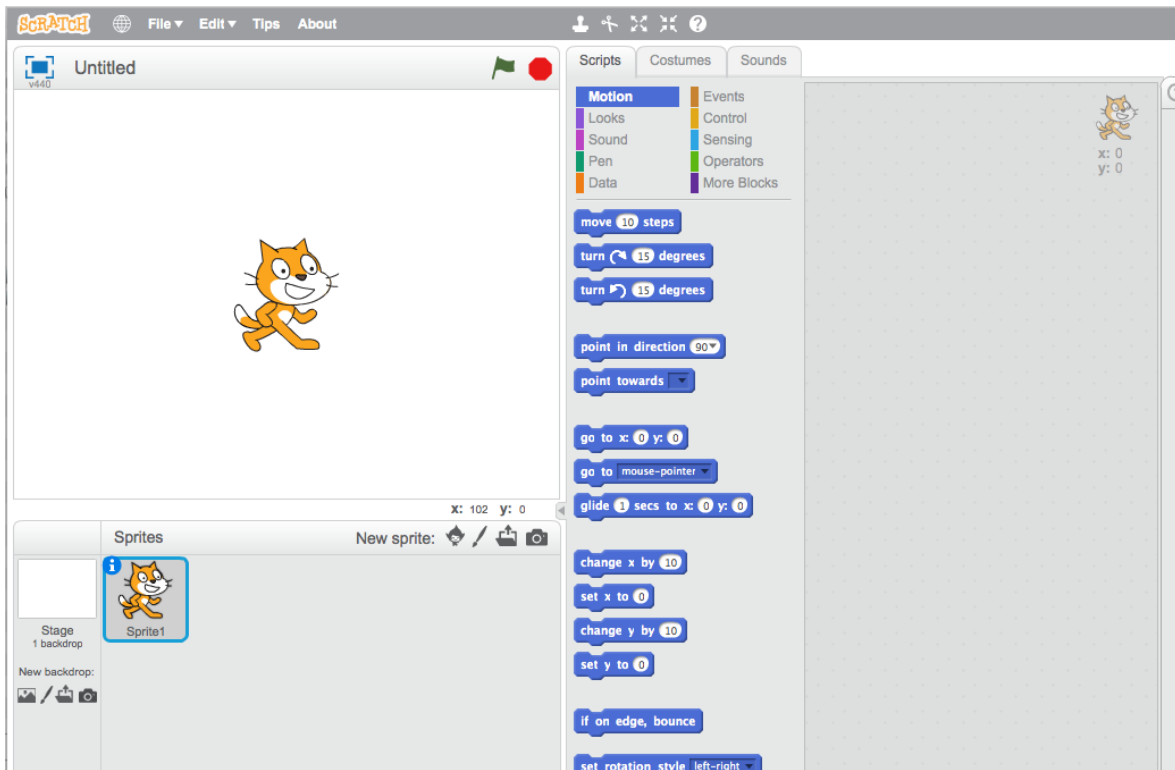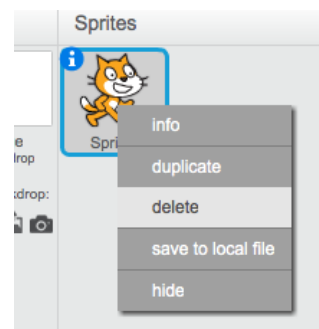# Maze Project HSS Code Club

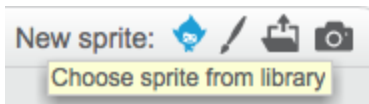## SET UP SPRITE
*Open Scratch 2

Sprites: Sprites in Scratch are the things that you control. The cat that you can see is a sprite called Felix, who is the Scratch mascot.

*Let's get rid of him for now, by right-clicking on him, and clicking 'delete' or using the <u>scissors</u>.
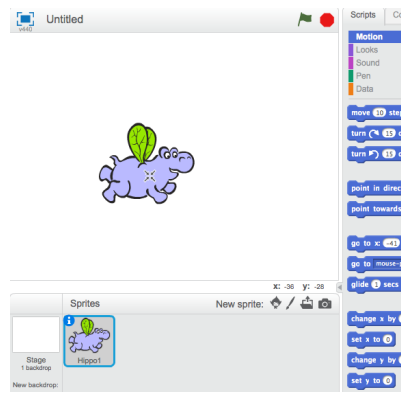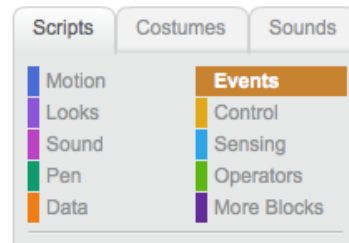

*Add a Sprite to the stage:
Let's add a new sprite from the library by clicking on the <u>pointy head character</u>

Find a sprite from Animals, Fantasy or Transportation Category and add it to the stage.

*Now let's animate the Sprite using the color coded Scratch blocks under the Scripts tab

Add these 3 blocks to the sprite script making sure that they are connected together (like Lego blocks). The code blocks are color-coded.

