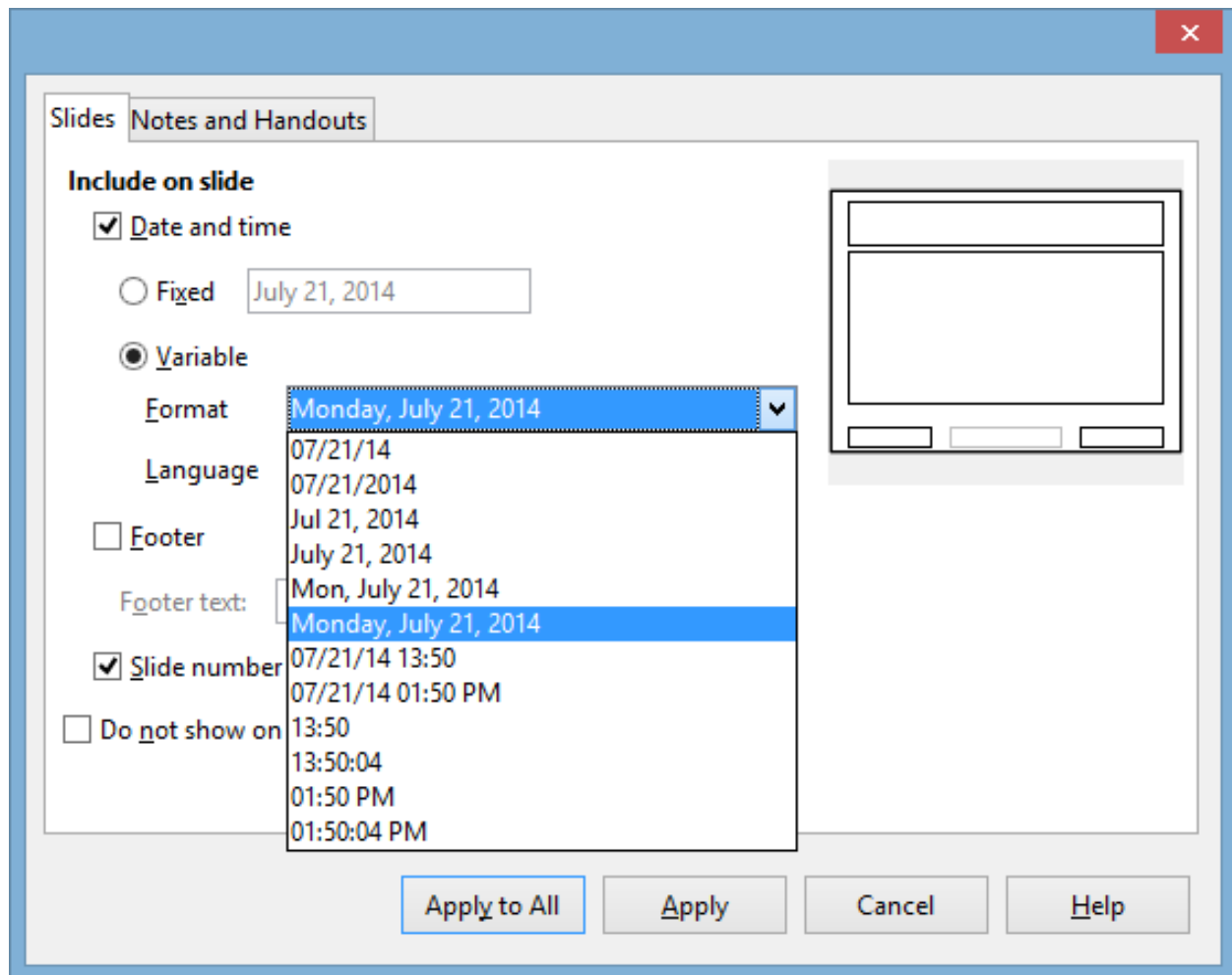


Fig. 10.30 The Date and Time dialog box

In the **Date & Time** dialog box, click to put a **check mark** next to **Date and Time**, then click on the **radio button** next to **Variable** and, in the drop down menu of **date/time formats**, select the format indicated in Fig. 10.30

Click to put a **check mark** next to **Page number**, then click on **Apply to All**

In **Slide Sorter View**, right click immediately to the **right** of **Slide #1**, **right click** on the mouse, and then click on the **New Slide** button that pops up to start a **new slide**

The default Slide Layout for the first slide in a presentation is *Title slide*, but you want a different, *Title, Content*, layout for Slide #2.

Right click on the **new slide** and, in the **context menu** that pops up, select **Slide Layout** to bring up the menu of **Slide Layouts** in the pane on the **right side** of the *Impress* window

You want the **Title, Content** layout for Slide #2 and subsequent slides, so, in the **menu of Slide Layouts**, click on the **thumbnail** for **Title, Content** layout

Get to know the Keyboard Shortcuts

Notice that *Ctrl-Enter* moves the cursor to the next text box on a slide. You hit *Enter* only when you want to advance to the next line *inside* the text box where you're typing text.

Continue to type the information for the **next 2 slides** (see **Fig. 10.28b** and **10.28c** above on pages 298 and 299)

As you just did for the previous two slides, press *Ctrl-Enter* to move from one text box to the next (for example, from a slide's Title box to the Text box that has its bulleted list).

Get used to using these keyboard shortcuts rather than clicking in each textbox. For the more experienced user, *Keyboard Shortcuts* are a faster way to go.

Question and Feedback slides

Next you are going to type the 5 Question and Feedback slides—Slides 4-8 (Fig. 10.31a and b).

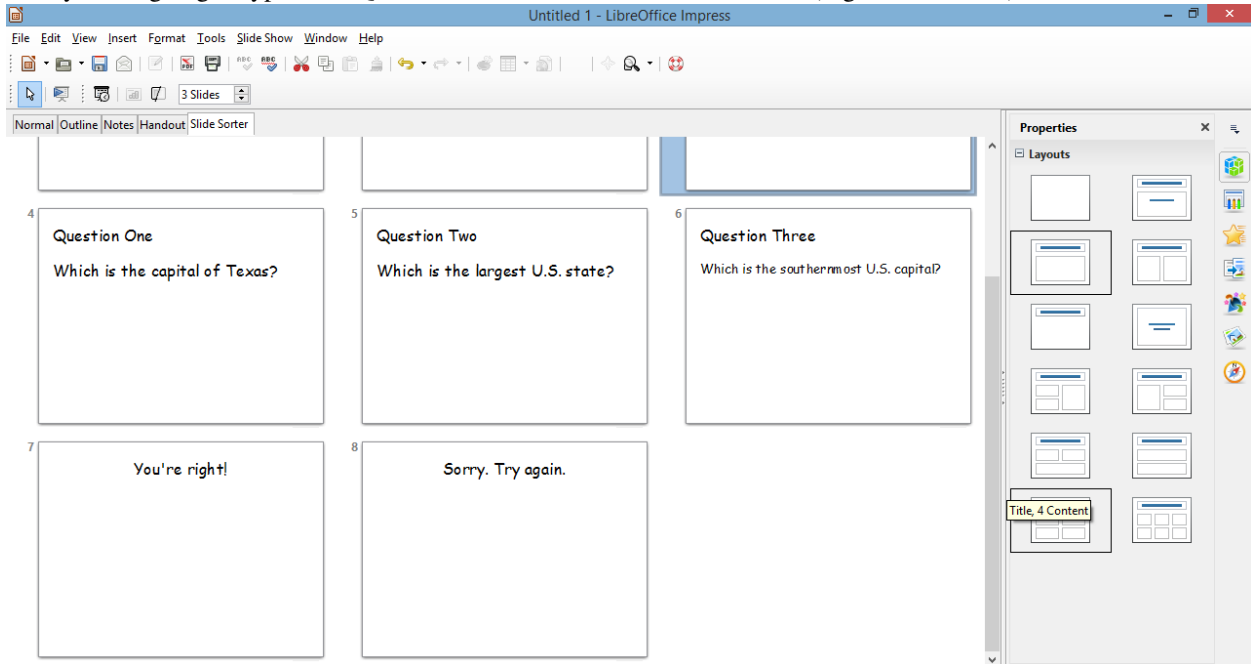


Fig. 10.31a Content for Slides 4, 5 and 6

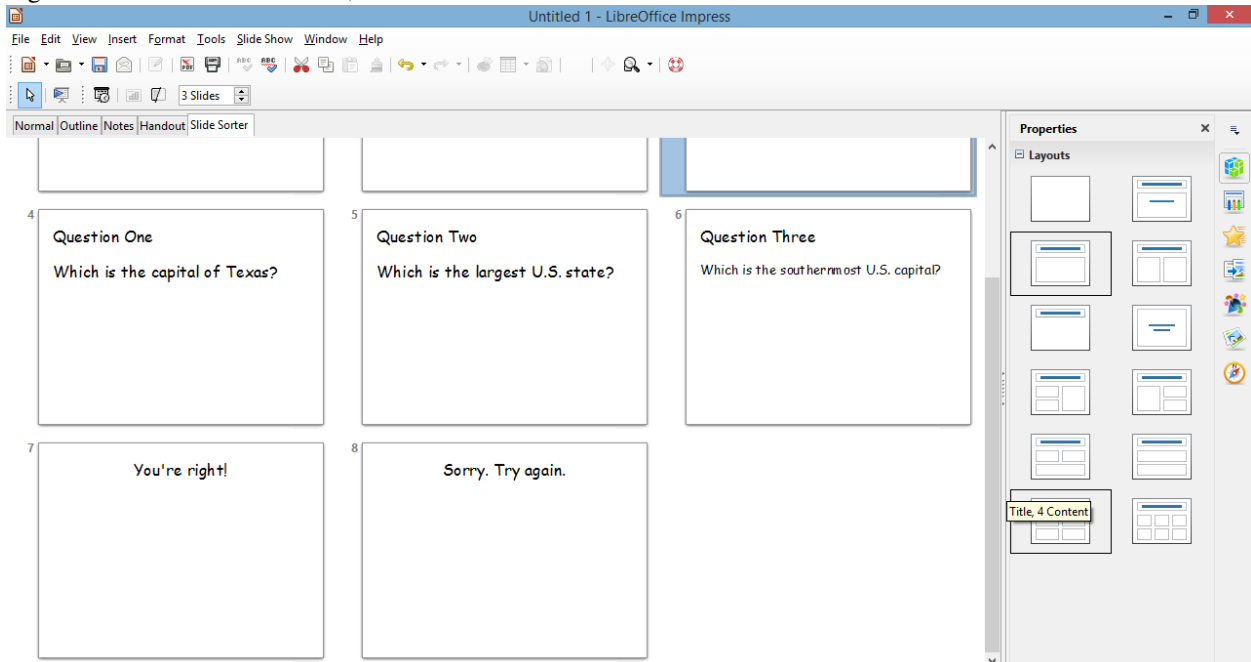


Fig. 10.31b Content for Slides 7 and 8

If you are an experienced user of the Microsoft *Office* programs such as *Word*, and if you already have completed the

introductory *Impress* tutorial (Lesson 9), you should be able to carry out the following tasks without step-by-step help. However, in case you need guidance, here are the directions for the first test question slide.

Click on the tab for **Normal View**, then, with the cursor waiting in the **Title box** for **slide #4**, in the **Formatting toolbar** click on the **Left alignment** icon

Now type the title **Question One**, then hit **Ctrl-Enter** to skip to the **text box** below the Title box

You need to remove the Bullet at the beginning of the new line. This is simple enough.

Before you start typing the first question (*Which is the capital of Texas?*), in the **Formatting toolbar** click **once** on the **Bullets On/Off** icon (Fig. 10.32) to **remove the Bullet** at the beginning of the line, then type the question: **Which is the capital of Texas?**

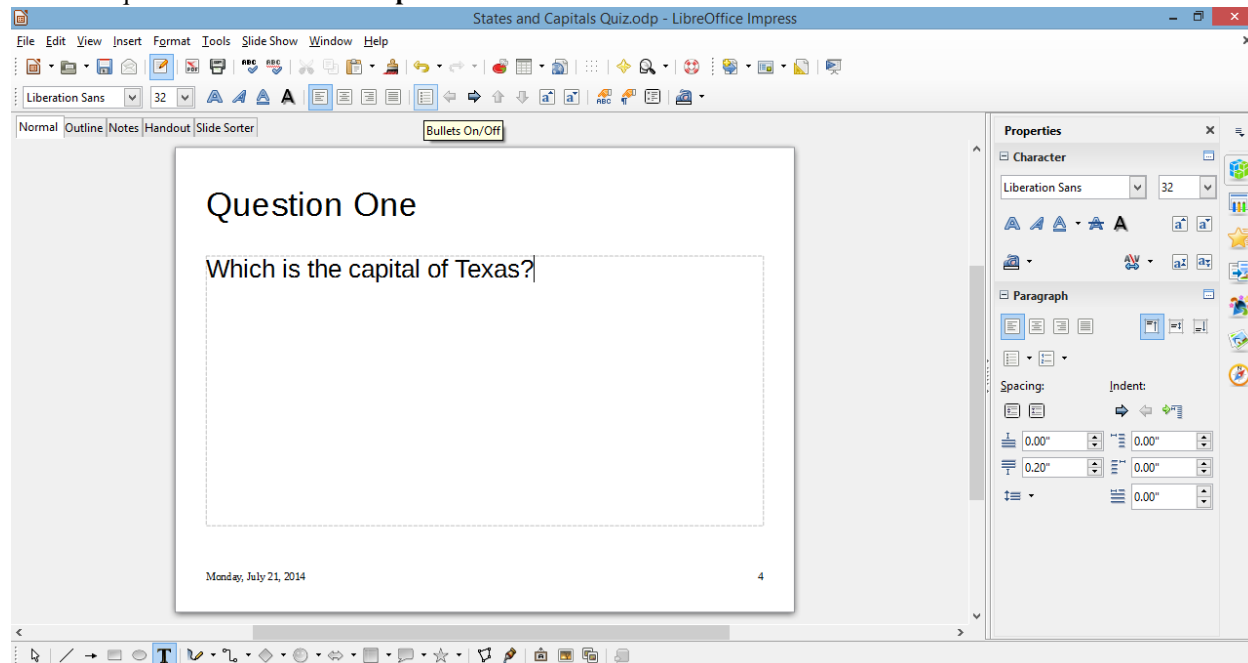


Fig. 10.32 The Bullets on/off icon in the Formatting toolbar

Follow the same directions to complete the entries now for **slides #5 and #6**, then **Save** your work

Now that the Titles and Questions are on the question slides, you next need to type the content for the two feedback slides (see slides 7 and 8 in Fig. 10.31b on the previous page).

