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# **Coding with Kids Documentation**

***Release***

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Coding with kids can be a *great* way to not only teach them some skills that will help them with their own lives, but also *create or strengthen* some lasting **bonds between you and them**.

Here is some new content from VS Code.

Here is a **shiny** new note.

And here is some more content – this time from GitHub.

Throughout your journey you will both likely learn new `concepts` and `terms` that will expand your horizons and provide hours of enjoyment.

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**Note:** Some kids have problems with screen time and if you leave them unattended with a screen and they have access to things like YouTube or games, they may not stay focused on the task at hand.

- list item
- another item

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There are lots of great options for where to start, and *Just Logic* is a great place to start. Note that the *best starting point* is another way to refer to the same place but give your link text some title.

For details about the hardware and code options, see *Options section for hardware and code* .



All of the options below involve no screens at all – they are simply physical objects and some problems to be solved.

## 1.1 Key Goals

The main goals regarding `logic` that you might pursue with some of the options below are as follows:

- **Understand** basic logic
- *Use available* options
- Apply problem solving techniques
- Have fun! :)

## 1.2 Options

### 1.2.1 CodeMaster

### 1.2.2 Robot Turtles

### 1.2.3 Primo / Cubetto





## 2.1 Key Goals

## 2.2 Options

### 2.2.1 Scratch

### 2.2.2 KidsRuby

### 2.2.3 Python

Here is some code:

```
def countAdjacent(p, c, r, yChange, xChange):
    global board
    adjacentCount = 0

    while True :
        c = c + xChange
        if c < 0 or c > 7:
            return adjacentCount

        r = r + yChange
        if r < 0 or r > 7:
            return adjacentCount

        if board[c][r] == p:
            adjacentCount = adjacentCount + 1
        else:
            return adjacentCount
```

And here is some C# code just in case you wanted to see it:

```
private static string GetMessageFromException(Exception ex)
{
    if (ex == null) return "";
    if (ex.InnerException != null)
    {
        return GetMessageFromException(ex.InnerException);
    }
    return ex.Message;
}
```

### 2.2.4 Hopscotch

### 3.1 Key Goals

### 3.2 Options

#### 3.2.1 Arduino

Arduino is an open source electronics platform that is great for both adults and kids.

<https://www.arduino.cc/>

#### 3.2.2 Snap Circuits

[Snap Circuits](#) is a great electronics learning platform consisting of plastic board and electronics components that you snap together based on project guides to learn basic electronics concepts.

#### 3.2.3 Project Bloks (in development)

Project Bloks is on the web at <https://projectbloks.withgoogle.com/> and is a new project from Google that is still being developed but looks pretty awesome if you have younger kids that want to learn logic and flow.



## CHAPTER 4

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### Hardware and Code

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When you get to the point where you are dealing with both hardware *and* code, you're really about to unleash some great fun and learning.

- Understanding how physical design might affect the code you write
- Learning about libraries that can be used to make coding easier

### 4.1 Key Goals

### 4.2 Options

The following table offers some simple comparisons of the different platforms....

Table 4.1: Comparison

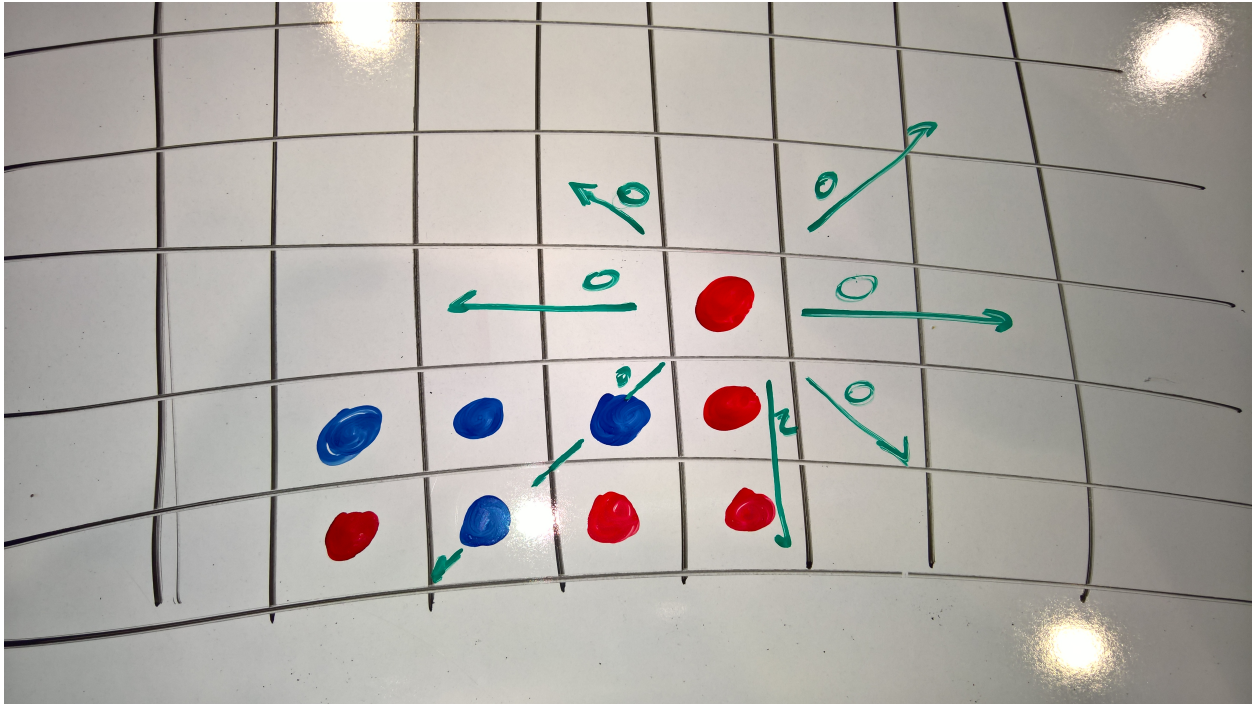
Platform	Self-Contained?	Cost	Flexibility	Description
Raspberry Pi	No	\$30	Limitless	Mini computer board with GPIO pins for interfacing and experimentation.
Lego Mindstorms	Yes	\$350	Medium	Lego robotics system with motors and sensors. Build a robot, then write logic to move it around and do stuff.

#### 4.2.1 Raspberry Pi (Family)

Here's what a Raspberry Pi 2 and a Sense HAT look like:



With these, you can do cool things like program your own version of Connect-4 – you will need to consider how to check for a win by evaluating options as shown in the diagram below:



### 4.2.2 Lego Mindstorms





## CHAPTER 5

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### Content

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#### **5.1 Accepted Content Guidelines**

#### **5.2 Making Suggestions**

##### **5.2.1 What to Include**



### **6.1 Overview**

### **6.2 Key Scenarios**

#### **6.2.1 Add New Page(s)**

#### **6.2.2 Editing Existing Page(s)**



This documentation project is **not** meant to be an exhaustive look at coding with kids.

Rather it was used as the basis for a video course about learning how to use [Read The Docs](#).

Hopefully you take this in the spirit that in which it was written and pardon any exclusions or inaccuracies.

## 7.1 Opinions

Comments are mine, not anyone else's. Etc.