The algorithm is:
When the green flag is clicked
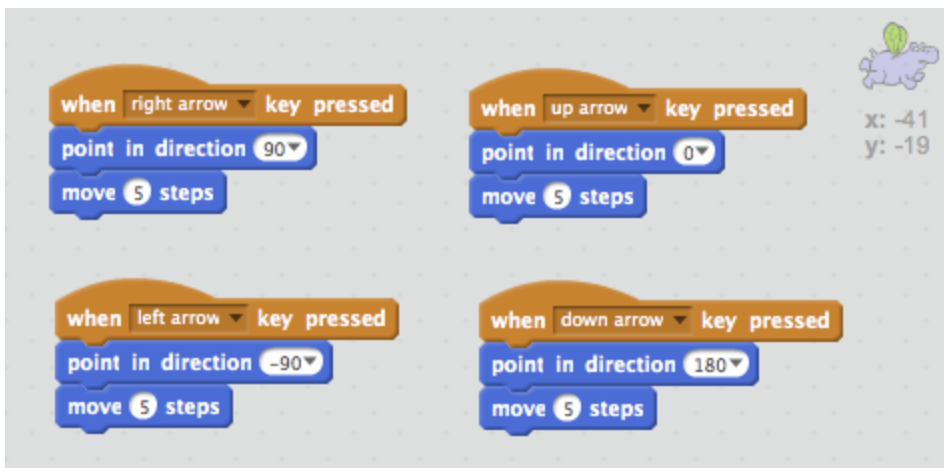**move 10 steps**
say Hello World! for 2 seconds.

You just wrote your first 3 lines of code.
Click the **Green Flag** and see what happens

*Let's **save** your progress.

At school you need to be sure you save in the **H: drive**. File -> Save As -> drop down menu find H: Give it a name and click ok to save.


ARROW KEY Controls
*Now let's set it up so that we can control the sprite by using the arrow keys.
Use the control and move menus to create these blocks of code:

Does your Sprite move as you expect?

If you don't want your Sprite to face upside down you can set that in the information **i** button on the Sprite and changing the rotation style.

Hippo1

x: -41   y: -19   direction: 90°

rotation style: ↻ ↔ ●
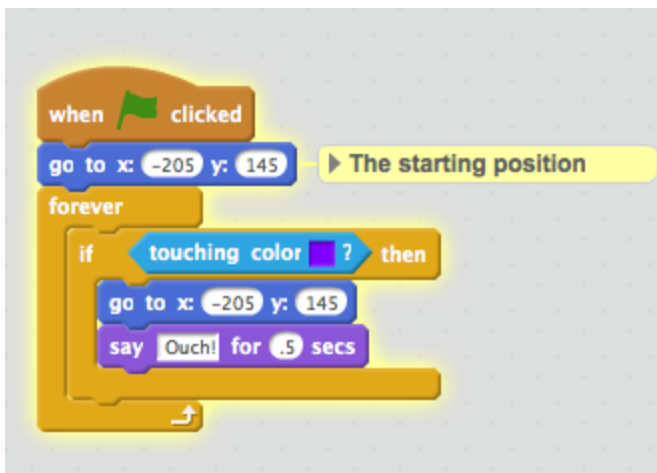
can drag in player: ☐

show: ☑
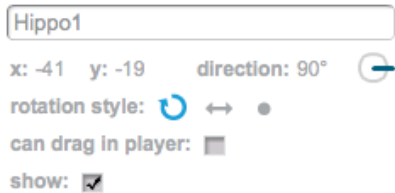
Save your project again with just **Save**.

SET THE STAGE

1. The maze will be the Stage for our Sprite. Click on the Stage and go to the Backdrop tab.

2. Fill the canvas with the color of your choice.

3

3. use a thick eraser to paint a road running left-right across the screen. Obviously the more bends you have, the harder the game will be to complete!

4. Press OK when done.

Sprite: Shrink your sprite so that it fits inside the uncolored path.

Save your project

INITIAL CONDITIONS

Let's go add some more commands to the sprite. Click on the sprite and **move him to the start of your maze**.   Add the command to go to this spot when the game starts (after the green flag is clicked)

SENSING

This is where we want the sprite to return if he touches the edge of the maze. Make it so that it works forever, if the sprite is touching the maze (color purple), he returns to the start and says "Ouch"
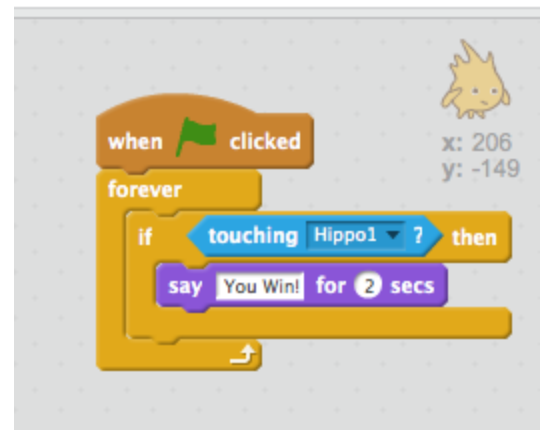
Test your game. Does it work they way you expect?

END CONDITIONS

What happens when your Sprite reaches the end of the maze? You can have another color and add a condition so that when it touches yellow, you win. Or you can add another Sprite at the end. When the maze runner (Hippo1) touches this Sprite, you win.
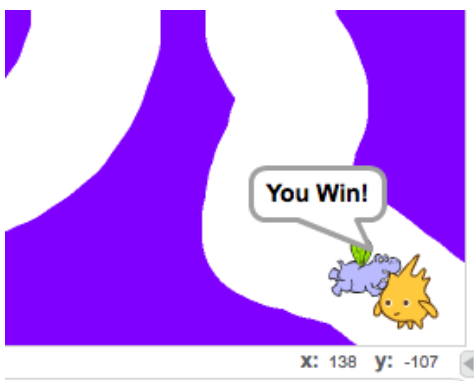
Challenges:

- Add a timer to see how quick you can complete the maze.

- Add Sprite "items" for your Sprite to collect to get points

- Add another backdrop to the Stage for another level!

- Have the Sprite follow your mouse instead of using the arrow keys

Be sure to test and save your work.