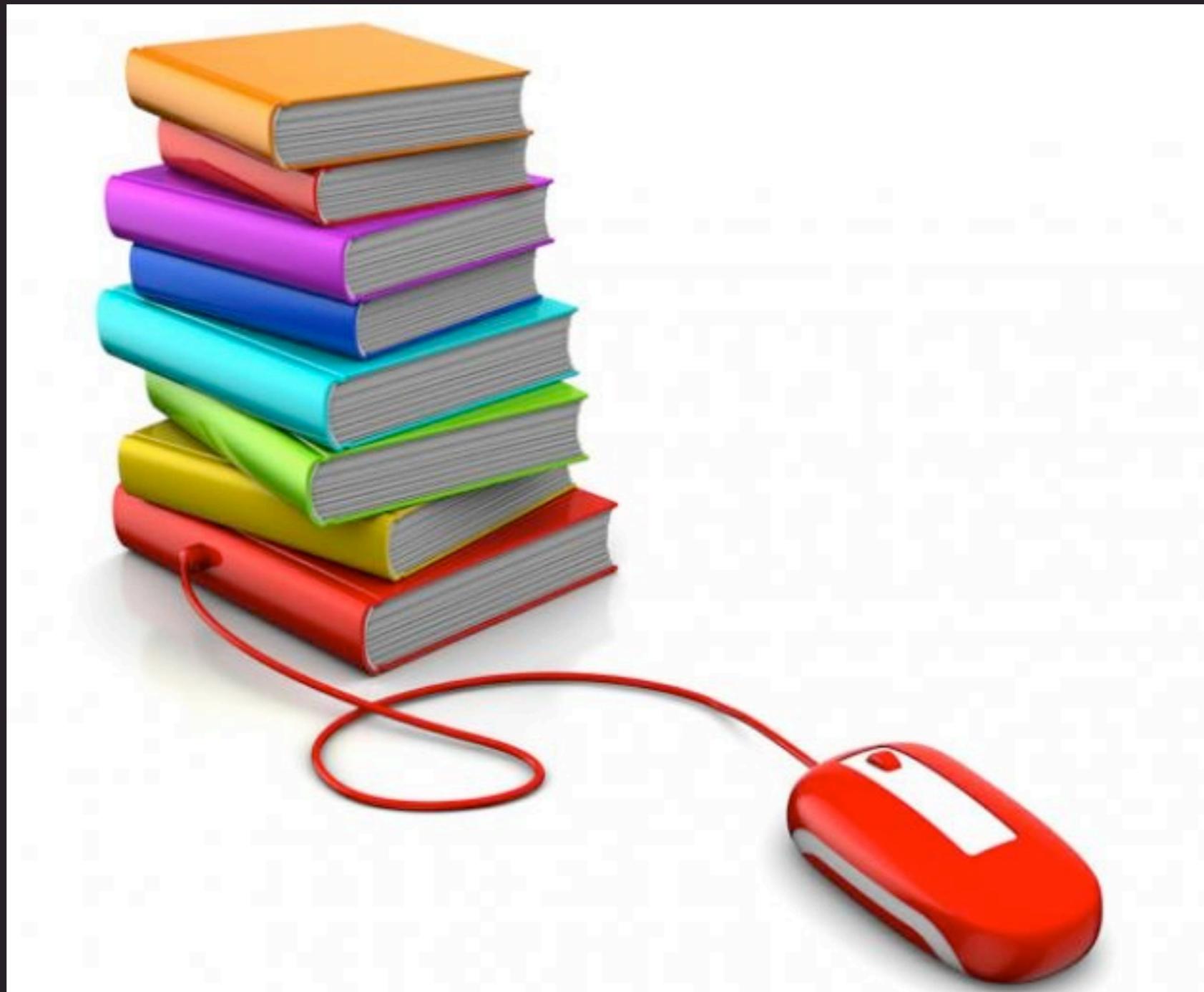




How to teach your kid to code with Hopscotch

Samantha John
@SamJ0hn
@hopscotch

21st century literacy?