Click on the **Slide Sorter View**, **right click** after Slide #6 and click on the small dialog box to start a **New Slide (Slide #7)**, then **double click** on the new slide to **open it in Normal View**

You need to change the *layout* of the feedback slides, because all you need on them for now is a *Title box*. Fortunately, *Impress* has a layout called *Title Only*.

In the **Slide Layout** menu on the right side of the window, select the layout for **Title Only**

Now go ahead and, in the **Title box** for **slide #7**, type **You're Right!**

Create a **new slide #8**, which will again have a **Title Only** layout, and, in the **Title box** for **slide #8**, type **Sorry. Try again.**

Next, you must place a copy of these two feedback slides after each of the other question slides. Copy and Paste is the easiest way to do this.

In **Slide Sorter View**, click on **slide #7**, hold down the **Shift key** and at the same time click on **slide #8** to **select both slides at once**, then hit **Ctrl-c** on the keyboard to **copy** these two slides to the **clipboard**

Now, with **slides #7 and #8** on the **clipboard**, click between **slides #4 and #5** and hit **Ctrl-v** to **paste** the two answer slides **between them**; so what was slide #5—**Question Two**—will be bumped to **slide #7** (Fig. 10.33)

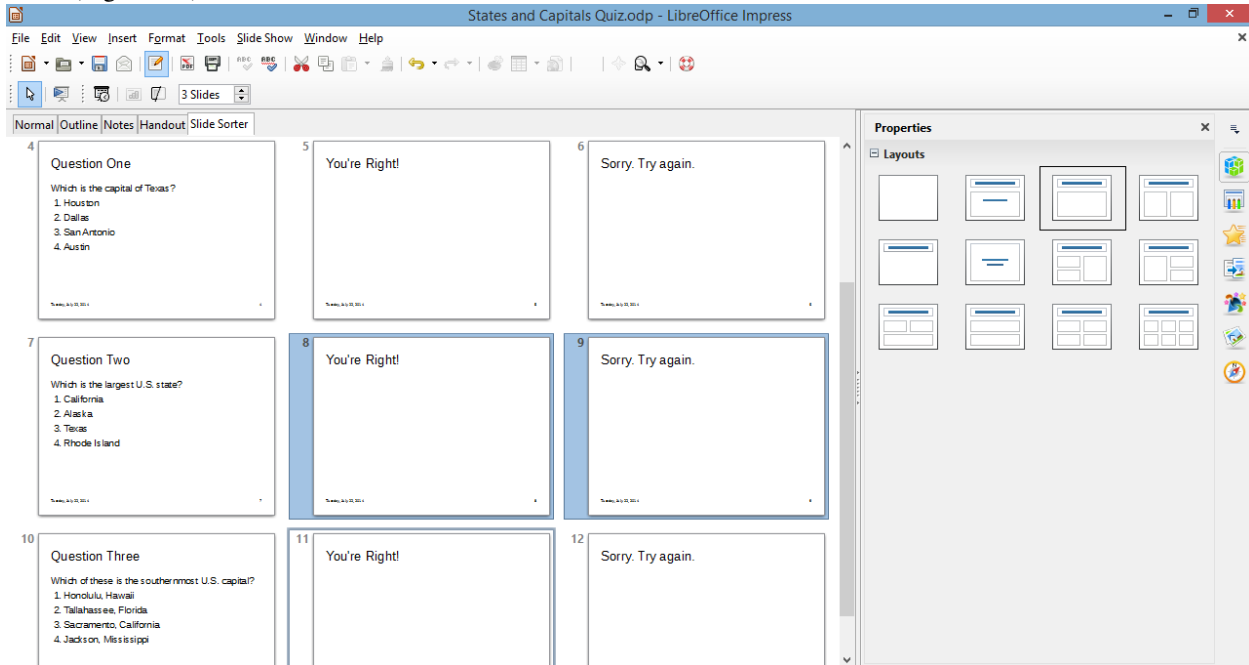


Fig. 10.33 The full set of Question and Answer slides

Do the same thing to **Paste** the answer slides right after what will now be **slide #7**, then **Save** your work once more before going on

The States and Capitals Quiz *Impress* now has 12 slides—the three introductory slides and the nine question and answer slides.

For any *Impress* show, it is important to have a slide that signals the end of the main body of content (such as the end of testing in the case of our show). *Impress* presentations shouldn't end abruptly. Also, it is important to give credit where credit is due.

So, at the conclusion to most any slide show you should include an Acknowledgements slide. These are your next two tasks.

Create **two new slides** (Slide #13 and Slide #14); **Slide #13** will be **Title Only** layout and **Slide #14** will be **Title, Content** layout

Type the content for **slides #13 and #14** as illustrated in Fig. 10.34, then **Save** your work again

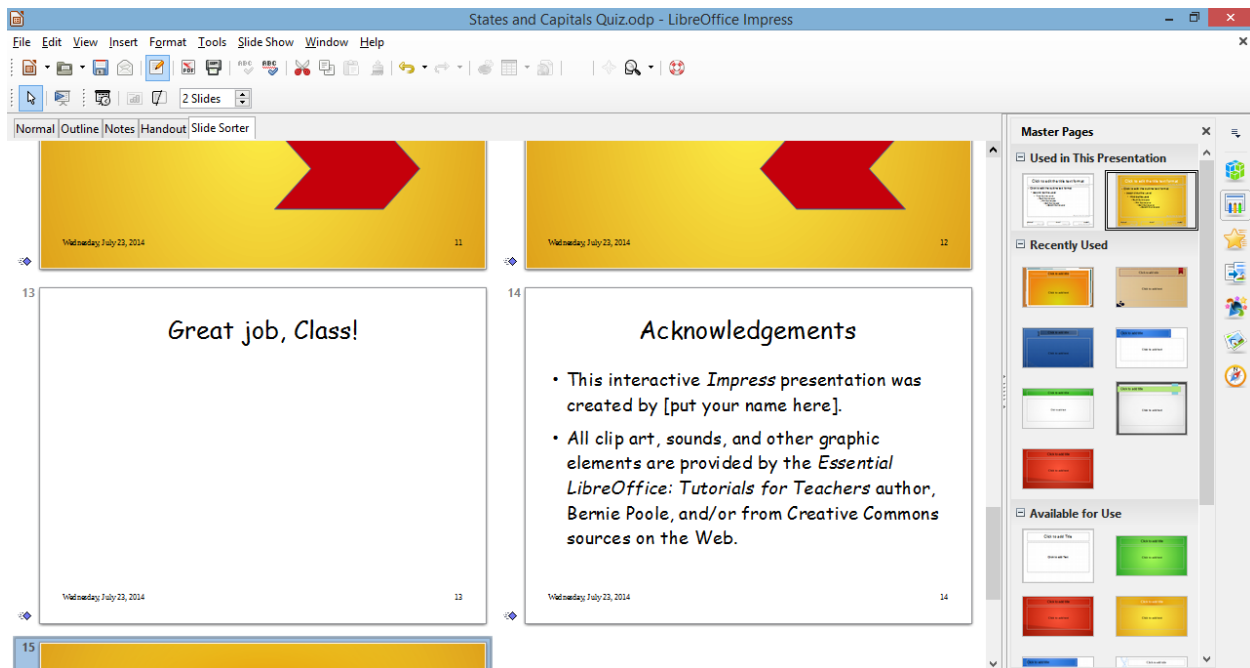


Fig. 10.34 End of Test and Acknowledgement Slides

10.6 MAKING THE PRESENTATION INTERACTIVE

You are now going to tackle the two trickiest steps in this lesson. They are:

1. Creating four hyperlinking Slide Controls on each of the three *Question slides* which the user will click on to indicate his or her answer to the question.
2. (a) Creating a Slide Control on each of the six *Feedback slides* that will hyperlink to the appropriate Question slide.
- 3.

Creating Text Objects for the Slide Controls on the Question slides

A Text Object is text that has been converted into a *LibreOffice* Object so that it can be used as a hyperlink and can also be animated, just the same as any image.

Let's do the first Question slide together (Slide #4), and then you'll know what to do for the other two question slides (Slides #7 and #10).

In **Slide Sorter View**, **double click** on **Slide #4 (Question One)** to **open** it in **Normal View**

In the **Drawing toolbar** at the bottom of the window, click on the **Rectangle tool** to select it, then draw a **rectangle** about 1/2" below the Question and **centered** on the slide (Fig. 10.35)

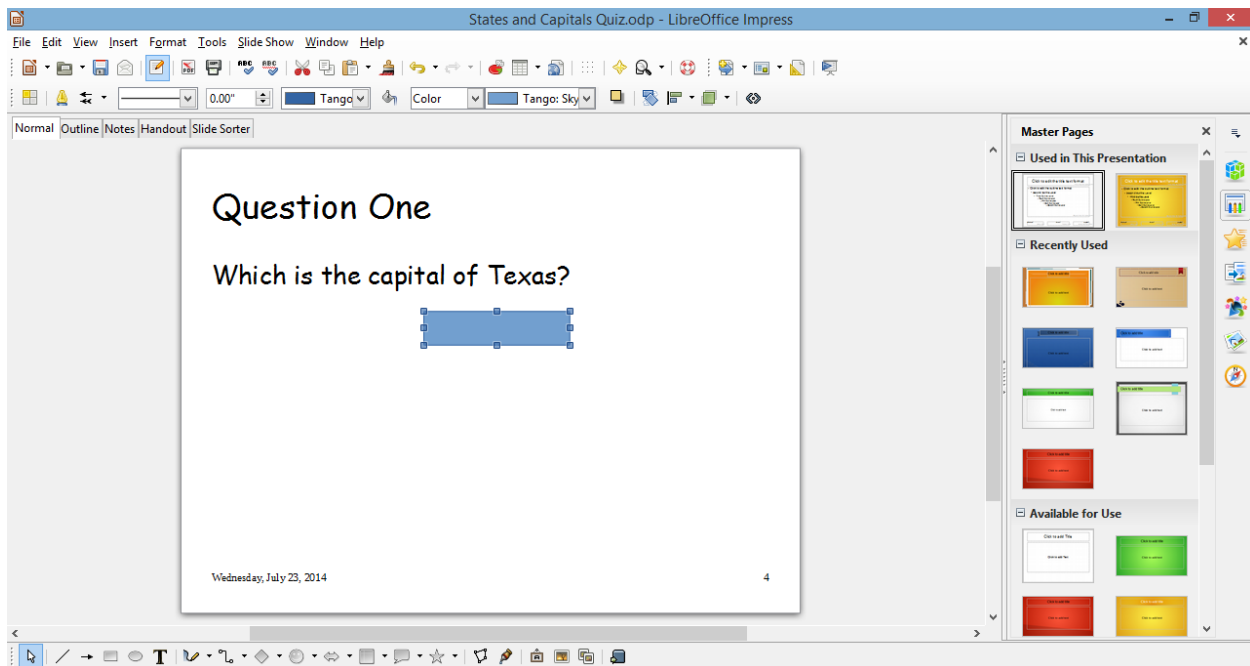


Fig. 10.35 Draw a rectangle about ½” below the Question

With the **rectangle** still **selected**, hit **Ctrl-c** to copy it, then hit **Ctrl-v** to paste the copy back onto the slide (for reasons best known to itself, *LibreOffice* pastes the copy directly on top of the original, so you’re not aware of anything having been done—but the copy is there!)

Use the **arrow keys** on the keyboard to slide the copy down below the original, so that now you have **two identical rectangles** on the slide (Fig. 10.36)

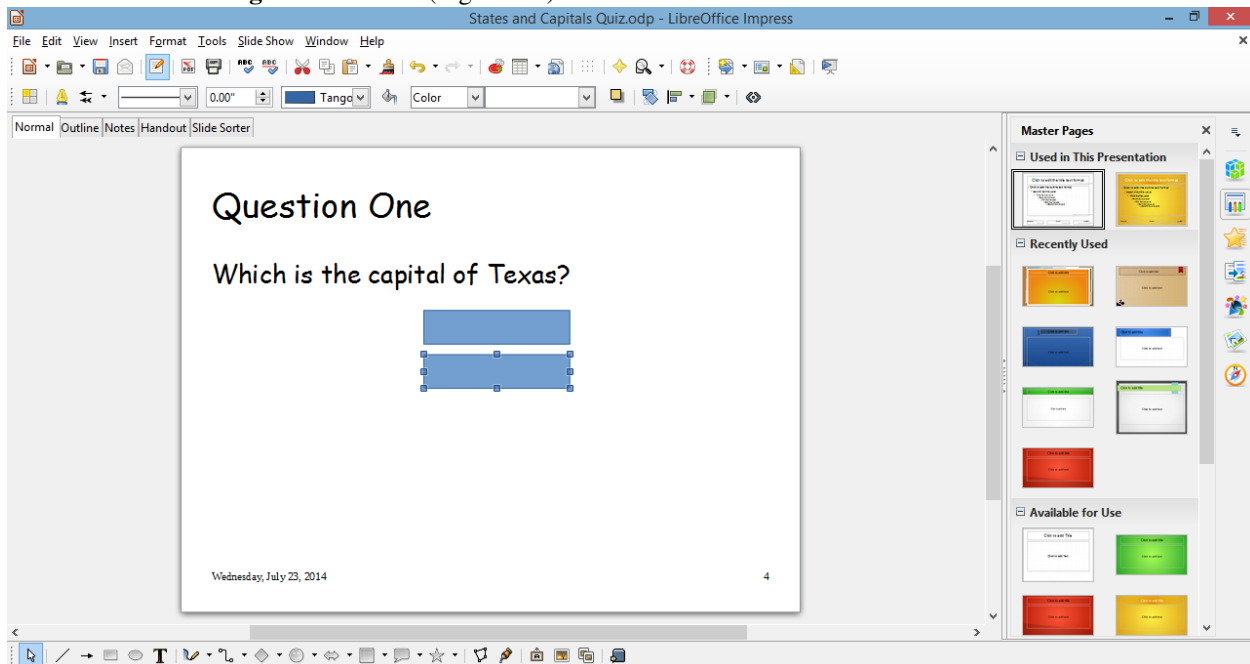


Fig. 10.36 The two identical rectangles on Slide #4

Now use the **Select tool** (left end of the Drawing toolbar) to **drag to select both rectangles**, hit **Ctrl-c** to copy them, then hit **Ctrl-v** to paste the copies back onto the slide, and use the **arrow keys** to slide the

copies down below the originals, so that now you have **four identical rectangles** on the slide (Fig. 10.37)

