

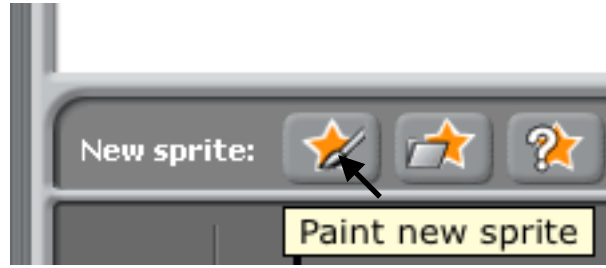
Hint for the Pong application (part of assignment #5)

1. Identify the sprites required:

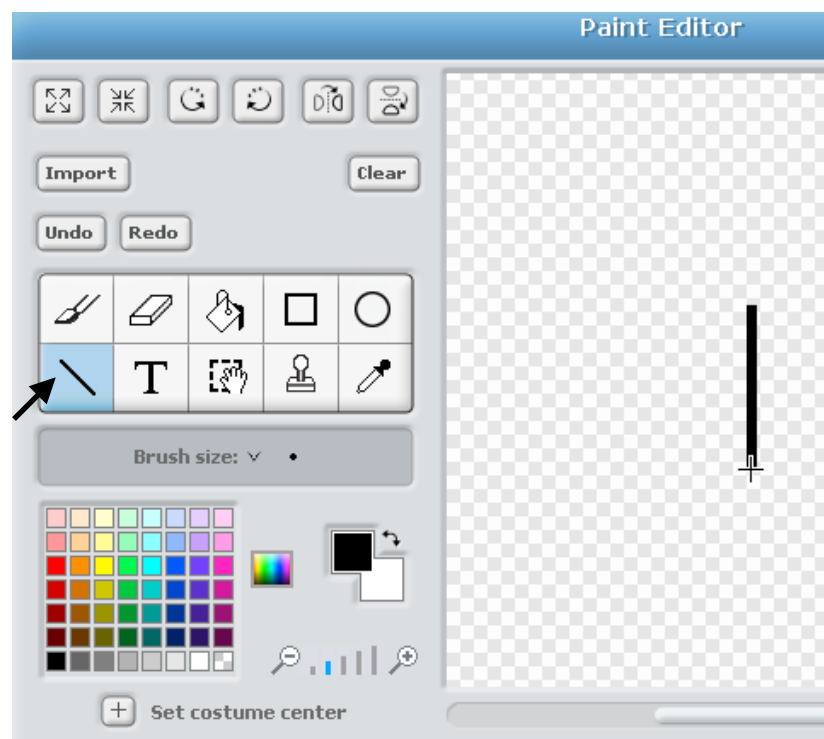
- a. Paddle
- b. Ball

2. Create the sprites:

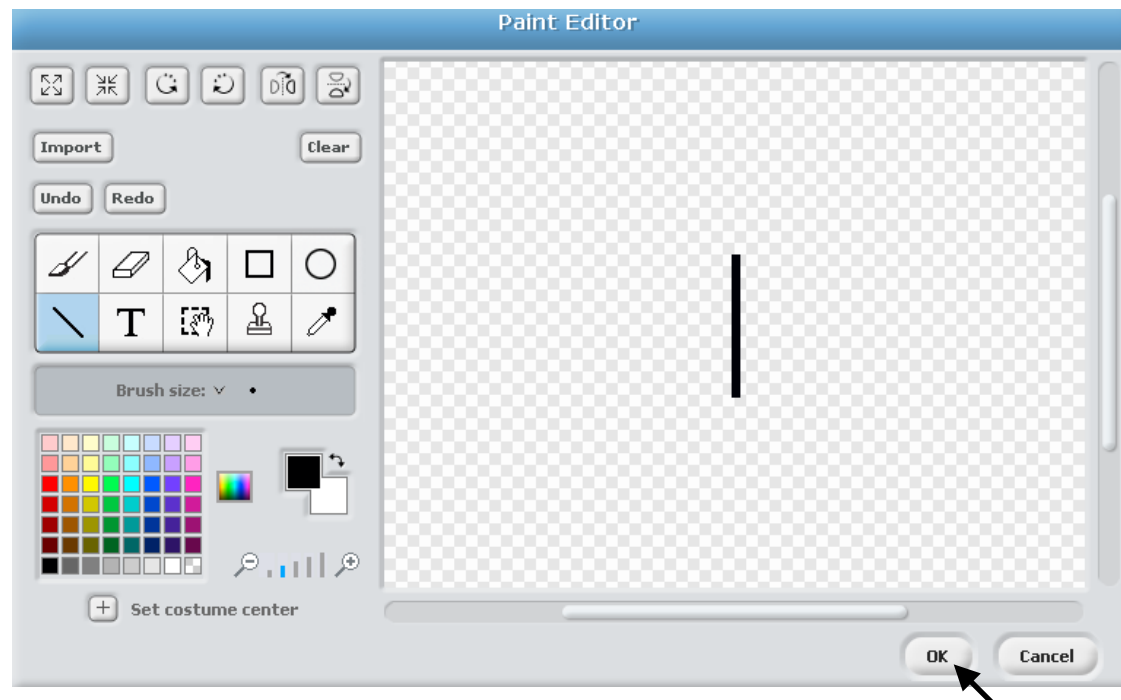
- a. To create the Paddle click the Paint new sprite button (First button after “New sprite:”)