Circa 1300

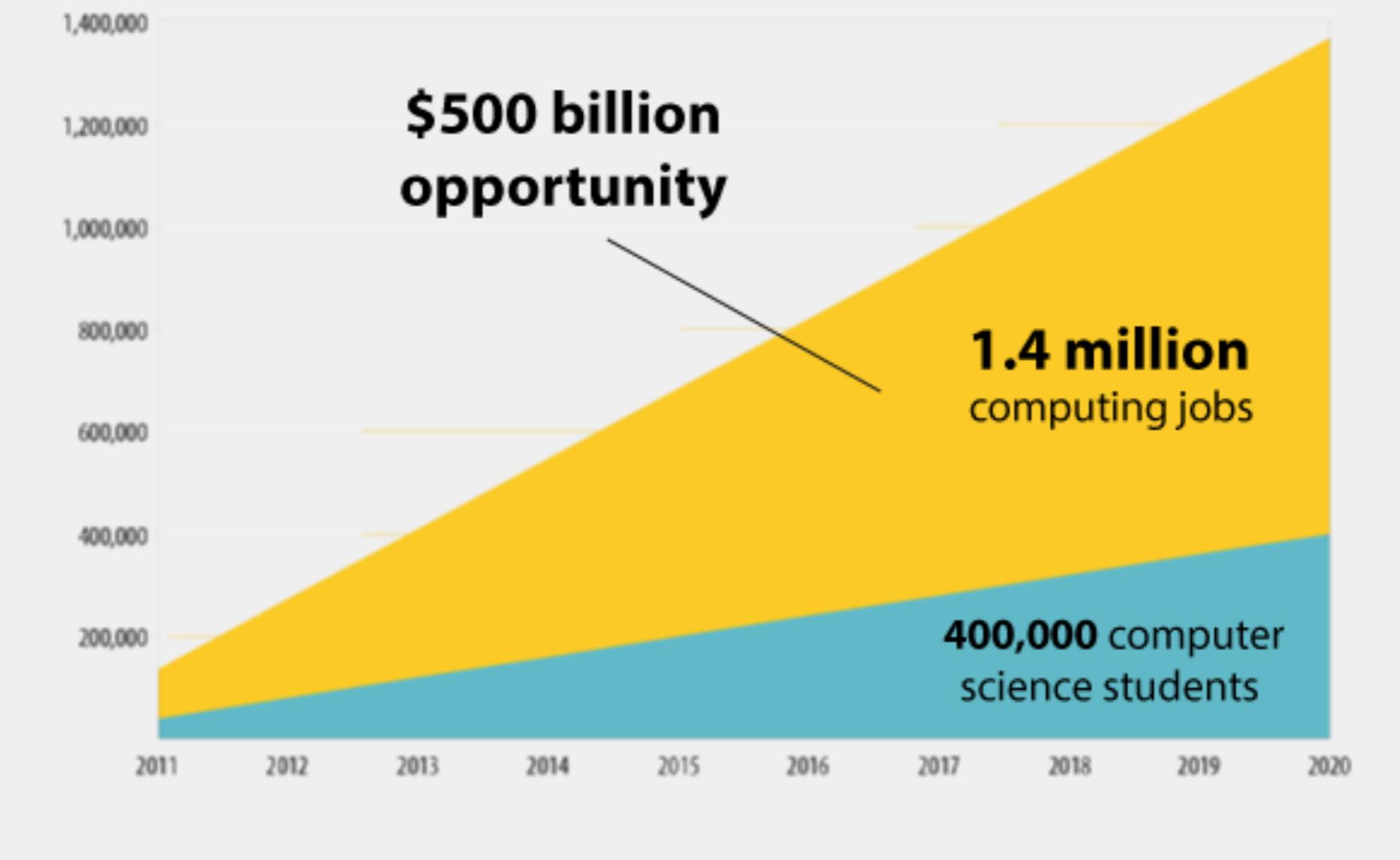


Technology is all around us



Opportunity

1,000,000 more jobs than students by 2020



The only person who went to prison after the financial crisis



What can I do about
this?

Where do I start?



Please sir,

I want some more
computer science

HOPSCOTCH

Learning to Code is exciting!



What do we mean by
“learning to code”?