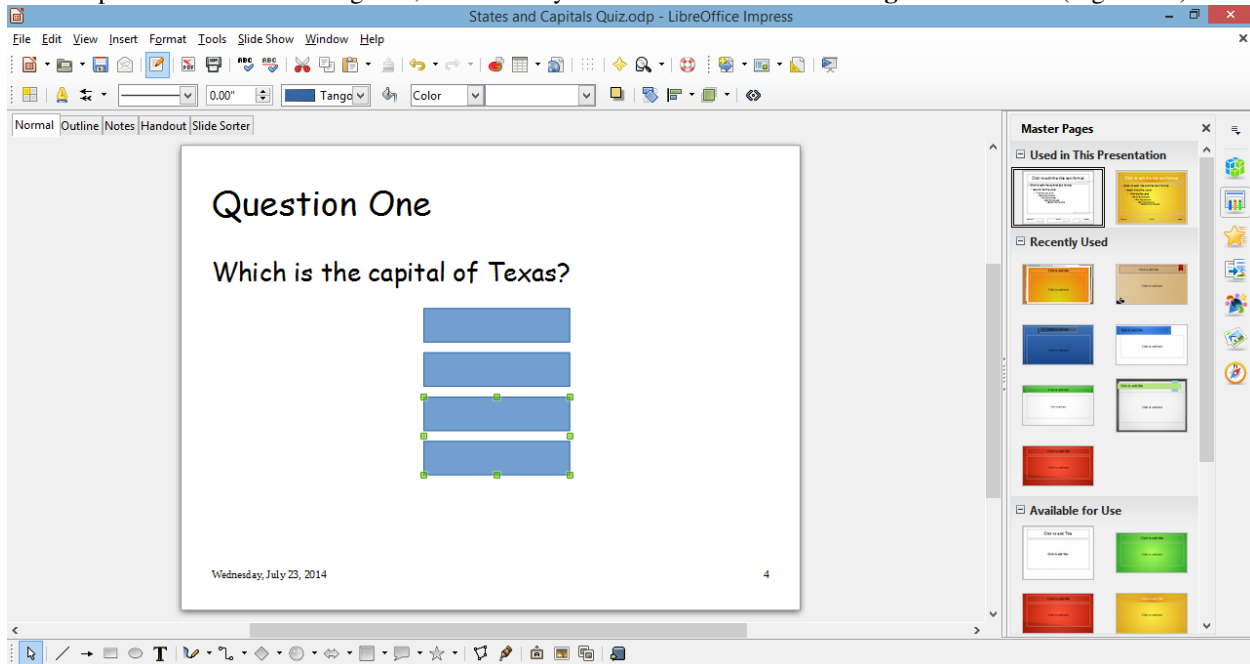


Fig. 10.37 The four rectangles ready for processing into Text Objects

At this stage it will be a considerable time saver if you copy the four rectangle shapes and paste them onto the other two Question slides—Slide #7 and Slide #10.

Use the **Select tool** again to **drag to select all four rectangles**, and hit **Ctrl-c** to copy them

In **Slide Sorter View**, **double click** on **Slide #7** to **open** it in **Normal View** and **paste** the **four rectangles** directly onto the slide

Do the same for **Slide #10**, then **Save** your work

Now for the conversion of the Rectangles into Text objects. We'll do this together for Slide #4, then you can follow the same steps yourself to convert the rectangles on Slide #7 and Slide #10.

1. In **Slide Sorter View**, **double click** on **Slide #7** to **open** it in **Normal View**, then **double click** on the **first rectangle** and type the first Answer: **Houston**
2. **Double click** on **Houston** to **highlight** it and, in the **Text formatting** toolbar, **increase** the **Font Size** to **28 pt**
3. Next, **double click** on the **second rectangle** and type the second Answer: **Dallas**, then **double click** on **Dallas** to **highlight** it and, in the **Text formatting** toolbar, **increase** the **Font Size** to **28 pt**
4. Next, **double click** on the **third rectangle** and type the third Answer: **San Antonio**, then **double click** on **San Antonio** to **highlight** it and, in the **Text formatting** toolbar, **increase** the **Font Size** to **28 pt**
5. Finally, **double click** on the **fourth rectangle** and type the fourth Answer: **Austin**, then **Double click** on **Austin** to **highlight** it and, in the **Text formatting** toolbar, **increase** the **Font Size** to **28 pt**

Better **Save** your work again, then follow the five (5) steps above to enter the Answers for Slides #7 and #10

The answers for Slide #7 are as follows:

California

Alaska

Texas

Rhode Island

The answers for Slide #10 are as follows:

Hawaii**Florida****California****Mississippi**

Over to you. Don't forget to save your work when you're done.

Linking the Text Objects to the appropriate Feedback Slides

Now you must revisit each of the four *Answers* on the three Question slides to tell *Impress* which slide the Answer should *link* to after it is clicked. This is where it gets tricky. If the answer the student chooses for each question is *correct*, the link must send him or her to the *You're Right!* Slide, and move on to the next question; if the answer is *incorrect*, it must send him or her to the *Sorry. Try again.* Slide, and return him or her back to the original question to try again.

If you've never done anything like this before, the best way to understand the process is to *do* it. So here goes!

In **Slide Sorter View**, **double click** on **Slide #4 (Question One)** to open it in **Normal View**, then **right click** on the **Houston** button and, in the **Context menu**, select **Interaction...**

This brings up the Interaction dialog box (Fig. 10.38).

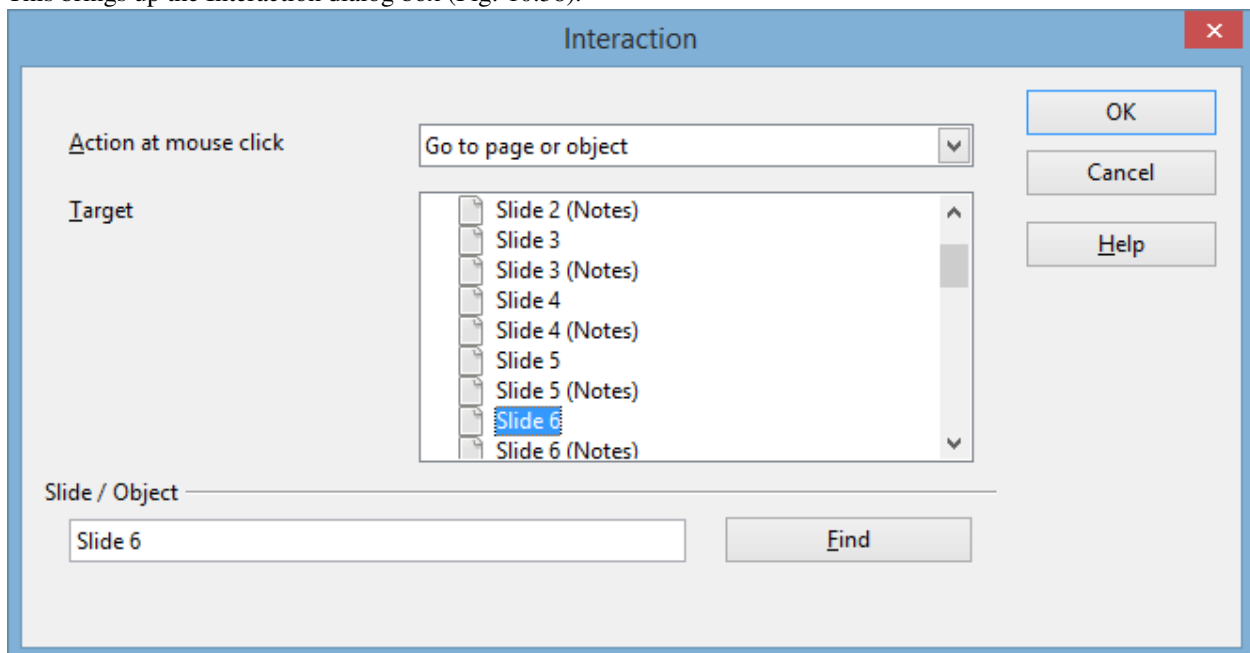


Fig. 10.38 The Interaction dialog box

Houston, the first possible answer, is the *wrong* answer; it is NOT the capital of Texas. So we want the student to be linked to the feedback slide that says the answer is *wrong*.

In the **Action at mouse click** entry box, click on the **down arrow** to bring up the **menu of options** and select the option to **Go to page or object**, then click on **Slide 6** and click **OK**

Repeat these steps for the answers **Dallas** and **San Antonio** (also wrong answers)

Now, highlight **Austin** (the correct answer)

Since Austin is in fact the capital of Texas, we want to link that answer to Slide #5, the feedback slide that states that the correct answer has been selected.

Right click on the **Austin** button and, in the **context menu**, select **Interaction...** and hyperlink to **Slide 5**

Now you need to put a Slide Control button on each of the Answer slides (Slides 5 and 6).

With **Slide 5** selected in **Normal View**, in the **Drawing toolbar** at the bottom of the window click on the **Block Arrows** icon to bring up the **set of Block Arrow shapes** and click to select the **Chevron shape** (Fig. 10.39)

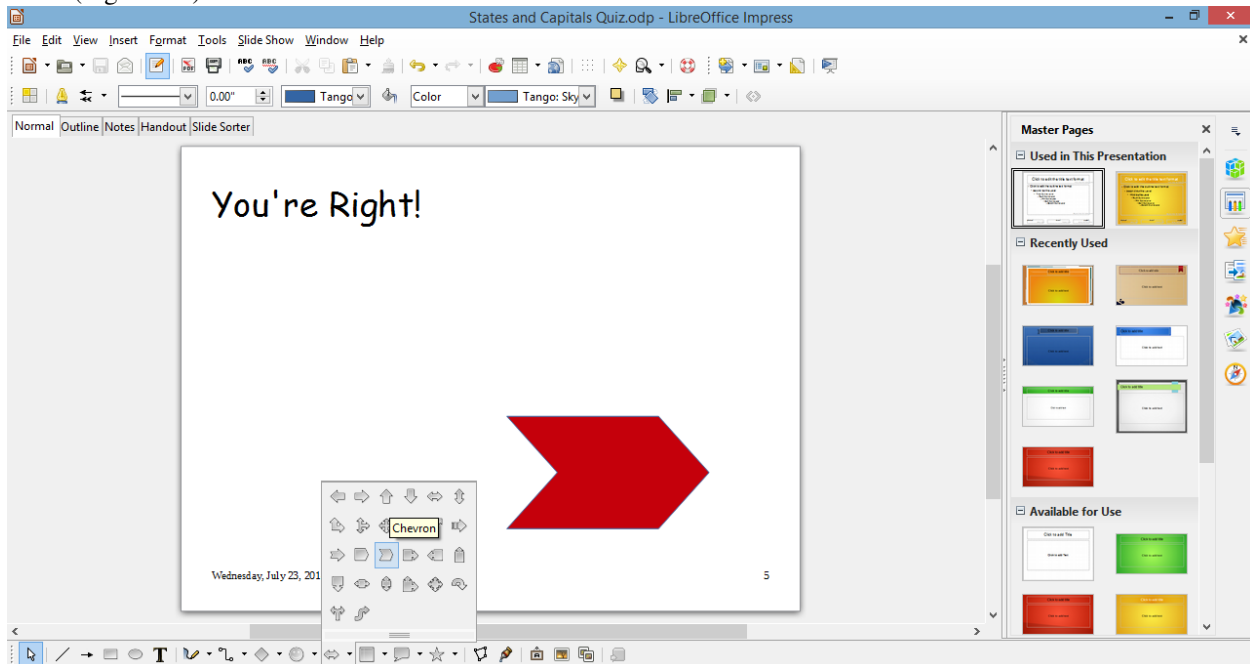


Fig. 10.39 The Chevron shape in the set of Block Arrows shapes

Now draw a nice big **Chevron shape** towards the **right side** of the slide (Fig. 10.40)