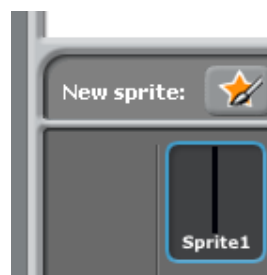
- b. Draw the paddle using the line tool within the Paint new sprite editor (arrow points at the line tool in figure below):



c. Click OK

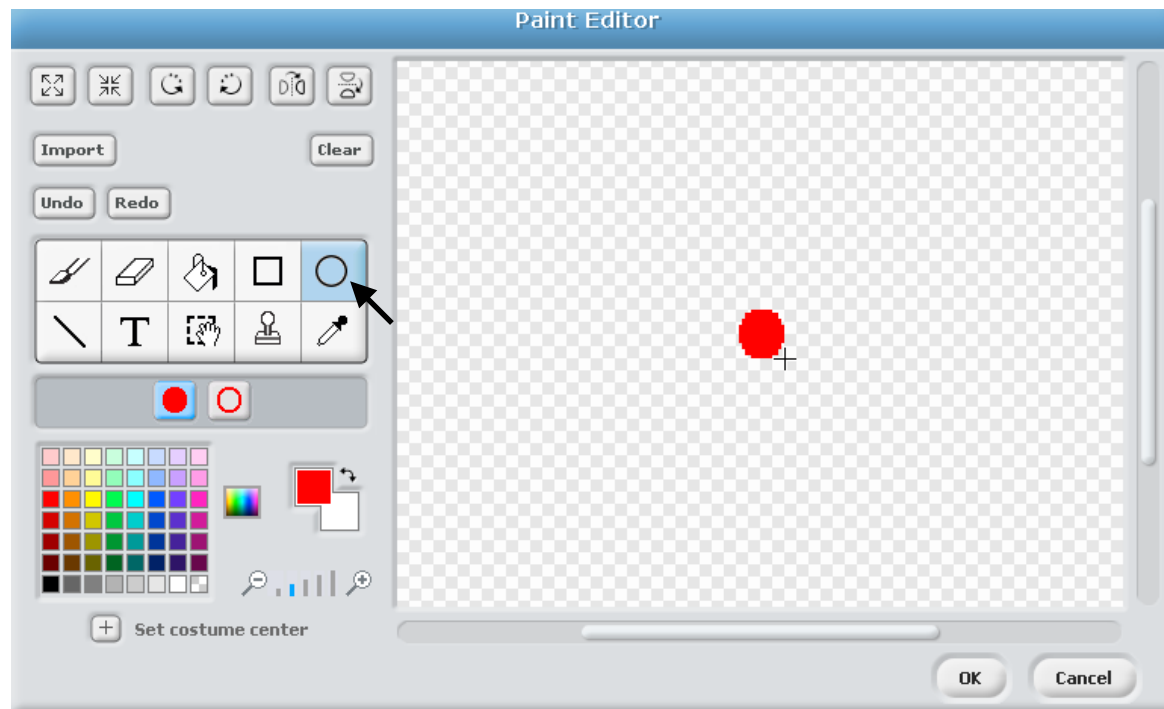


Now we have the paddle sprite:

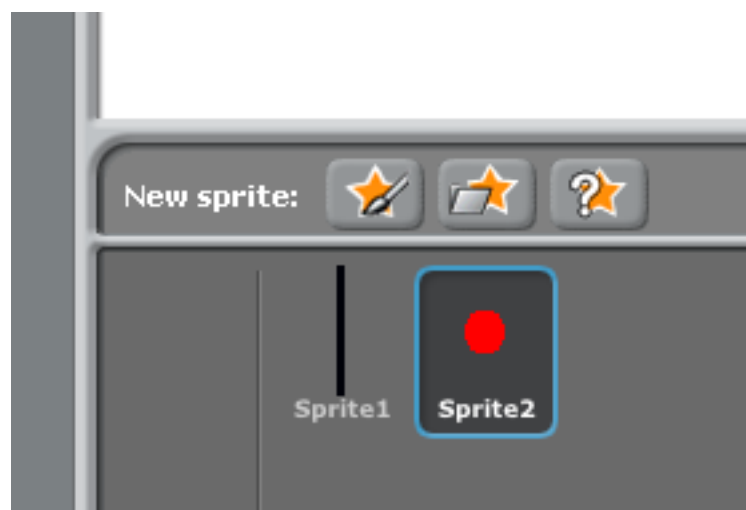


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d. Next Draw the ball sprite in a similar manner, i.e. create a new sprite and using the circle tool (see arrow) and click OK:



e. Now there are two sprites, Sprite1 and Sprite2:



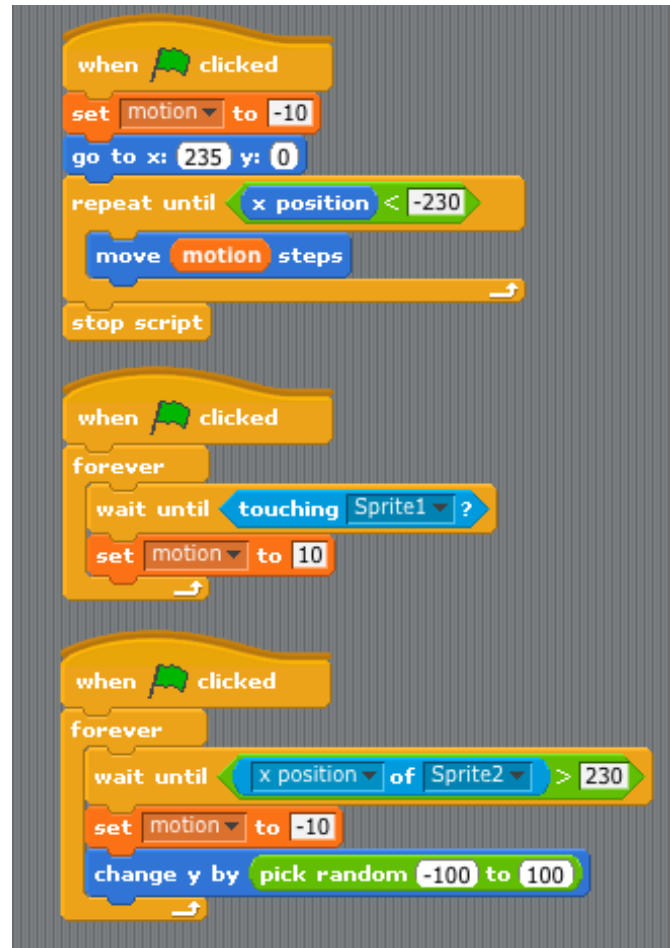
3. Next write the code for each sprite, starting with the paddle (Sprite1) by double-clicking sprite one; code for Sprite1 is below:



- i. The trick is to make the paddle respond to the up and down arrows keyboard hits, as shown above.
- ii. When green flag is clicked moves the paddle to location (-160, 0) on the stage
- iii. Note that to move the paddle up, the "when 'up arrow' key is pressed" widget is used
- iv. Likewise, to move the paddle down, the "when 'down arrow' key is pressed" the paddle moves down

*The code for Sprite2 is on the next page...*

g. The code for the ball is a bit more tricky:



Notes:

- In the above Script for Sprite2, three different processing “threads” run in the ball sprite when the user clicks:



- The first thread (from above) simply moves ball from the right to left on the stage, starting at (235,0)

- The tricky part here is the ball will continue to move left until it hits the left side of the stage, which means the ball was not struck by the paddle, i.e. the player missed the ball.

OR

- Until the paddle/ball collide, in which case the second thread detects the collision and changes the direction of the ball.

- The second thread simply waits until the paddle and the ball are touching

- When the paddle does hit the ball (or in this case the ball hits the paddle) the motion variable is set to 10; 10 in this case means the ball reverses direction and is now moving from left to right.

- The third thread detects when the ball hits the right side of the stage

- In this case the ball direction is changed so that the ball will again move from right to left

**While the aforementioned is fairly complete, there are a few more parts that need to be added:**

1. After the player successfully hits that ball with the paddle three times straight the speed of the “move” variable (rate of movement) should be increased.
2. The change in vertical positioning of the ball should should also be enlarged
3. A count of the number of successful hits should be displayed when the user misses the ball
4. The program should also completely stop

To help everyone finish this question, the code for the above program is on the class website at:

<http://wpbcsc115.weebly.com/uploads/1/3/6/8/13682593/hint-for-pong-game.sb>