HOPSCOTCH

Idea

Idea Tools

Idea
Tools
Algorithm

Idea

Tools

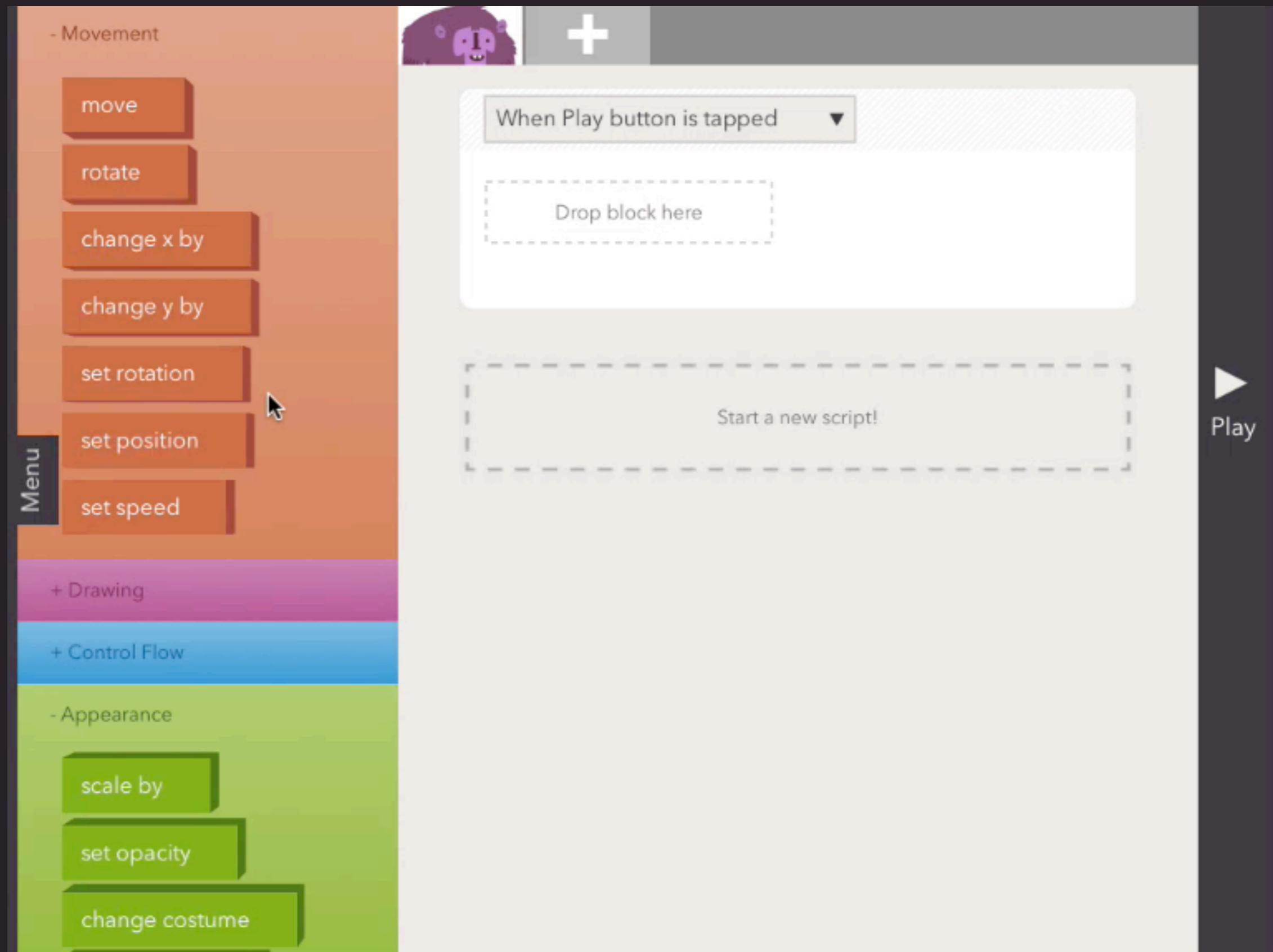
Algorithm

Code

Idea

1. Picture of food
2. ????
3. Profit!!

HOPSCOTCH



HOPSCOTCH

The image shows the Hopscotch app interface. On the left is a sidebar with the following options:

- Editor (selected)
- New
- Save
- Share
- Browse
- Feedback
- Help

The main area is divided into two sections:

Truth OR dare

trut...>> +

When Play button is tapped ▾

```
set text to Who Farted?? ----->
repeat (random 1-10) [
    rotate degrees -60
    end
    scale by percent 150]
```

Play ▶

When iPad is tilted right ▾

```
repeat (random 1-10) [
    rotate degrees 30
    end]
```

The top section contains a stack of blocks:

- When Play button is tapped
- set text to Who Farted?? ----->
- repeat times random 1-10
 - rotate degrees -60
 - end
- scale by percent 150

The bottom section contains a stack of blocks:

- When iPad is tilted right
- repeat times random 1-10
 - rotate degrees 30
 - end