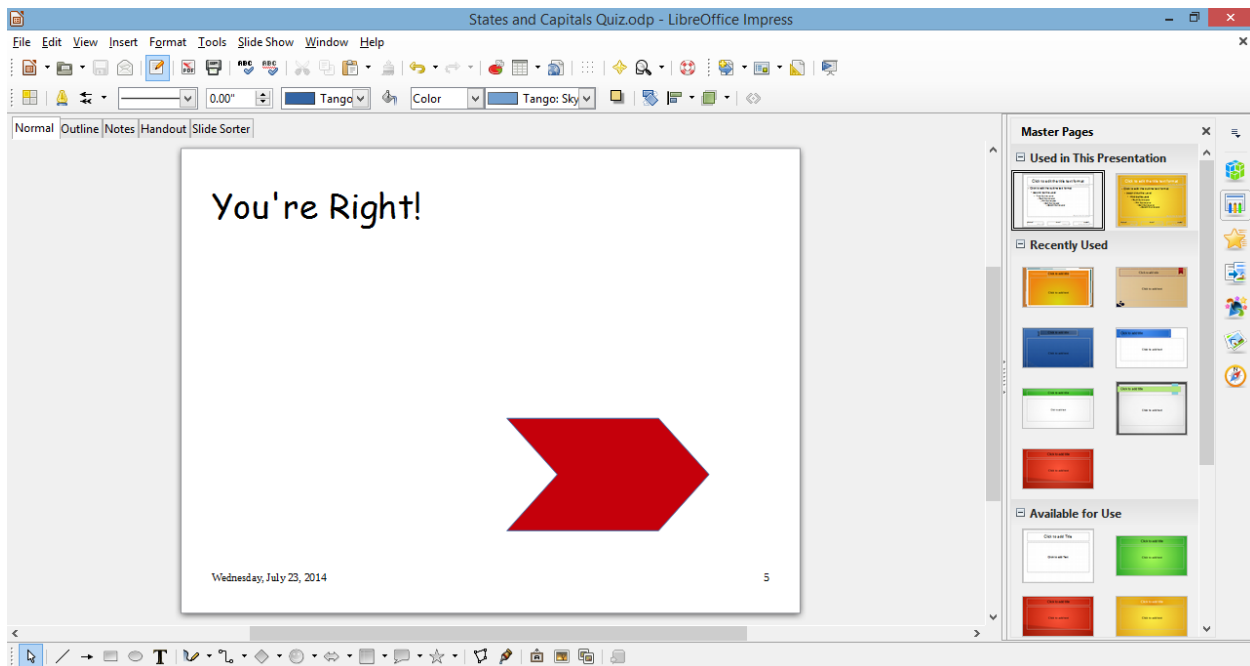


Fig. 10.40 The Slide Control on Slide 5

Right click on the **Chevron shape** and, in the **context menu**, select the **Area** tab (Fig. 10. 41)

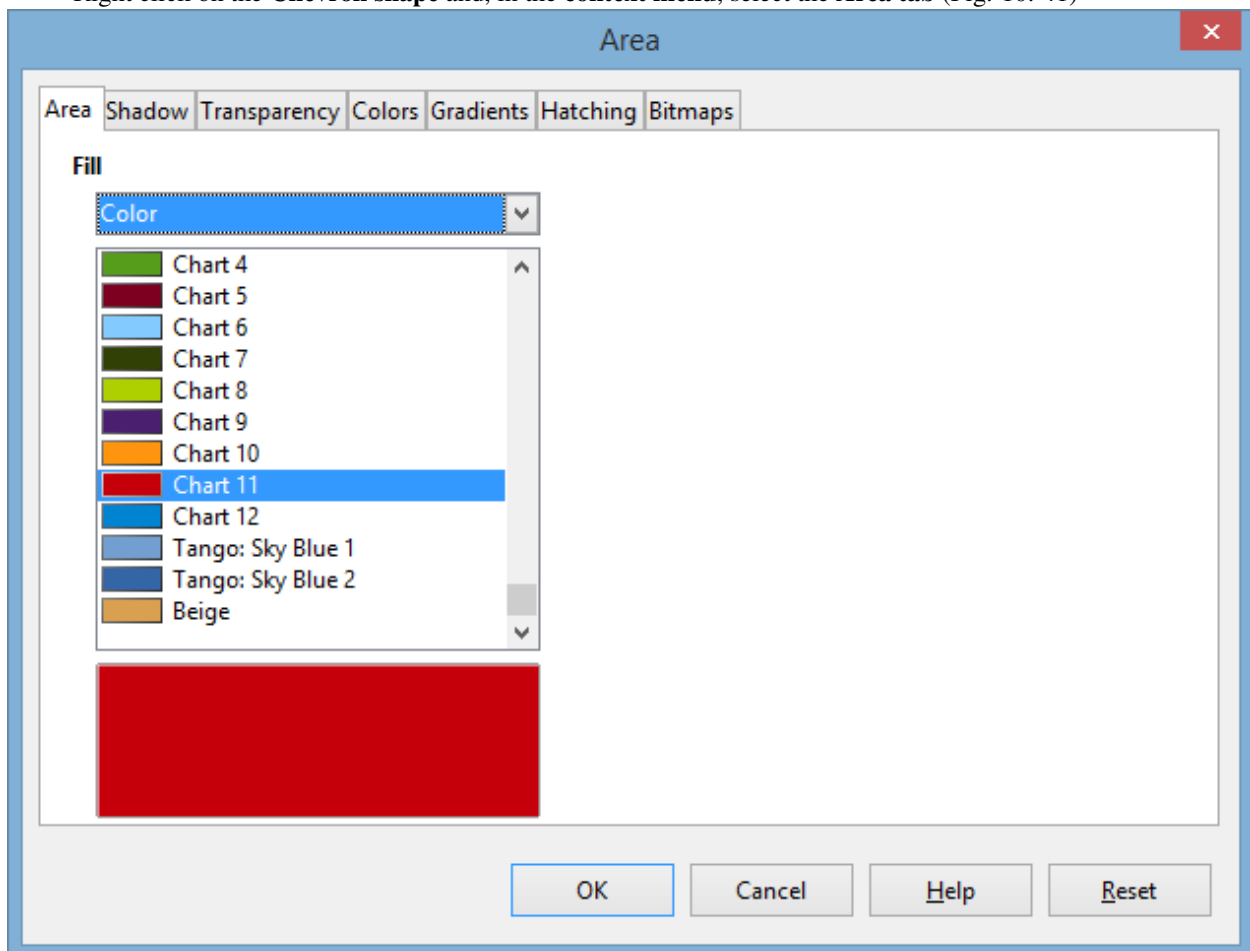


Fig. 10.41 Choosing a Color for the Slide Control

Click on the **Area tab** and, in the drop down **menu of colors**, select any color you like for the Chevron shaped **Slide Control**

Next you need to put a chevron-shaped button on the Wrong answer slide (Slide #6). Easiest way to do this is to copy and paste the button you just created for Slide #5.

On **Slide #5**, click on the **Slide Control** to select it and hit **Ctrl-c**, switch to **Slide #6** and hit **Ctrl-v** to paste the button onto **Slide #6**

You want this Wrong answer button to point *back* to Question One, so you need to flip it horizontally.

Right click on the **Slide Control** and, in the **context menu**, select **Flip > Horizontally**, then **Save** your work before you proceed

Now you need to select the correct hyperlink for these two new buttons. For the button on the correct answer slide (Slide #5) you want to send the student on to the next question (Question Two), which is slide #7; but for the button on the wrong answer slide (Slide #6) you want to send the user back to Question One (Slide #4).

On **Slide #5**, right click on the **Chevron shaped Slide Control** and, in the context menu, select **Interaction...** and hyperlink to **Slide 7**

On **Slide #6**, right click on the **Chevron shaped Slide Control** and, in the context menu, select **Interaction...** and hyperlink to **Slide 4**

Time to make sure each answer on the *Question One* slide, and each button on the Answer slides is correctly *hyperlinked* by testing each of them in turn.

With **Slide 4** selected in **Normal View**, in the **Slide Show menu** select **Start from current Slide**, then click on each of the **True buttons** one-by-one, make sure it sends you to the **correct Answer slide**, then make sure the **chevron-shaped Slide Control** on each of the answer slides sends the user forward or back to the **correct question**

Everything OK? If not, fix any errors—hopefully there won't be any, but you never know. Breathe a sigh of relief if all went according to plan.

Now, follow these same series of steps (if you need help, the directions start on Page 320 above) to **activate the Slide Controls with hyperlinks for Slides 7 thru 9** (where the correct answer is **Alaska**), and **Slides 10 thru 12** (where the correct answer is **Hawaii**)

Adding Slide Controls to the remaining slides (Slides 1 thru 3 and Slides 13 and 14)

You're going to need Slide Controls on Slides 1 thru 3, and also on Slides 13 and 14. You should be good at this now, but just in case here are the steps you need to take.

In **Slide Sorter View**, double click on **Slide #1** to open it in **Normal View**, then, in the **Drawing toolbar > Block Arrows** icon, click on the **Chevron shape**

Draw a **small Chevron** in the **lower right corner** of the **Slide window** (Fig. 10.42)

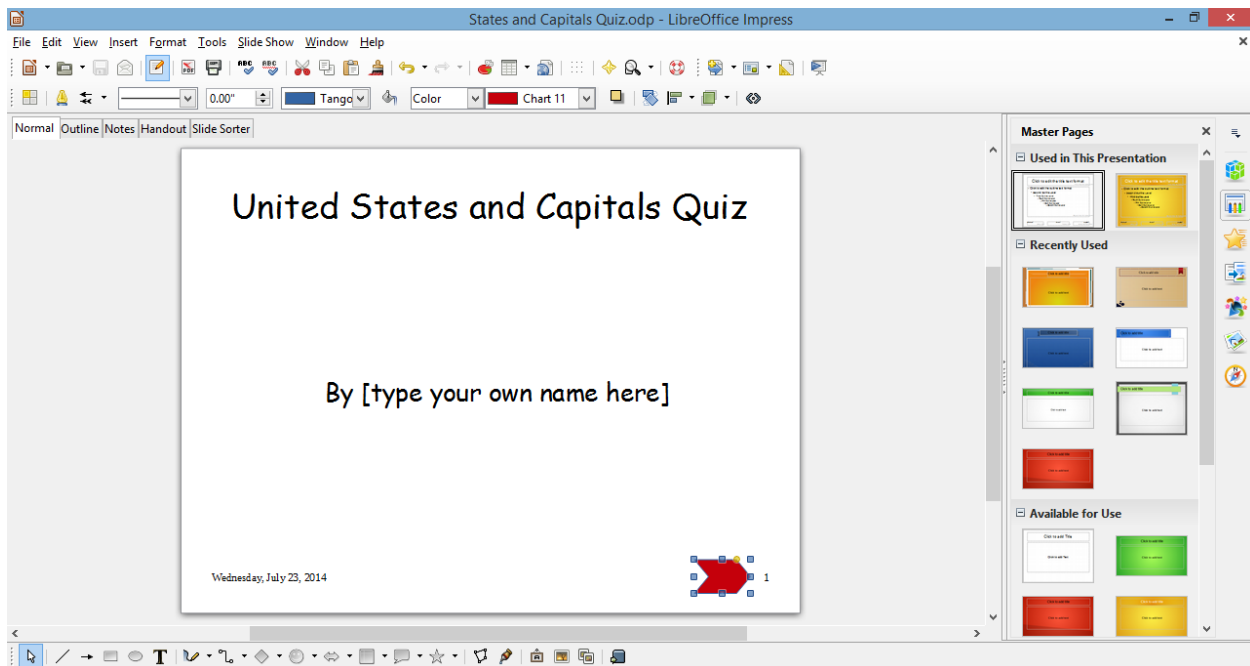


Fig. 10.42 Slide Control to go the Next Slide

Right click on the button, then, in the **context menu**, select **Interaction...** and select the **Action at mouse click** option to **Go to next slide**

While you're at it, hit **Ctrl-c** to **copy** the **Slide Control** to the **clipboard**

That's all you need on the first slide. But you need the **same** button on Slides 2, 3, 13, and 14. Fortunately, you have it copied to the clipboard, so...

In **Slide Sorter View**, **double click** on **Slide #2** and **paste** the Slide Control onto the slide

Do the same for **Slides 3, 13 and 14**

On Slides 2, 3, and 14 you need a second Control button to *Go to previous slide*.

In **Slide Sorter View**, **double click** on **Slide #2** again, **right click** on the **Slide Control** in the **lower right corner**, **copy** it, then **paste** it (**Ctrl-v**)

Right click on the **Slide Control** again, and, in the **context menu** select the option to **Flip > Horizontally**, then use the **arrow keys** on the keyboard to slide this second Slide Control **to the left** (Fig. 10. 43)

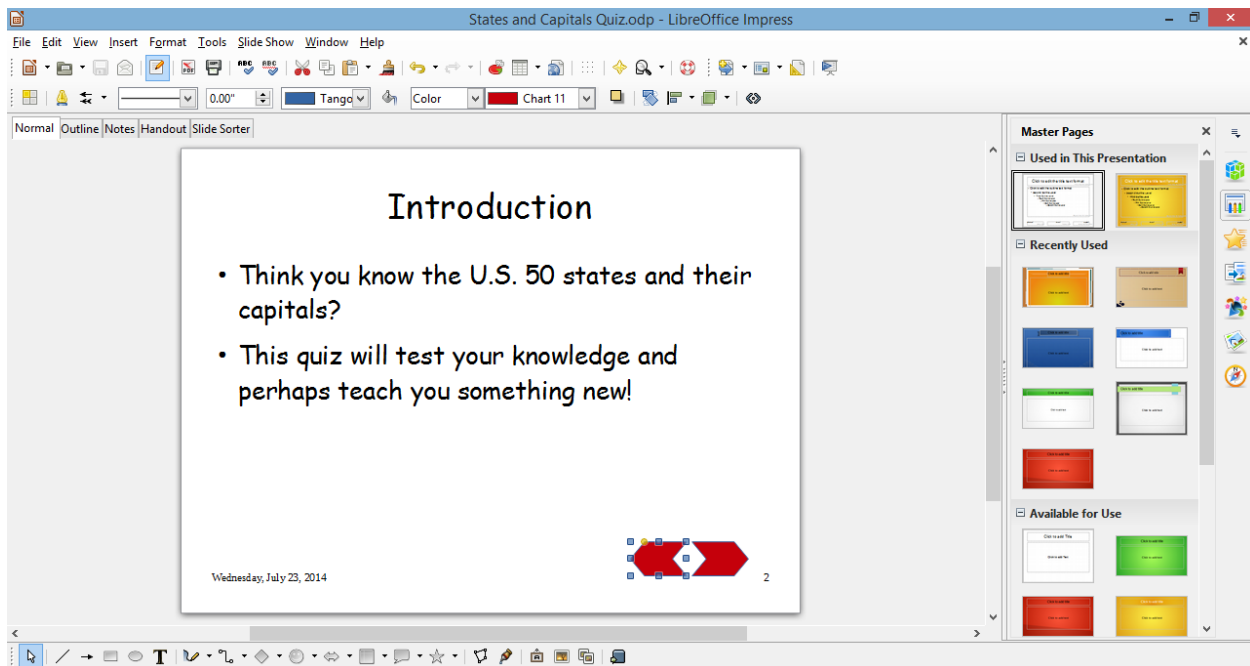


Fig. 10.43 The second Slide Control button in position on Slide #2

Right click on this second **Slide Control**, **copy** it, then **paste** it (**Ctrl-v**) onto **Slides 3 and 14**

Hope you're doing OK, still. Hey, for some people, this is their idea of fun! I hope you feel the same. One last task at this stage of the Tutorial. The last slide, Slide #14, has a Slide Control to go to the next slide, but there is no next slide. So you have to change the *Action on mouse click* to *Exit Presentation*.

