# Create a Pong Game Using Scratch
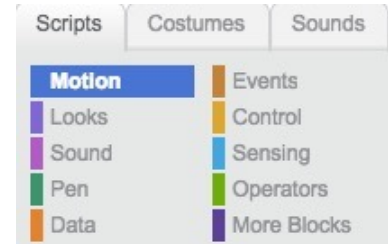
Access online version of Scratch:
**https://scratch.mit.edu/projects/editor/**

*Scratch only works on a computer. For iPad access please use Scratch Jr. App.*

1. Delete the Cat Sprite (Click on the scissors and then click on the Cat).
2. Create a Paddle Sprite
   a. Click "Paint new sprite" icon
   b. Draw a rectangle with the rectangle tool
   c. Name the Sprite "Paddle"
3. Create a Ball Sprite
   a. Click "Paint new sprite" icon
   b. Draw a ball
   c. Name the Sprite "Ball"
4. Create a script (program) for the Ball Sprite (Part 1)
   a. Select the Ball Sprite
   b. From the Events blocks, drag a "When Green Flag Clicked" into scripts field
   c. From the Motion blocks, drag a blue "point in direction" and connect it to Green Flag script
   d. From the Operators blocks, drag a green "pick random 0 to 360" inside the "point in direction" script

   e. From the Control blocks, drag a yellow "forever" and connect it to the above scripts
   f. From the Motion blocks, put a blue "move 5 steps" inside the "forever"
   g. From the Motion blocks, put a blue "if on edge, bounce" inside the "forever" block

5. Create a script (program) for the Ball Sprite (Part 2)
   a. From the Events blocks, drag another "When Green Flag Clicked" into scripts field
   b. From the Control blocks, drag a yellow "forever" block and connect it to Green Flag Script
   c. From the Control blocks, drag a yellow "if…then" block and put it inside of the "Forever" block
   d. From the Sensing blocks, drag a light blue "touching?" block and place it in the "if…then" and select "paddle"
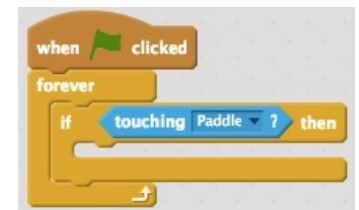
e. From the Motion blocks, put a blue "turn 15 degrees" within the "if…then" and
   change it to "turn 180 degrees"
f. From the Motion blocks, put a blue "move 5 steps" under the "turn 180
   degrees"



6. Create a Script for Paddle Sprite. This allows the paddle to follow the mouse.
   a. Select the Paddle Sprite
   b. From the Events blocks, drag block "When Green Flag Clicked" into scripts
      field
   c. From the Control blocks, drag a yellow "forever" block and connect it to Green
      Flag Script
   d. From Motion blocks, drag a blue "set x to…" within forever block
   e. From Sensing blocks, drag a "mouse x" block and place in "set x to.."
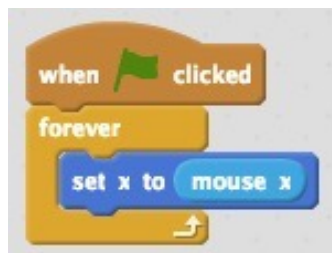


7. Click the green flag to play your game.

**EXTENDED CHALLENGES:**

*Set the paddle to move using the arrow keys.
*Set the game to end if the ball misses the paddle (hint: change the color of the "ground")
*Add more balls to the game
*Turn this into a soccer game
*Add a background, change the speed of the ball, add a sound