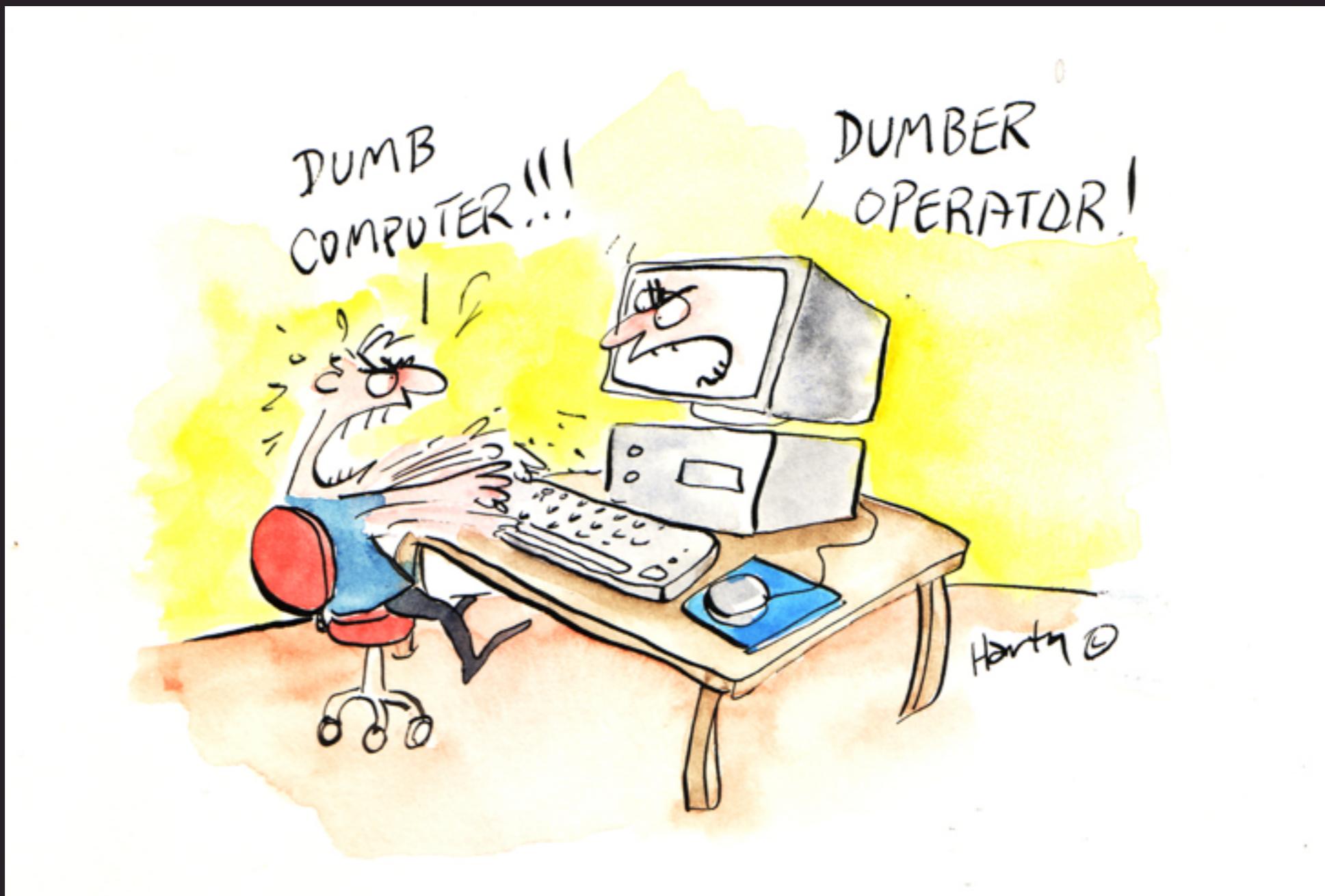
HOPSCOTCH

Make up your own game