In **Slide Sorter View**, **double click** on **Slide #14** if it is not already in **Normal View**, **right click** on the **rightmost Slide Control** in the **lower right corner**, select **Interaction...** from the pop up context menu, and change the **Action on mouse click** option to **Exit presentation**

Save your work before you proceed (and maybe take a break...)

Making the Text Object backgrounds invisible

On Slides 4, 7, and 10, those Blue rectangles behind the multiple choice answers are unnecessary. It's easy enough to get rid of them at this stage, though they were necessary while you were developing the Text Objects and hyperlinking them. Let's make them invisible now.

In **Slide Sorter View**, **double click** on **Slide #4** and **right click** anywhere on the **first blue rectangle**, then, in the context menu, select **Line...** to bring up the **Line dialog box** (Fig. 10.44)

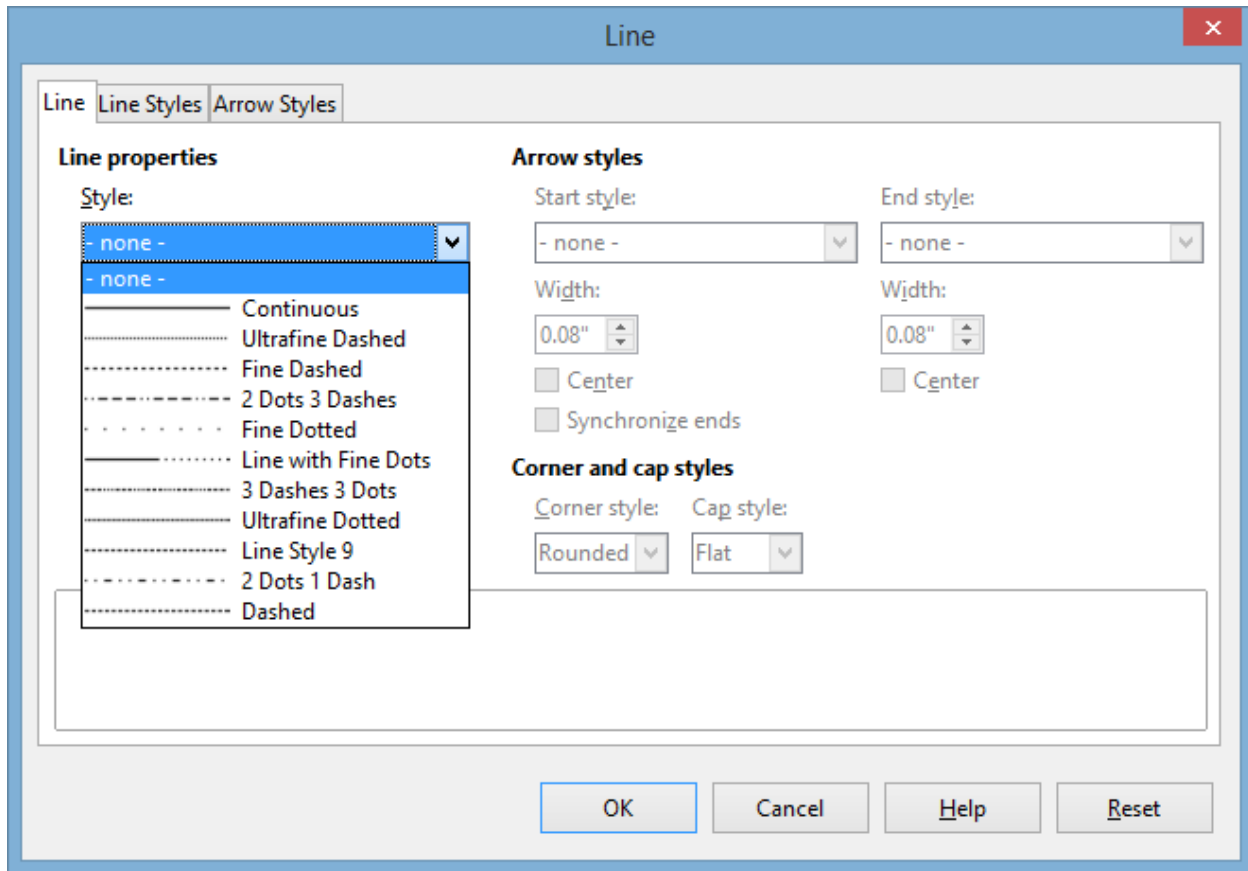


Fig. 10.44 The Line dialog box

In the **Style drop down menu**, select **– none –** to **remove** the border around the rectangle shape, then click on **OK**

Still on **Slide #4**, **right click** anywhere on the **first blue rectangle**, then, in the context menu, select **Area...** to bring up the **Area dialog box** (Fig. 10.45)

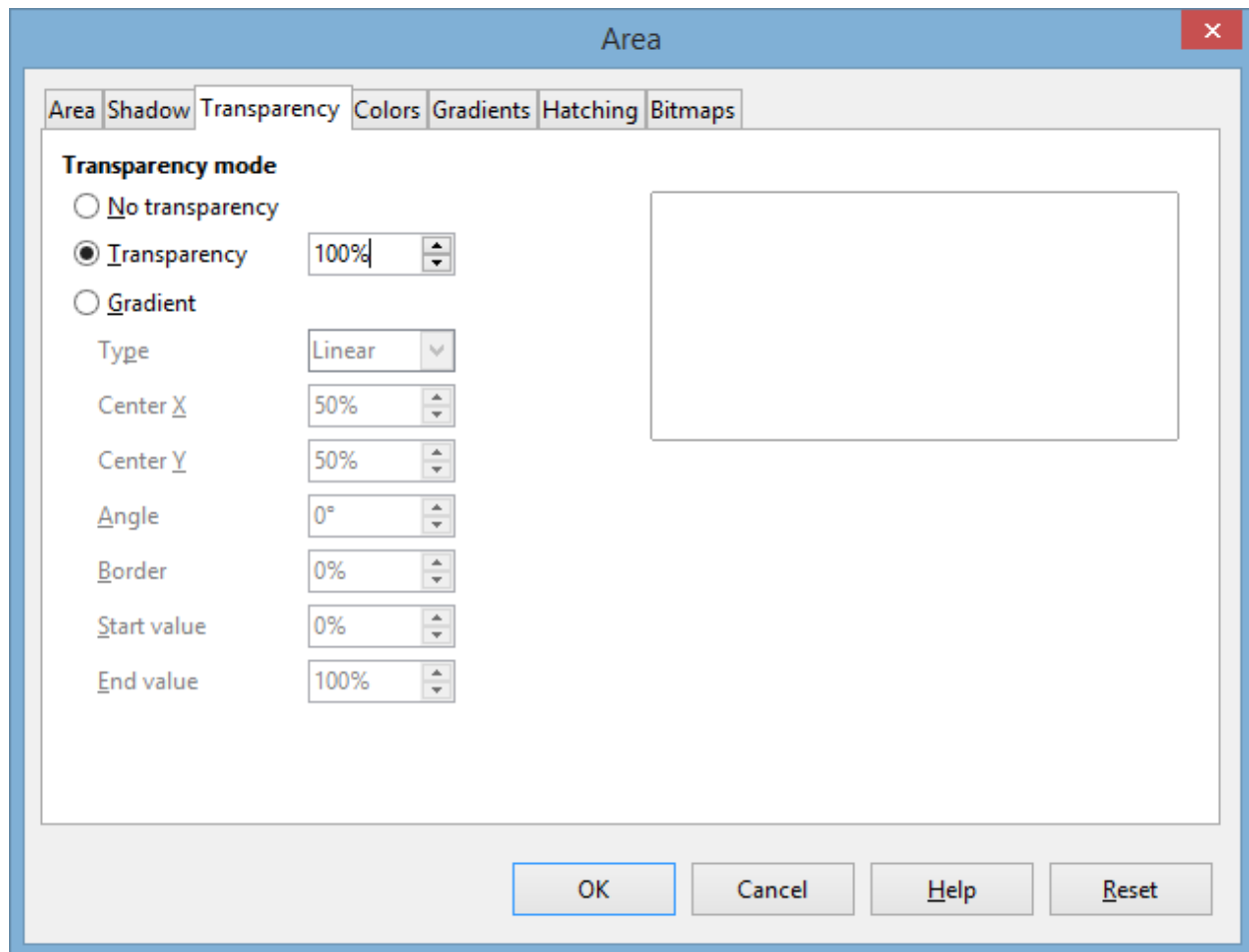


Fig. 10.45 The Area dialog box

In the **Area dialog box**, click on the **Transparency tab**, then in the **Transparency mode** section make sure the **radio button** next to **Transparency** is checked, and set the **Transparency percentage** to **100%**, then click on **OK**

Cool. Houston now appears as just plain old text, but it's actually a Text Object which holds a hyperlink (Fig. 10.46)

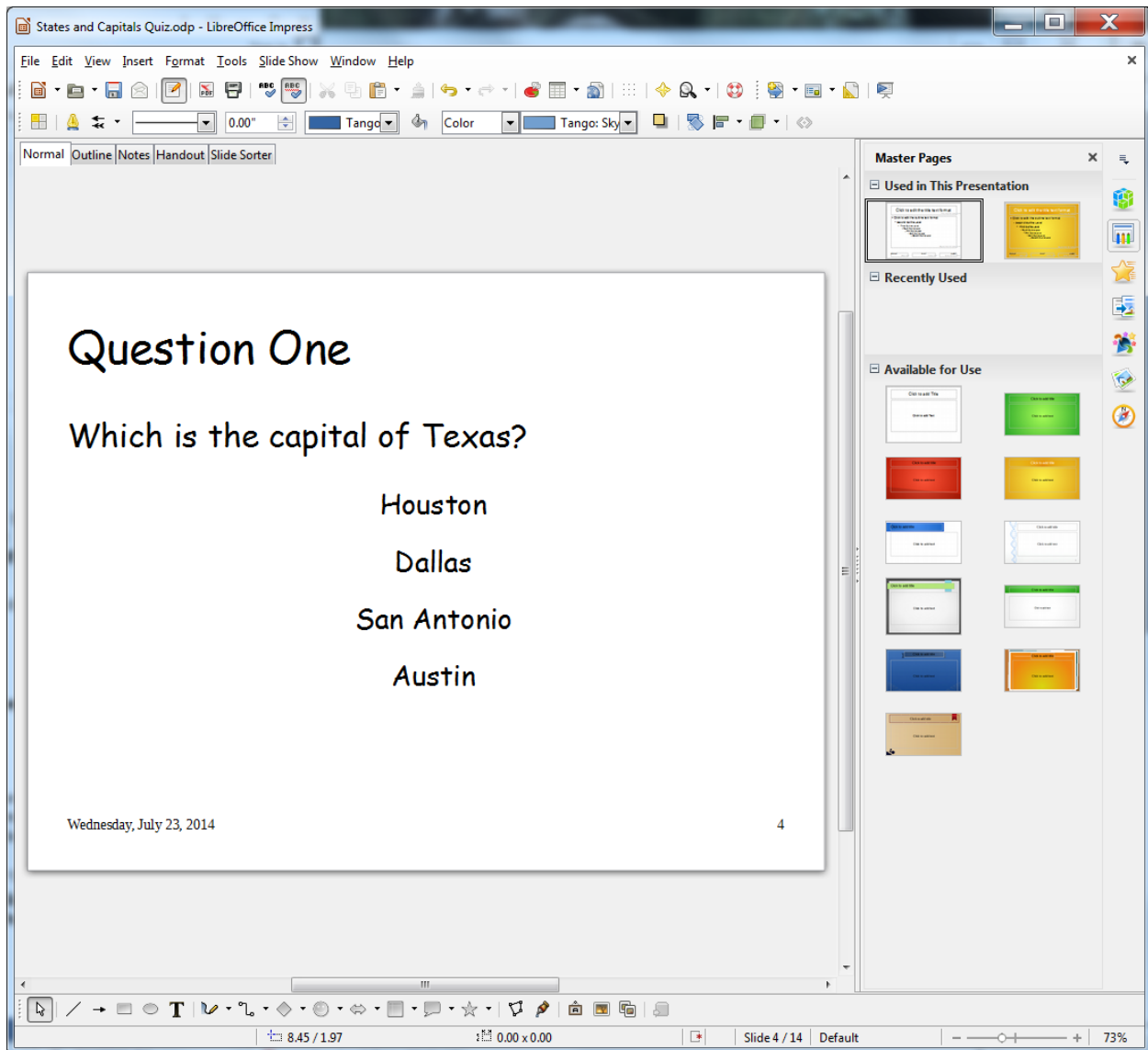


Fig. 10.46 Text Objects with invisible backgrounds

Now do the same thing to the **other 11 Text Object multiple choice answers** on **Slides 4, 7, and 10**, then **Save** your work when you're done

Forcing the user to click on a Slide Control to advance to another slide

For the feedback slides such as the one illustrated in Fig. 10.30 above, we must make sure that the user can only proceed from one slide to another by clicking a Slide Control. As it is, when the user clicks the mouse anywhere on the slide, the show will advance to the next slide whether it's supposed to go there or not.

So here's how you give the user no option but to click on a Slide Control in order to proceed.

