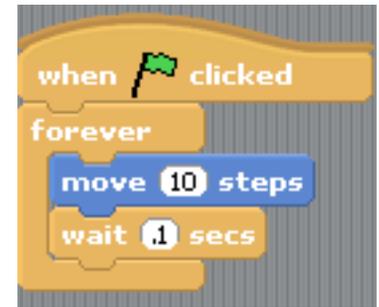# Practice with Sprite Interactions and Sensing
Making a Chase Game

1. Make a player sprite

   Draw or select a costume.
   Write a script so that the sprite moves constantly.

   Set the arrows keys so that the sprite turns when they are pushed.

2. Touching colors animation.

   Create a boundary warning line by making a colored border on the background costume.
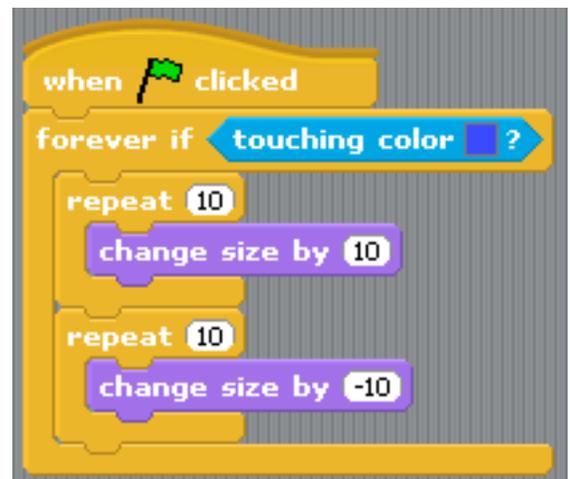   Set the sprite to react to the boundary.
   Connect a <forever if> bar to a new flag control bar.
   Add <touching color ___?> to its hexbox.
   Click on the color shown to get the eyedropper tool, then select the color you want it to sense from project display.
   Insert the reaction you want inside the block. In this example, the character sprite grows and shrinks.

3. Reactions when touching another sprite.

   Create a new sprite with a script that sets in in motion.
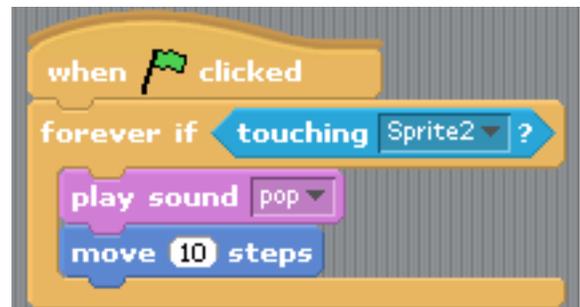   Return to your character sprite's scripts tab.
   Connect a <forever if> bar to another flag control bar.
   Add <touching ___?> to its hexbox.
   Use the pulldown menu to select the second sprite as the thing being touched.
   Add what will happen when they touch inside the block.

4.. Adding Variables: keeping score

   In the variables tab, make a new variable called "score."
      Keep it a local variable, applied to this sprite only by clicking that radio button.
   Decide on an interaction which will affect the score, for example, when the character sprite touches another sprite.
   Find the script that gives directions for what happens when the character sprite touches sprite2.
   Add <change score by 1> to the script directions inside

the <forever if> block.
To reset the score at the beginning of the game, add <make score 0> to the control flag which sets the player in motion.

4. Keeping time

Repeat the process of making a new variable, calling this one "time."
Make a new script linked to a green flag control which first sets the time to zero.
Inside a forever block, have the sprite wait 1 second, then change the "time" variable by 1.

To have the game stop after a specified time has passed, use the < if _____ else _____> block.
In the numbers tab, get an < ___ = _____> block to put in the "if" hexbox.
Put the "time" variable on one side and your stopping time in the other.
Add <stopall> under the <if> and <change time by 1> under the <else>.
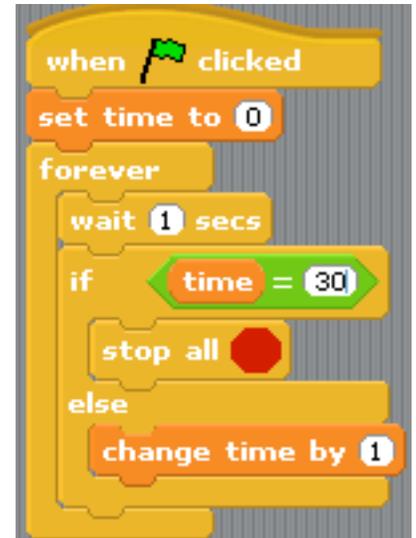
5. Control the sprite from a Scratchboard.

Save your project.
Hook a Scratchboard into the computer's UBS port.
Restart Scratch and open your project.

Start a script section using an <if> block with a <less than> relationship in the hexbox.
On left side, insert a sensor value block and select "resistance-A" from its menu.
On the right side of the sign, put "50".
Add <point in direction ___> inside the <if>.
Choose a cardinal direction for its input.

Copy this block three times Change the pulldown menus to make the B-D sensors each select a different direction.
Connect all four <if> blocks.

Remove the blocks that control the sprite's direction by means of arrow keys.
Start a new flag-controlled script attached to a <forever> block.
Move the stack of <if> blocks inside it.

Create a set of switches which will allow for four direction choices.
Hook up the Scratchboard to the switches.

To test out if the switches are working, add the sensor values on the screen by checking the box to the left of their bar from the sensor tab.