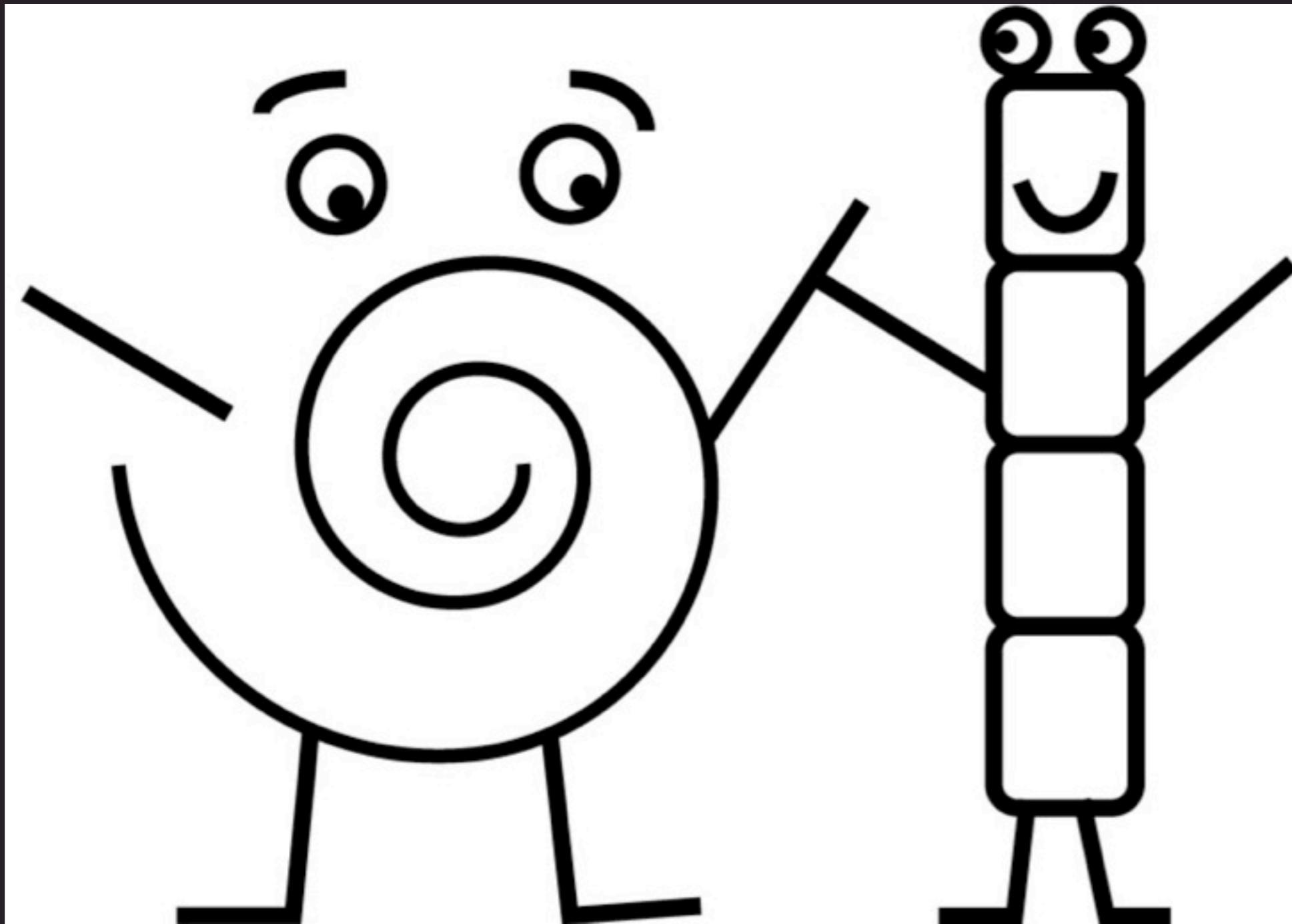


Tools

Computers are kinda dumb...