In the **Slide Sorter View**, hit **Ctrl-a** to select all the slides, then in the **Slide Show** menu select **Slide Show Settings...** to bring up the **Slide Show Settings dialog box** (Fig. 10.47)

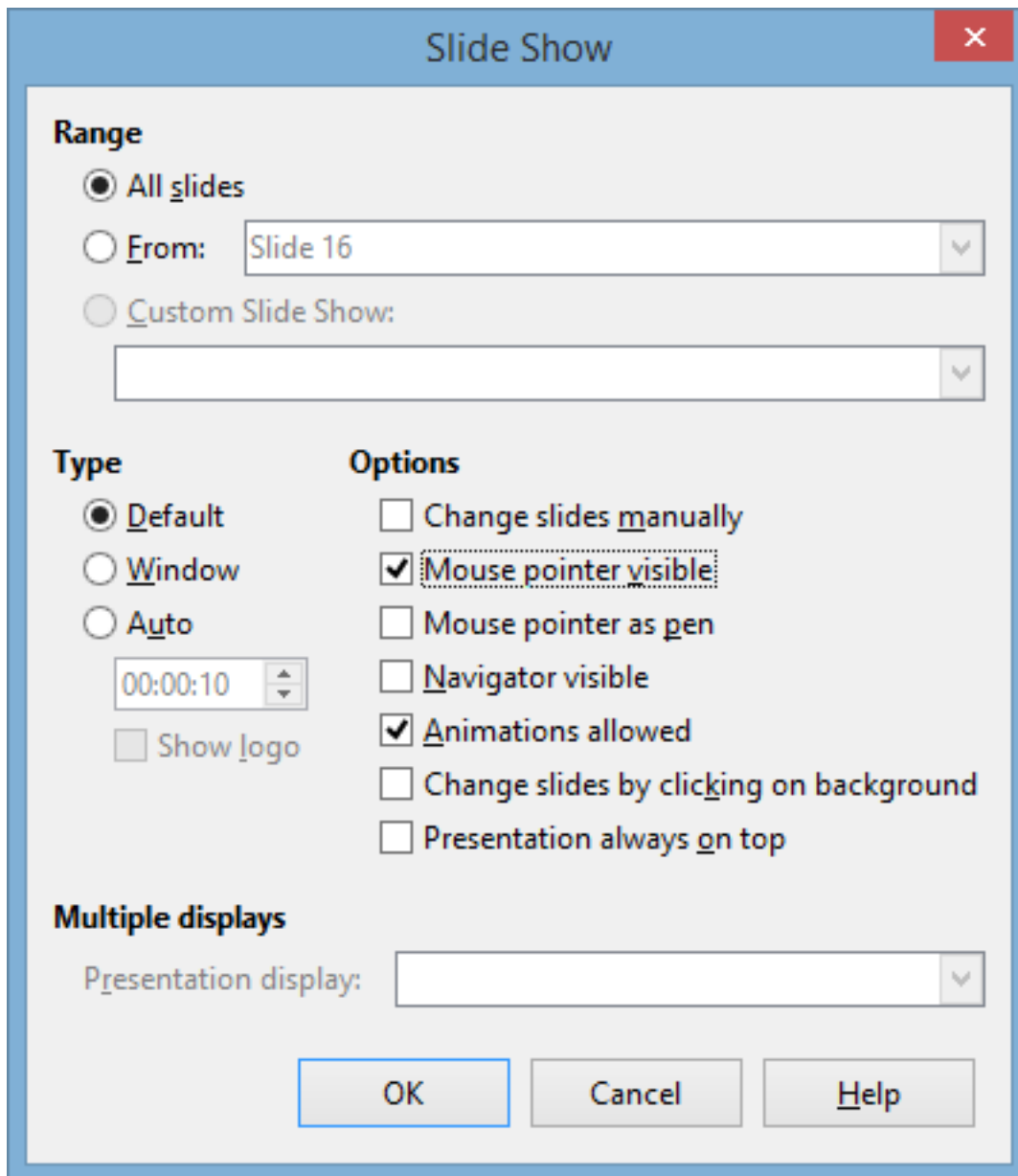


Fig. 10.47 The Slide Show Settings dialog box

Check **only** the **Radio buttons** next to **Range > All slides** and **Type > Default**, then, in the **Options** section, make sure you only have **check marks** next to **Mouse pointer visible** and **Animations allowed**—**NOTHING** else should be checked!

Save your work again

You should test the work you've done to this point to make sure it works the way you want it to.

Go to **Slide Show menu > Start from first Slide** and answer each question **incorrectly** first, then watch as the **Text Object hyperlink** takes you to the **Wrong Answer** feedback slide

Test all the **Text Object answers** to make sure the hyperlinks you put on them work appropriately; also test to make sure that when you click anywhere on the slide, **other than on the Slide Control**, the show doesn't go anywhere

Give yourself a round of applause if everything worked correctly.

If, on the other hand, a hyperlink or Slide Control doesn't work, don't panic. You can remove a Slide Control by simply *right clicking* on it and selecting *Cut* from the context menu. Then

follow the steps above again carefully, and you should be able to straighten things out.

10.7 FORMATTING YOUR PRESENTATION

Selecting a Master Page

LibreOffice makes it easy to select a background, font type and style, and color scheme for your presentation. All these features are combined into what *Impress* calls a Master Page.

Earlier we mentioned that you could start your new presentation by picking the Master Page before even typing in the text. Well, as we already discussed, sometimes it is best to wait to select a Master Page until you have an idea of where text should be on the slides and how much text is on each slide. Some Master Pages, for example, have graphics that take more space on the slide than others and might make it hard to read your text.

In the **Slide Sorter View**, hit **Ctrl-a** to select all the slides, then click on the **Master Pages** icon on the **right edge** of the *Impress* window (Fig. 10.48)

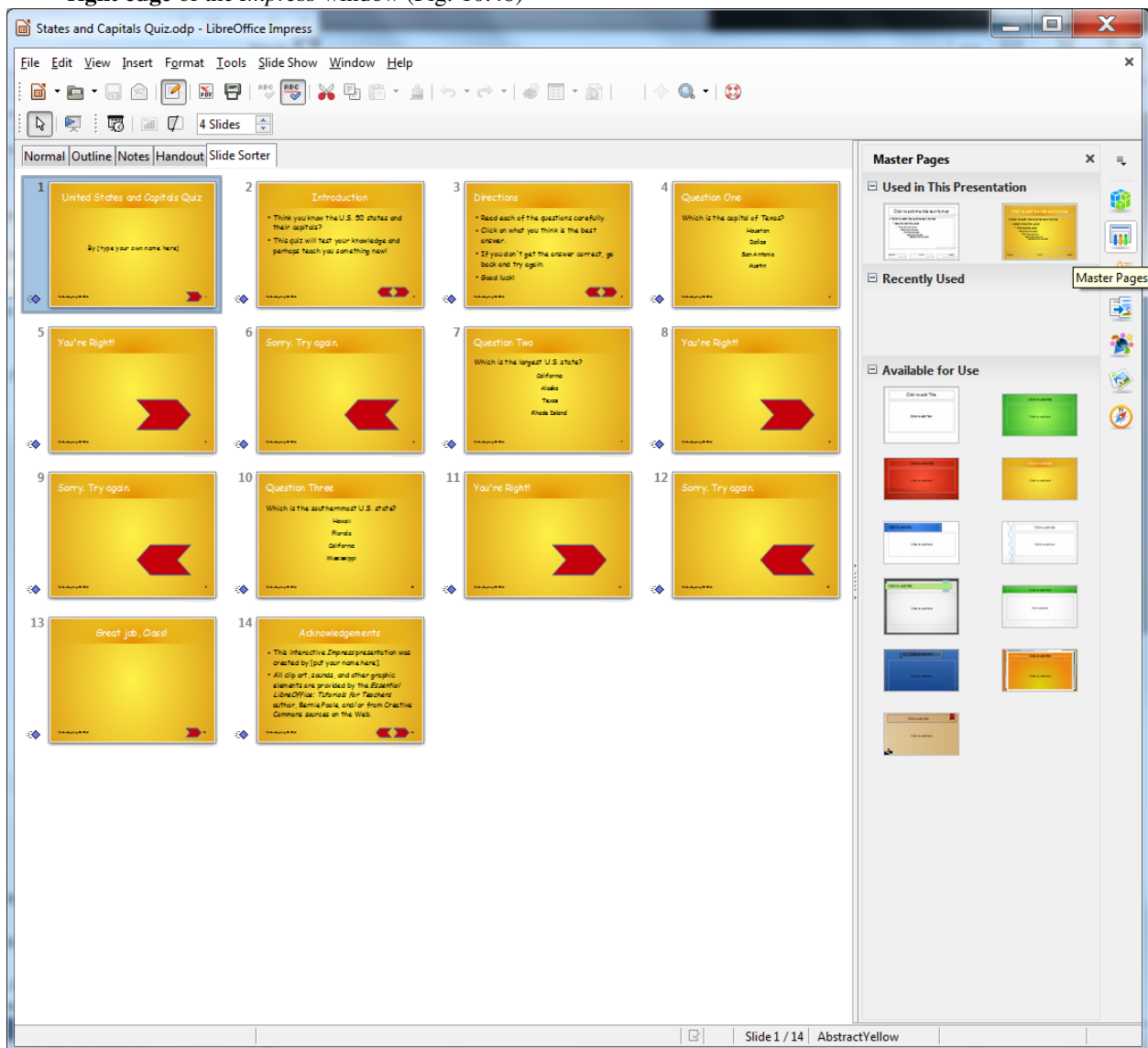


Fig. 10.48 The Master Pages icon

C

lick on any of the **Master Page icons** in the menu and wait as *Impress* **propagates** the design to **all the slides** in the **Slide Sorter View**

Preview several of the available Master Pages before deciding which one you'd like to use

The Master Page chosen for the demonstration show, which is used in the illustrations below, is called *AbstractYellow* and has the advantage of needing little or no adjustments to be made to the slides after the Master Page is applied. But feel free to use whichever of the Master Pages you want for your presentation.[^1]

When you've decided which **Master Page** you want,

Save the presentation

Tips on color choices for printing

Lesson 9 covered the topic of printing *Impress* presentations, but this is a good time to mention editing your background for how it will appear on paper. Many of the Master Pages are attractive to look at; however, when you print handouts or slides in black ink, the dark backgrounds make some text hard to read. So, if you plan to print out your show, choose a *lighter background* for all the slides. Then, when you are ready to print, in the *Print Settings* section, click on the *Color* button and, in the *Color* options, select *Grayscale*. This reduces the background to more or less plain white with black text, making it easier to read than color. It will also save a lot of money on the ink cartridges for the printer!

Applying different Master Pages to certain slides in a show

Most of the time, we want our show to look the same on every slide. But if you do need to vary the Master Page on different slides, here's what you do. Let's say, for example, that you want a different Master Page for the first slide and the last slide.

Change your view to **Slide Sorter View**, click on the first slide and then hold down the **Ctrl** button as you click on the **last** slide to select just those two slides

Click on one of the **Master Page thumbnails** to **Live Preview** it; do this for a few themes that look good to you and, when you've made up your mind, click on **your chosen Master Page** to select it, and **Save** the presentation again

Notice that only those slides you selected have that specific Master Page. You can do this for just one slide or several slides. You're the boss! You may be thinking that your slide show looks hideous right now. That's OK; you can change everything and anything once you have the text for each slide in place. You can change the text, too. With *Impress* (or computer apps in general) nothing is chiseled in stone until you say so! And even then, you can still change your mind.

What you need, above all, when working with a computer app such as *Impress* is PATIENCE. If you're always in a hurry, you'd better be either *very talented* or *lucky* to do good work. But if you're patient, *Impress* will help you to do the best job you're capable of doing, that's for sure.

Creating customized, self-designed Master Page Templates

For most users, the Master Pages provided by *Impress* are more than sufficient to meet their design needs. Other Master Pages can be accessed online. But if you prefer to create your own background, or wish to create a *standard Master Page* for your school or class, you can save whatever you create as a Master Page Template—a subject we already discussed earlier in the tutorial.

10.8 INSERTING CLIP ART AND OTHER CONTENT

Impress has simplified the process of inserting pictures, clip art, tables, Fontwork graphics, sound and movie clips, and charts. You learned about this in Lesson 9, but it will be good to review what you learned. You'll also learn in this section how to insert a clickable e-mail address.

Inserting Clip Art

In the **Slide Sorter View**, double click on **Slide #2 (Introduction)**

Click on the **Properties** button on the **left edge** of the *Impress* window and, in the **Slide Layout** menu, click to select the **Two Content** layout

Slide two should now have the bulleted text on the left, with a box on the right for different types of content, including text and so forth (Fig. 10.49).

