ACTIVITY 2: Animal Race

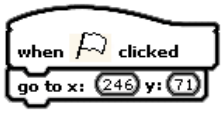
VOCABULARY

Initialize: Reset sprites to starting location, size, color, and direction.
Position: Where something is located.
Orientation: The direction something is pointing

ACTIVITY GOAL

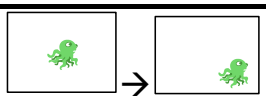
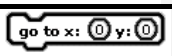
Tell sprites where they should be at the beginning of the program; reset them. This is called **initialization**.

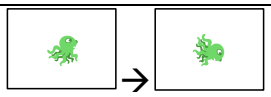
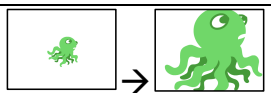
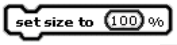
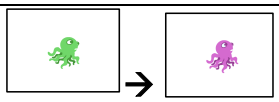
An example is shown on the right. This short script tells the sprite to go to a certain position every time the green flag is clicked.



BACKGROUND

Below are some things about a sprite that can change during a program and how to reset, or **initialize** them.

How a sprite may change		Blocks that affect a sprite	How to initialize
Position – the location of the sprite		"Glide", "move", "go to"	

Orientation – the direction your sprite is pointing		"turn", "point"	
Size – how big or little a sprite is		"change size by", "set size to"	
Color		"change (something) effect" or "set (color) effect"	

EXPLORE:

Step 1: Click the **green flag**.

Step 2: Click on each **animal** to make it start racing.

Step 3: Now click the **green flag** again. You should notice that some animals went back to the starting point while others did not.

The animals that went back to the starting position were correctly **initialized.** Those that did not return were **not initialized** meaning that they did not reset back to the starting line.

1. List all the animals that were **initialized**.

   _____

2. List all the animals that were **not initialized**.

   _____

Step 5: Circle the two variables for the **cat** that changed:

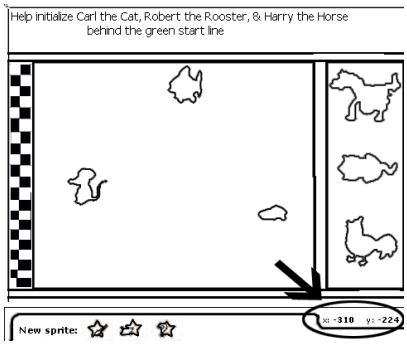
Position orientation size color

Step 6: Circle the two variables for the **rooster** that changed:

Position orientation size color

Step 7: Now look at the x and y number located just below the stage on the right-hand side.

This shows the x and y value for the location of the mouse pointer. If you put the pointer in the center of the stage, it should say: x: 0 y: 0. Now move your pointer to the right. The x number should get bigger. If you move the pointer up towards the top of the screen, the y number will get bigger.

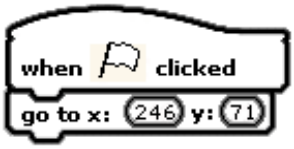


Step 8: What are the x and y numbers for the bottom-left corner of the stage?
x: y:

PROGRAMMING CHALLENGE: ANIMAL RACE

Your task is to properly **initialize** the rooster and the cat when the green flag is clicked.

An example initialization script is shown to the right. It consists of one **control** block ("when green flag is clicked" and one action block ("go to x:__ y:__"). This script will bring a sprite back to a certain spot on the screen whenever the green flag is clicked.



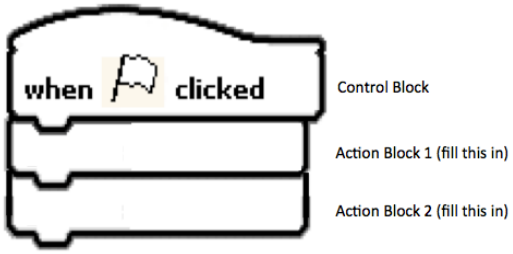
PLAN:

Plan how you will initialize the cat (make sure it returns to its initial state):

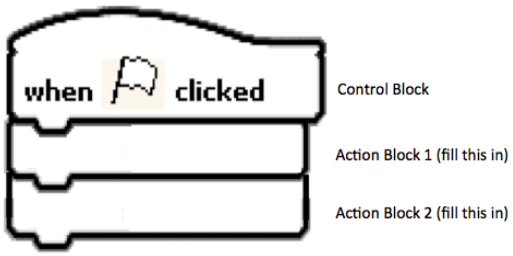
For the cat and the rooster, you will need to use a control block and two other blocks for each of them (hint: Look at the table on page 1).

Fill in the words on the action block that you will need to use.

CAT:



ROOSTER:



CREATE:

Make a script for the cat and a script for the rooster. Then test your solution by playing the race through twice in a row.

If your animals all go back to the starting point and look like they did before they began their first race, you have succeeded!

Double-check – did you remember everything?
1) Did you add in all of the initialization for the cat?
2) Did you add in all of the initialization for the rooster?
3) Did you save it and upload it to the website?

IMPROVE:

After you have finished, think about what you could do to make your project more interesting. Are there any other animals you would like to add, and how would they race?

Hilary Dwyer 10/30/13 10:54 AM
Comment [1]: Students found this confusing since there were no other animals on the screen. Is it mostly a conceptual idea?

_____

_____

_____

REFLECT:

Is there anything you found surprising when you were completing this project?

_____

_____

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_____

What was the hardest thing to figure out about the project?

_____

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