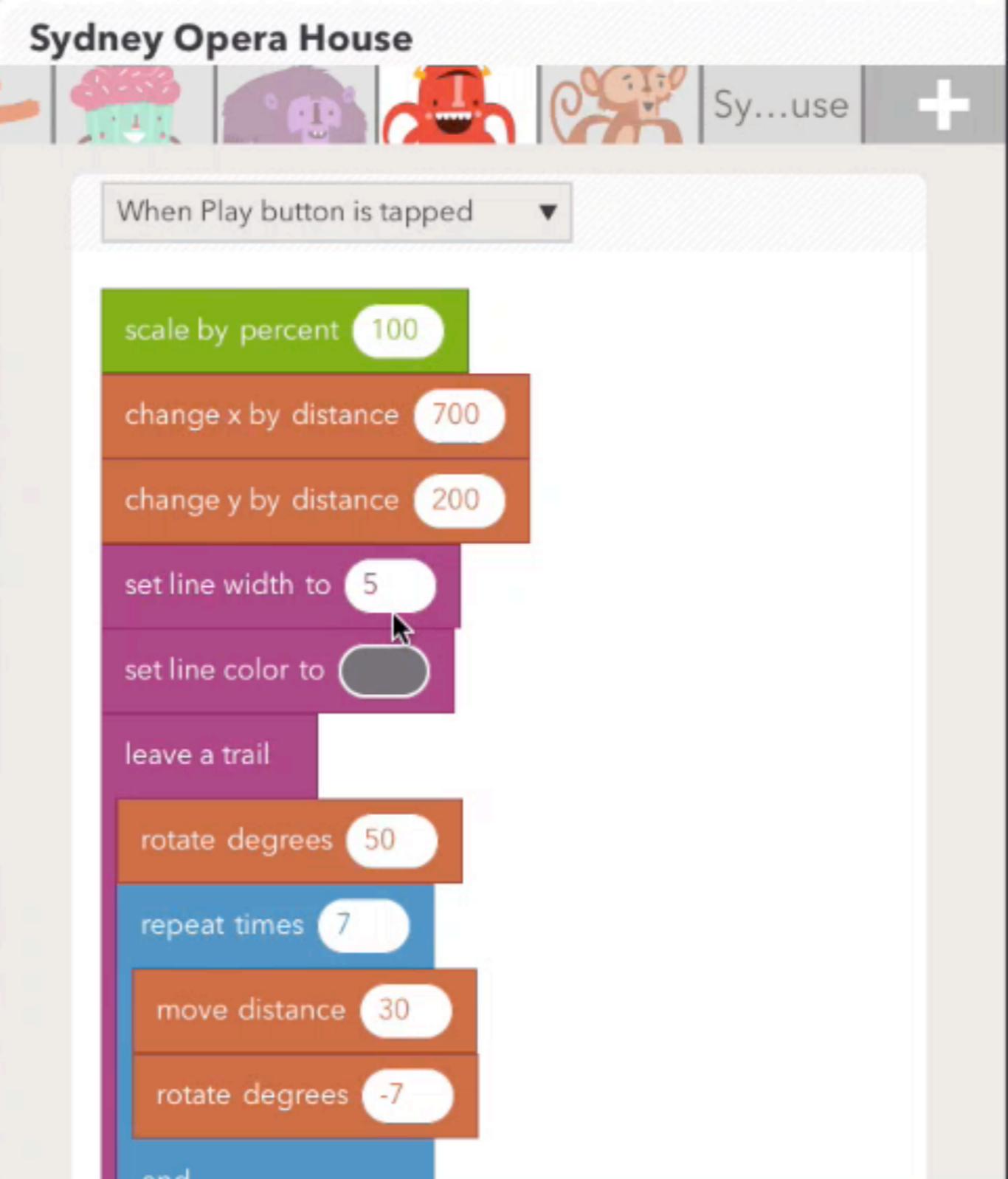
Lists and Loops are BFFs



Hopscotch Tools



HOPSCOTCH



The image shows a Scratch script titled "Sydney Opera House". The script begins with a green "scale by percent" block set to 100. It then repeats 7 times a blue "repeat" loop. Inside the loop, there is an orange "change y by distance" block set to 200, followed by a purple "set line width to" block set to 5, a purple "set line color to" block with a gray gradient, a white "leave a trail" block, an orange "rotate degrees" block set to 50, an orange "move distance" block set to 30, and an orange "rotate degrees" block set to -7. The script concludes with a blue "end" block.

Sydney Opera House

When Play button is tapped ▾

- scale by percent (100)
- change x by distance (700)
- change y by distance (200)
- set line width to (5)
- set line color to (gray)
- leave a trail
- rotate degrees (50)
- repeat (7) [

- move distance (30)
- rotate degrees (-7)

end

Play

Menu

- change y by
- set rotation
- set position
- set speed
- + Drawing
- + Control Flow
- Appearance
- scale by
- set opacity
- change costume
- bring to front
- send to back
- + Variables
- + Math