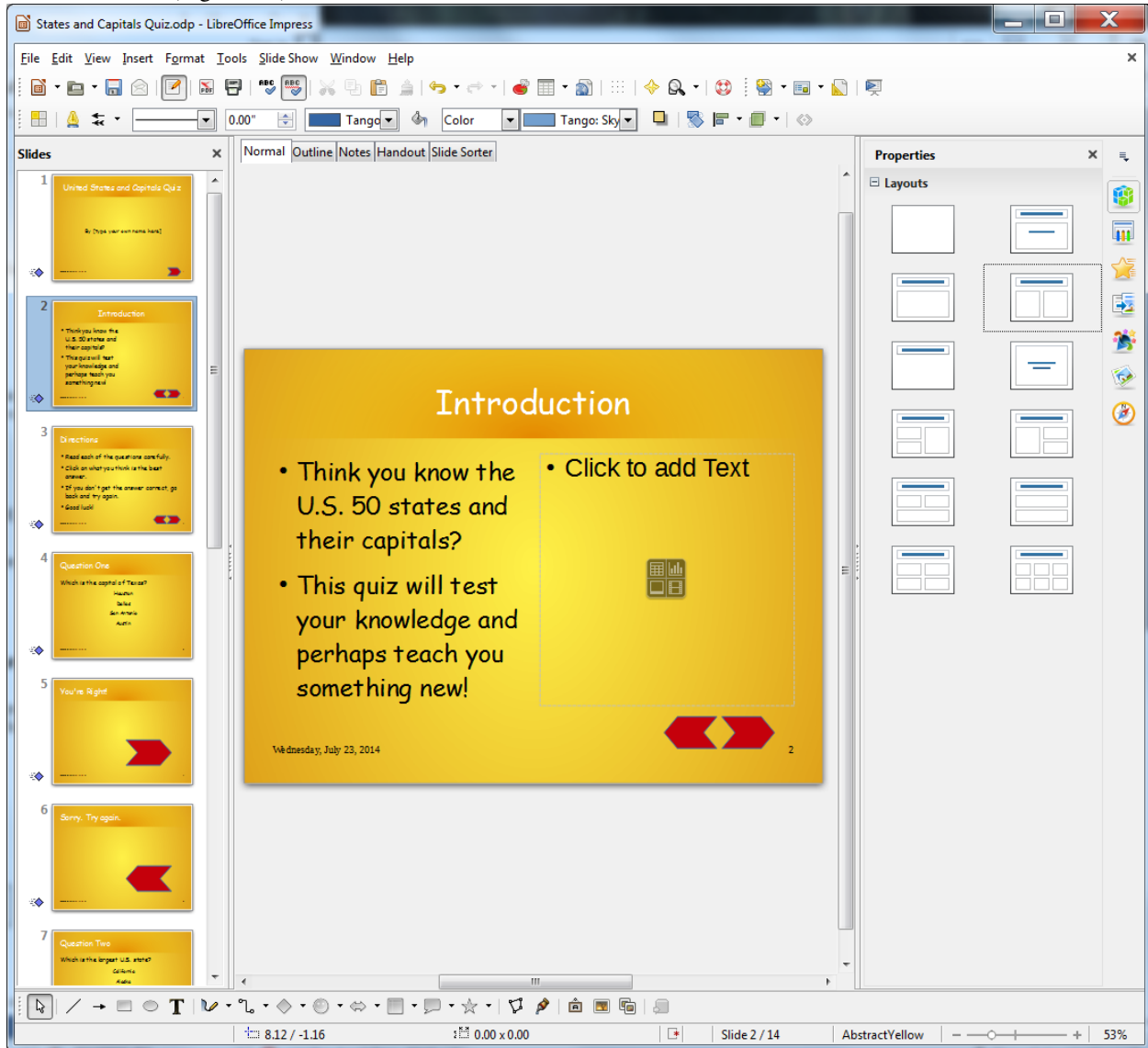


Fig. 10.49 Slide Two: Two Content slide layout

Click on the **lower left** Content Selector tool (the **Insert Pictures** tool—Fig. 10.52 above)

When you click on the *Insert Pictures* tool, the *Insert Image* dialog box will pop up on the screen.

On your **USB drive**, navigate to the **Work Files for LibreOffice**

Miscellaneous Files > Practice folder, **double-click** on the **US States** image and watch it upload to the slide (Fig. 10.50)

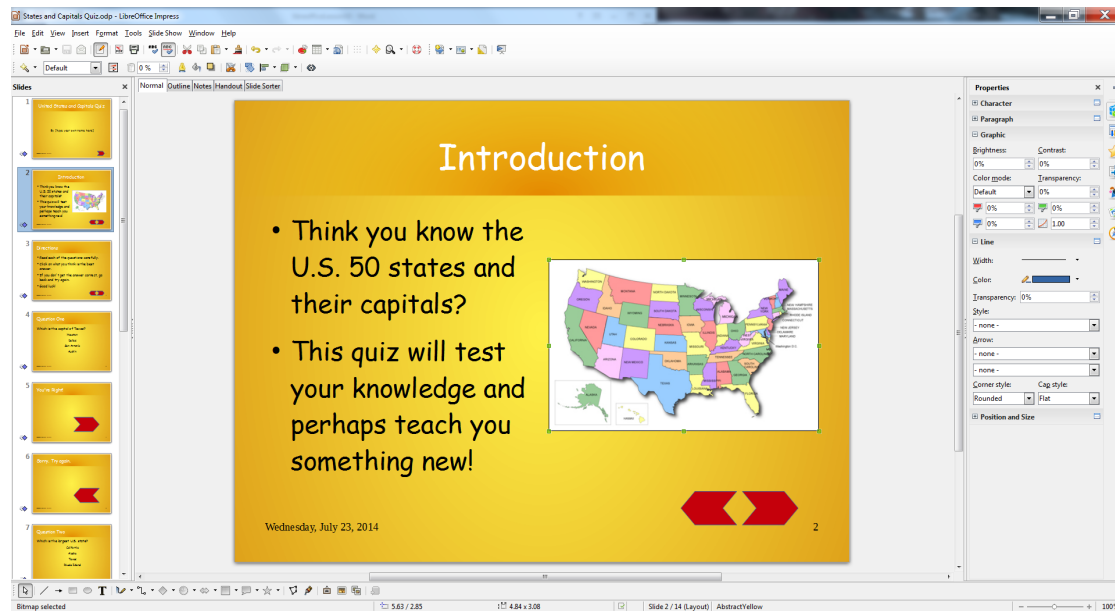


Fig. 10.50 Clip art accessed from the web and inserted onto a slide

Sometimes you will need to resize your clip art if it appears too small or too large to fit into your presentation. This is easy enough to do.

If necessary, click **once** on the clip art to select it, then

click on a **corner handle** and drag **diagonally** left, right, up, or down to enlarge or shrink the image

When everything looks good on the slide,

Save the presentation

Inserting other pictures or pictures of your own

A word about Copyright

The simple rule (law) about Copyright © is this: *If you can see it, it's copyrighted.*

In other words, if you didn't create it yourself, and you see it out there for the taking, you should get permission from the author of the work if you intend to use it, especially if you intend to use it for *profit*.

Like everything in the law, however, it's open to interpretation. So, if teachers want to use an image they've found 'out there' to give added meaning or emphasis to something they're trying to help their students learn, they are not *obliged* to seek permission from the owner of the art because there is no question that they are using the image for profit (though the owner would undoubtedly be delighted to know their work was being used in this way).

Once you are comfortable locating and placing clip art into your show, try finding pictures and other graphics online. It is simple to insert onto a slide a digital picture that you've saved on your computer.

Let's try this now. If you have a digital picture of your own that you'd like to use for this exercise, feel free to do so. If you do not have a picture of your own, you can use a picture of the author which is saved in the *Work Files for LibreOffice*.

First select **slide #1**—the **Title slide**—in the **Home Ribbon > Slides Group** click on the **Layout tool**, and in the menu of **Layouts** click on the **Two Content** slide layout, then, on the **right side** of the slide window, click on the **Insert Image** tool once again

Now navigate, on your **USB drive**, to the **Work Files for LibreOffice > Miscellaneous Files > Practice** folder, and **double click** on **Prof Poole**

The picture will quickly appear on the slide (Fig. 10.51), with the handles around it so that you can move it to where you want on the slide and resize it to fit the space where you want it to go.

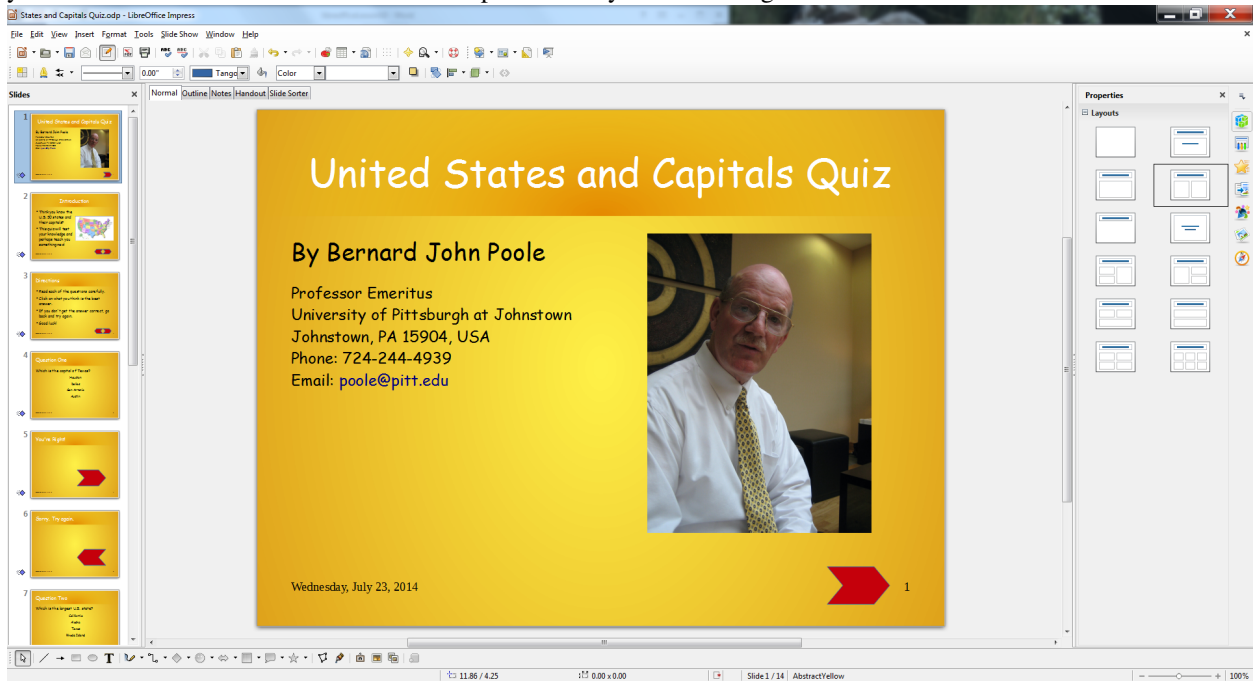


Fig. 10.51 The Title slide with the picture of the author inserted onto it

Inserting sound

First, make sure you have your computer **Speakers** turned on (not muted) so that you can hear the sounds you are about to try out

In the U.S. States and Capitals show, we want to give our students a reward for getting each answer correct. So, we're going to insert applause onto every *You're Right!* slide.

Open **Slide #5** (the first **You're Right!** slide) in the **Normal View**, then click on the **Slide Transition** icon on the **right edge** of the **Impress window** (Fig. 10.52)

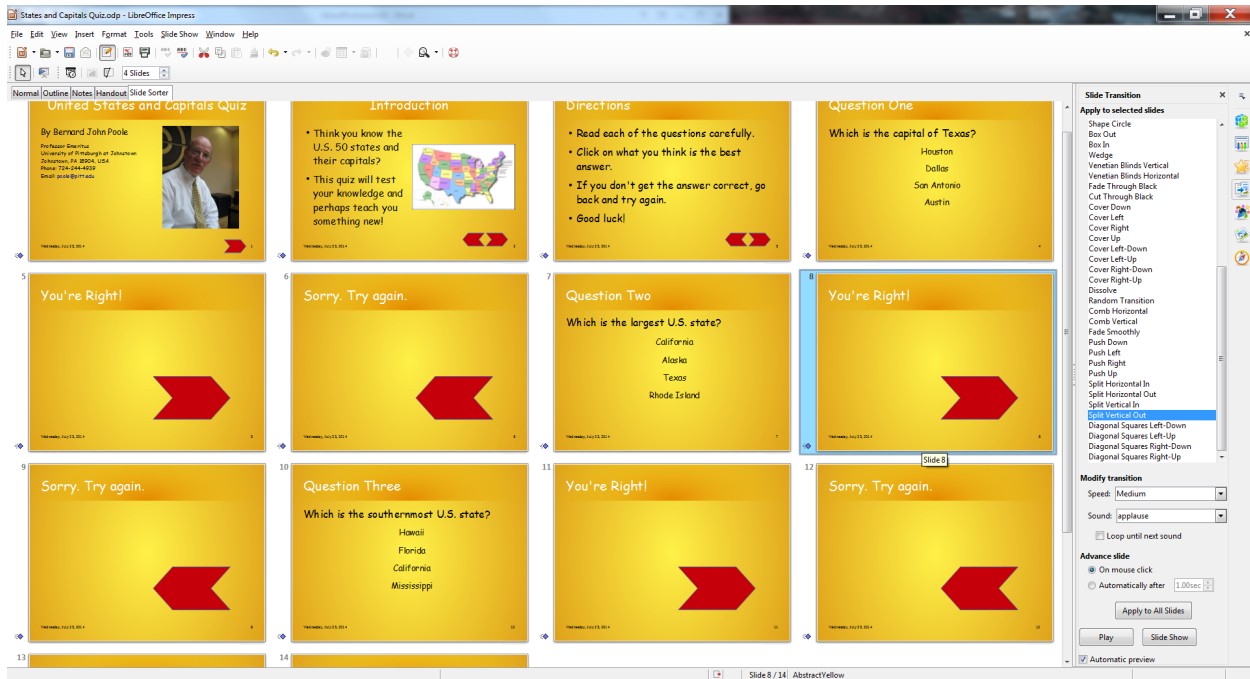


Fig. 10.52 The Sound menu

In the Slide Transition dialog, select any **Transition** you want (try out a few of them to see what you like), then click on the **down arrow** at the end of the **Sound entry box** and select the Sound called **Applause**

Now scroll to **slides #8 and #11** and repeat the above steps (**inserting the Applause sound**)

You should now have applause on each of your positive feedback slides.

Save the presentation with your new sound effects

A caveat (warning) about sound. Like any bell or whistle, it's easy to get carried away with sounds. Stay focused on the purpose of your show and your audience's needs. A kindergarten class will welcomes lots of sounds. For a presentation to the Board of Education, a more professional approach may be required!

Inserting a negative feedback sound

Now you need to insert a sound on each of the *Sorry. Try again.* slides (slides #6, #9, and #12). To vary things up, we'll use an image to go with each sound.

The images have been saved for you and you'll find them on your USB drive in the *Work Files for LibreOffice*.

Start by opening **Slide#6** in **Normal View**, then navigate to your **USB drive > Work Files for LibreOffice > Miscellaneous Files > Practice** folder and **double click** on the file called **Falling Downstairs** to **Insert** it onto **slide #6**

Slide the image anywhere **over to the left of the Slide Control**

Now for the animation to go with the picture.