HOPSCOTCH

Tools in the real world

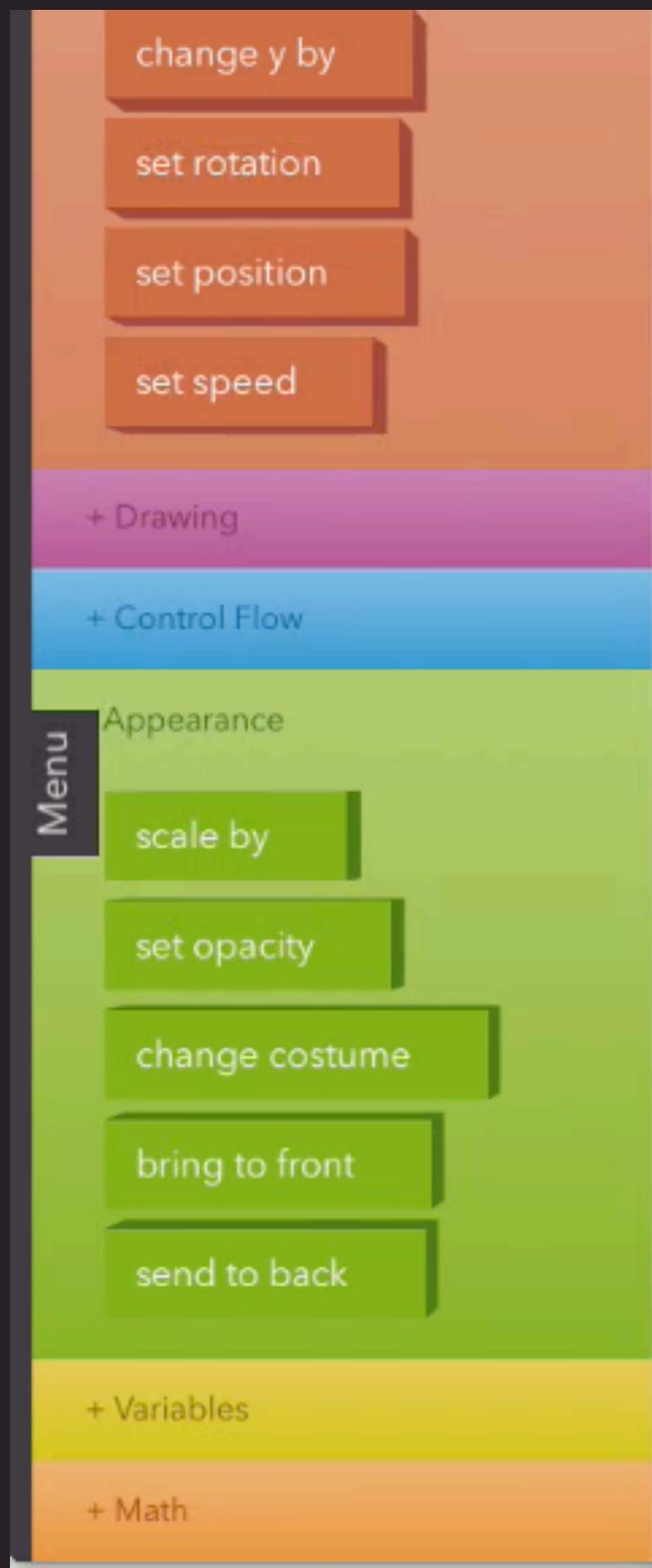


Algorithm

Algorithm



HOPSCOTCH



The LAB Miami

A Scratch script titled "The LAB Miami" is displayed. It starts with a green flag icon and ends with a white arrow icon. The script consists of the following blocks:

- set line color to teal
- set line width to 5
- move distance 250
- rotate degrees 90
- move distance 350
- rotate degrees 90
- move distance 250
- rotate degrees 90
- move distance 350
- rotate degrees 90
- end
- move distance 300

On the right side of the screen, there is a "Play" button with a play icon.



Program your parent

Code

Code is scary

The screenshot shows a Xcode interface with several open files and a detailed view of a specific file's code and its associated tests.

Left pane (File Navigator): Shows a tree view of project files under 'By File' and 'By Type'. It includes sections for 'Pods', 'Issues' (with 1 lexical or preprocessor issue), 'HopscothTests' (with 8 semantic issues), and 'HSObject.h' (with 2 semantic issues). A list of failing test cases is also visible.

Right pane (Code Editor): Displays the code for `HSParameterSpec.m`. The code is annotated with several error markers (red circles with exclamation points) indicating semantic issues. The code itself is a series of Objective-C statements involving prototypes and parameters.

Bottom pane (Output): Shows the test results for the suite 'KDDSpec'. It lists 8 tests, all of which passed successfully (0 failures, 0 unexpected). The output includes timestamps and the names of the test cases.

```
Test Suite 'KDDSpec' started at 2013-07-24 18:18:00 +0000.
Test Suite 'KDDSpec' finished at 2013-07-24 18:18:00 +0000.
Executed 8 tests, with 0 failures (0 unexpected) in 0.000 (0.000) seconds
Test Suite 'KMTTestCase' started at 2013-07-24 18:18:00 +0000
Test Suite 'KMTTestCase' finished at 2013-07-24 18:18:00 +0000.
Executed 0 tests, with 0 failures (0 unexpected) in 0.000 (0.000) seconds
Test Suite 'NSStringHopscothSpec' started at 2013-07-24 18:18:00 +0000
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameHasNoNumbers_ShouldAddA_1ToTheEnd]' started.
2013-07-24 14:18:00.998 Hopscotch[80168:c07] + 'nextNameFromName, the name has no numbers, should add a _1 to the end' Set the active scheme
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameHasNoNumbers_ShouldAddA_1ToTheEnd]' passed (0.001 seconds).
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameHasNoNumbers_ShouldPreserveTheOtherUnderscores]' started.
2013-07-24 14:18:00.998 Hopscotch[80168:c07] + 'nextNameFromName, the name has no numbers, should preserve the other underscores' [PASSED]
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameHasNoNumbers_ShouldPreserveTheOtherUnderscores]' passed (0.001 seconds).
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameAlreadyHasANumber_ShouldAddA_number1ToTheEnd]' started.
2013-07-24 14:18:00.932 Hopscotch[80168:c07] + 'nextNameFromName, the name already has a number, should add a _number + 1 to the end' [PASSED]
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameAlreadyHasANumber_ShouldAddA_number1ToTheEnd]' passed (0.001 seconds).
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameAlreadyHasANumber_ShouldPreserveTheOtherUnderscores]' started.
2013-07-24 14:18:00.934 Hopscotch[80168:c07] + 'nextNameFromName, the name already has a number, should preserve the other underscores' [PASSED]
Test Case '-[NSStringHopscothSpec nextNameFromName_TheNameAlreadyHasANumber_ShouldPreserveTheOtherUnderscores]' passed (0.001 seconds).
Test Suite 'NSStringHopscothSpec' finished at 2013-07-24 18:18:09 +0000.
Executed 4 tests, with 0 failures (0 unexpected) in 0.005 (0.037) seconds
```

HOPSCOTCH

The image shows the Hopscotch interface, a Scratch-like programming environment. On the left is a vertical menu bar with categories: + Drawing, + Control Flow, Appearance, Menu, + Variables, and + Math. The Appearance category is currently selected, showing blocks for scale by, set opacity, change costume, bring to front, and send to back. The main workspace has a red cartoon character at the top. A script editor window titled "When Play button is tapped" is open, with a placeholder "Drop block here" and a dashed box labeled "Start a new script!". A play button icon with the word "Play" is located on the right.

change y by

set rotation

set position

set speed

+ Drawing

+ Control Flow

Appearance

Menu

scale by

set opacity

change costume

bring to front

send to back

+ Variables

+ Math

When Play button is tapped

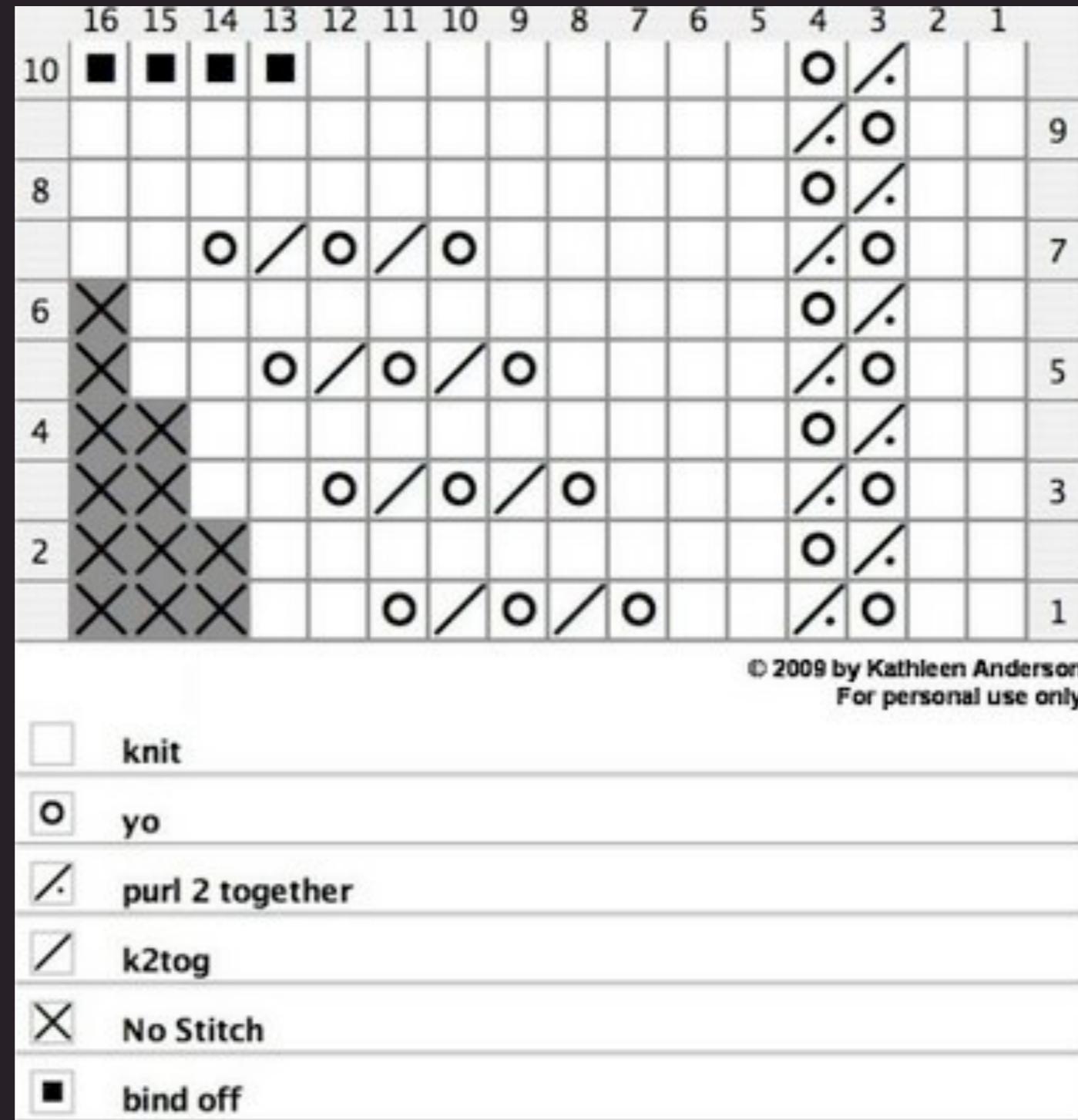
Drop block here

Start a new script!

Play

HOPSCOTCH

Real world examples of Code- Knitting patterns



HOPSCOTCH

People who helped a lot:

Ashley Gavin

Jocelyn Leavitt

Peter Bell

Steve Ellis

HOPSCOTCH

Samantha John
@SamJ0hn
@hopscotch

HOPSCOTCH

Questions?

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