Right click on the **Falling Downstairs image** and, in the **context menu**, select **Custom Animation**, click on **green** towards the bottom of the **Custom Animation pane** and, in the **Animation dialog box**, select the **Bounce** animation (Fig. 10.53)

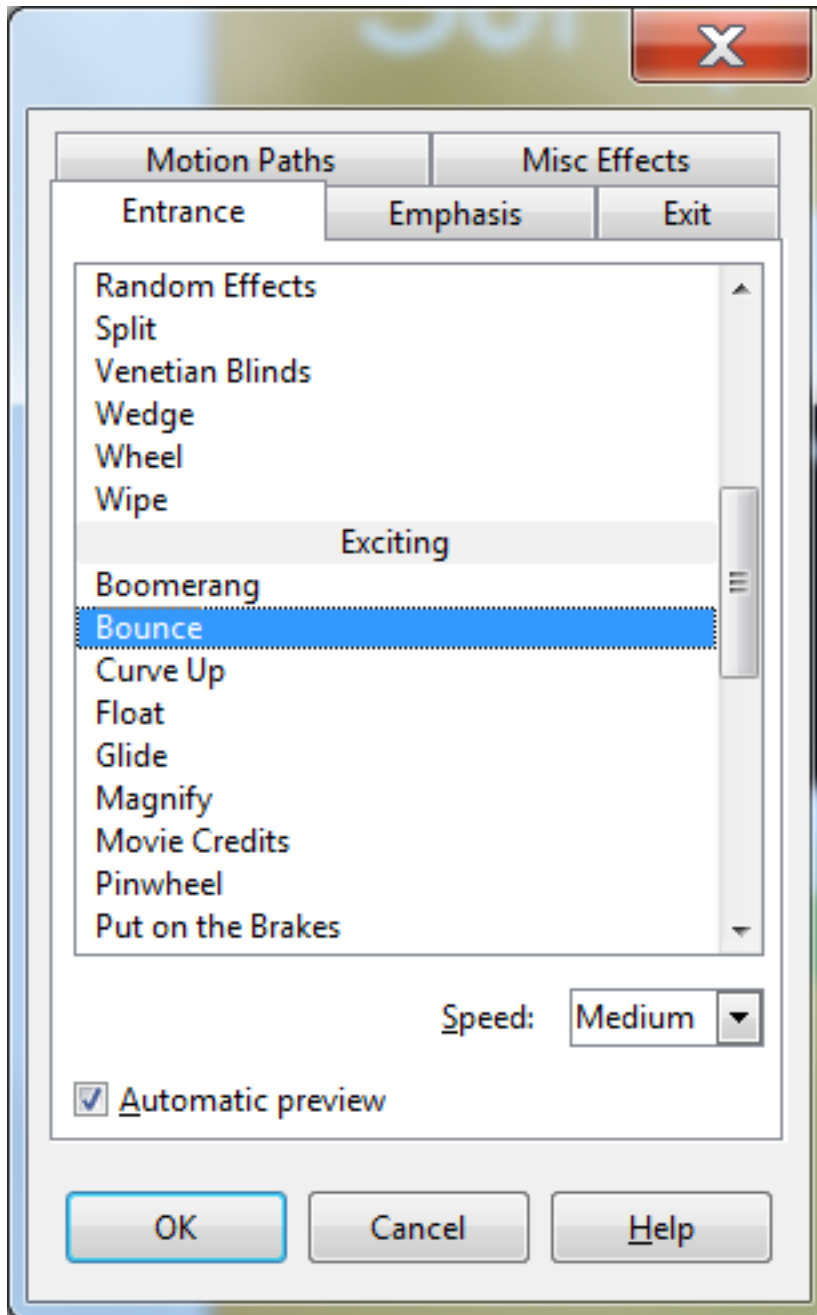


Fig. 10.53 The Animation dialog box

Do the same thing for **Slide #9** and **Slide #12**

For **Slide #9** use the image called **Bomb** (USB drive > **Work Files for LibreOffice** > **Miscellaneous Files** > **Practice** folder); and for **Slide #12** use the image called **Explosion** (USB drive > **Work Files for LibreOffice** > **Miscellaneous Files** > **Practice** folder again)

Save your work

Inserting Videos or Animations

Inserting movies (or video) is just as easy as inserting clip art or sounds. Whether it's an animated clip or a short video clip, the steps are the same.

Open **Slide #13 (Great Job, Class!)** in **Normal View**

You could go to the web to search for video and clip art examples to use on the slide, but for convenience sake you will find the animated image you need in the Work Files for LibreOffice.

Go to the **Insert Ribbon > Images Group** and click to select **Pictures...**

Navigate to your **USB drive > Work Files for LibreOffice**

Miscellaneous Files > Practice folder and **double click** on the file called **Excited_man** to **Insert** it onto **Slide #13**

Feel free to **grab the image (not on the handles)** and **move it** to wherever on the slide looks good to you—and **grab the handles** if you want to **resize** the image

When you are done, your slide will look something like that illustrated in Fig. 10.54.

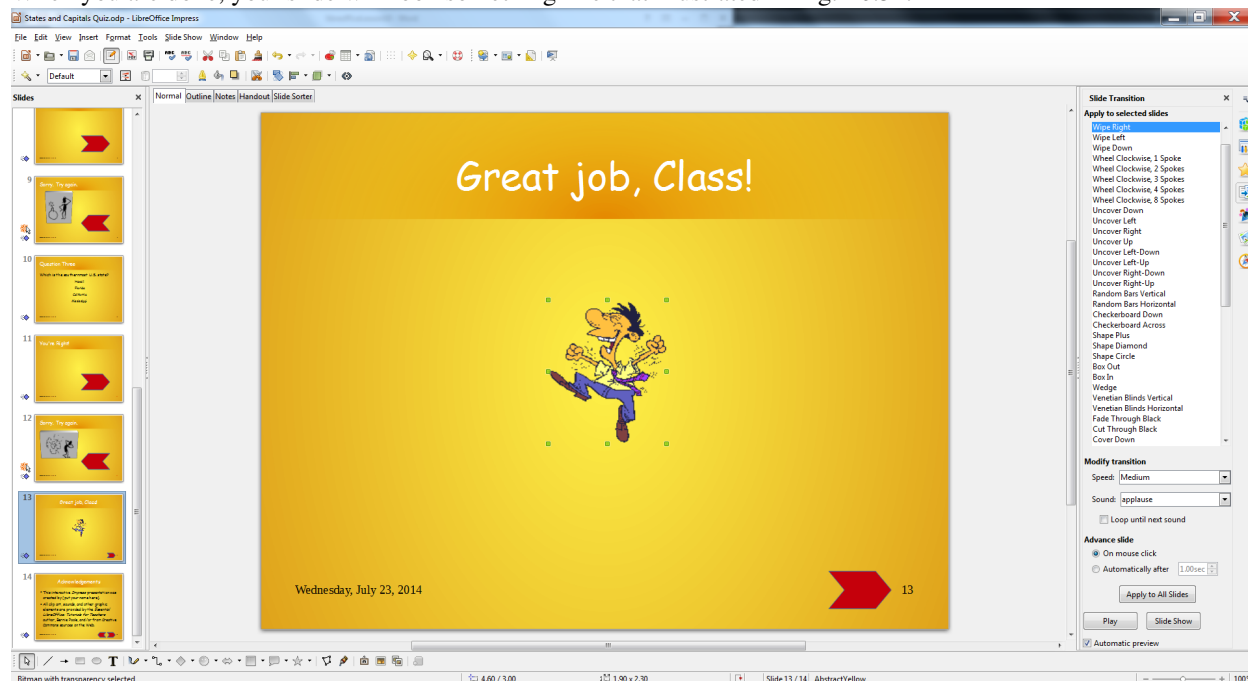


Fig. 10.54 Final look of the Conclusion slide

Save the presentation before moving on to the last task

Keep in mind, as always, that moderation with content such as clip art, sounds, and movies is key. Your topic (the *Function*), not the style (the *Form*) of your show, must always be the main focus.

10.9 SOME FINAL THOUGHTS ABOUT PRESENTATIONS

Think you're ready to make some engaging and relevant interactive *Impress* shows? Before you jump in, consider the following suggestions.

It's inevitable: *Impress* is so easy to use and fun to play with that every beginning user from ages 6 to 96 wants to use all the tricks and tools available. Yet, always remember the golden rule: Substance before Style. Garbage, no matter how colorfully arrayed and beautifully orchestrated, is still garbage.

Keep your focus on the content, then use only those tools that are appropriate for your audience and task. Got a group of sleepy students that don't seem thrilled about photosynthesis? Sure, throw in lots of sound and moving text. But for test-taking and concept review, make the presentation simple, clean, and succinct.

Next, remember the three secrets to creating an *Impress* presentation: plan, plan, and plan? This is even more vital in the interactive show, when one bookmark linking the wrong answer (My teacher is NOT a mammal.) could have

unexpected consequences. Some of us learn better when we can visualize our task, so you may want to sketch out your ideas on paper or on a *Writer* document until you feel comfortable with this new testing method.

Lastly, just because you've created your presentation doesn't mean you've finished. After planning a presentation and creating the show, you need to spend time practicing using it. Take the test yourself. Dummy-proof your show as much as your grade-level dictates (more Slide Control on the introductory slides for example for younger children). The beauty of all digital content such as an *Impress* presentation is that it is easy to fix problems you may find, easy to update, easy to improve, easy to maintain. So take the trouble to fine-tune your work when you see that it needs further work.

SKILL CONSOLIDATION

1. Prepare an interactive presentation that introduces yourself to your class at the start of a new school year. Have five silly questions about your education, hobbies, family, etc. Students will enjoy learning about you and will have a great introduction into your class. Use any graphics and sounds you like. Be sure to have a Title slide, an Intro slide, and an Acknowledgements slide.
2. Prepare an interactive presentation that reviews a basic concept that must be memorized in your class (times tables, grammar rules, Spanish vocabulary, periodic table). Have five questions related to the topic. Depending on your class, have the presentation on a classroom computer, E-mail it to your students to study with from home, or run it in the computer lab. Use any graphics and sounds you like. Be sure to have a Title slide, an Intro slide, and an Acknowledgements slide.
3. Modify the steps in this chapter and teach your students how to make an interactive *Impress* presentation. Have them create a quiz on a hobby or sport of their choosing. This not only teaches them advanced computer skills, but it helps them synthesize and organize information. The hyperlink and Slide Control steps require clear organization skills and logical thinking, great practise for real classroom learning. Use any graphics and sounds you like. Be sure to have a Title slide, an Intro slide, and an Acknowledgements slide.
4. Prepare a presentation that works like an Internet scavenger hunt. Choose your own topic (say, Dinosaurs). Come up with five questions related to the topic. On each of the five Question slides, make each question a hyperlink to a Web site with the answer on it. Then have four possible answers to each question, only one of which is correct. Follow the steps in this chapter to make the presentation interactive. For each question you will need two hidden slides with the answer, one Correct and the other Incorrect. After the title slide, you will have an introductory slide which explains to the student how to proceed with the exercise. Thus, your *Impress* will have 18 slides in all—a Title slide, an Introductory slide, 15 Question and Answer slides, and an Acknowledgements slide. Students will have to search the linked sites for the information, requiring more sophisticated thinking skills than simply memorizing facts. As in the lesson (US States and Capitals), when the student clicks on an answer, the slide sends them to a hidden slide which indicates whether the answer is right or wrong. If the answer is wrong, a button on that slide sends the student back to the question slide. If the answer is correct, a button sends the student to the next Question slide in the presentation. Use any graphics and sounds you like.

[^1]: *LibreOffice* maintains a website where you can access, as well as contribute your own, Master Page Templates.

3.11 LibreOffice Shortcuts

Quick Keyboard Commands

Shortcuts when selecting Text

****Quick Keyboard Commands****

Shortcut | Writer | Base | Calc | Impress

--- | --- | --- | --- | ---

****Ctrl-a or**** (with pointer in left margin) ****Ctrl-left click**** | Select entire document | Select All

****Ctrl-b**** | Bold | Bold | Bold | Bold

****Ctrl-c**** or ****F3**** | Copy | Copy | Copy | Copy

```

**Ctrl-f** | Find | Find Request | Find | n/a
**Ctrl-Enter** | Insert Page Break | n/a | n/a | Move to the next object on a slide or Add (create) s
**Ctrl-g** | Go to | n/a | n/a | n/a
**Ctrl-h** | Find and Replace | Replace text | n/a | n/a
**Ctrl-i** | Italics | n/a | n/a | Italics
**Ctrl-l** | Left Justify text | n/a | n/a | n/a
**Ctrl-m** | Move tab ½" right | n/a | Format a Number | Add (create) slide
**Shift-Ctrl-m** | Move tab ½" left | n/a | n/a | n/a
**Shift-Alt ↑ or ↓** | Move a selected paragraph up or down a page in single paragraph increments | n
**Ctrl-n** | New document | n/a | n/a | n/a
**Alt-n** | n/a | New object | New sheet | New presentation
**Ctrl-o** | Open | Open | Open | Open
**Ctrl-p** | Print | Print | Print | Print
**Ctrl-q** | Quit | Quit | Quit | Quit
**Ctrl-r** | Right Justify text | New Record | Fill Right | n/a
**Ctrl-Tab** | Save As | Display Page | Save As | n/a
**Ctrl-s** | Save | Save Query | Save | Save
**Ctrl-u** | Underline | n/a | Underline | Underline text
**Ctrl-v** | Paste | Paste | Paste | Paste text
**Ctrl-x** | Cut | Cut | Cut | Cut
**Ctrl-z** | Undo | Undo | Undo | Undo
**Ctrl-1 (one)** | n/a | n/a | Format cell | n/a
**F1** | Help | Help | Help | Help
**F7** | Spelling/Grammar check | Spelling check | Spelling check | Spelling check
**Ctrl-\[*] | n/a | n/a | n/a | decrease font size
**Ctrl-\[*] | n/a | n/a | n/a | increase font size

**Shortcuts when selecting Text**

Selection Task | Shortcut
--- | ---
Select adjacent text | Click and **drag** over the text
Select a word | **Double-click** on the word
Select a sentence | **Triple click** anywhere in the sentence
Select a paragraph | **Quadruple click** anywhere in the paragraph
Select an extended section | Click **at one end** of the section, then **Shift-Click** at the other e
Select whole document | **Ctrl-a or** (with pointer in left margin) **Ctrl-left click**
Select from the insertion point to the beginning or end of document | Press **Shift-Ctrl-Home** or **

```