SCRATCH **Breakout**

Register/login at https://scratch.mit.edu
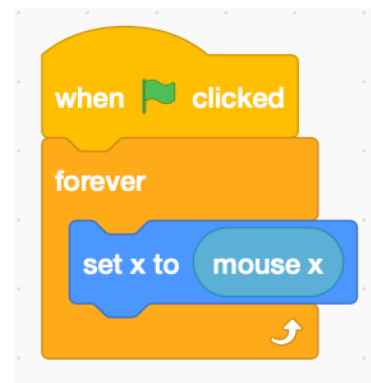
You have a bat and ball and have to knock out the bricks.

1) Make the bat. Create a new sprite and use **paint** to draw a rectangle in the centre.

2) Use the mouse to control the bat. Move the bat to the bottom of the screen and add code that **sets the x** (horizontal) position to **mouse x** in a loop.

3) Make a ball. Create a new sprite and use paint to draw a circle in the centre.

4) Add code to make the ball bounce around the screen. Make sure the ball is **show**ing and then **move** the ball inside a loop. Add "**if on edge, bounce**" to bounce off the edges.

5) **Hide** the ball if it gets past the bat. Add an **if** block to the loop to detect when the vertical (y) position of the ball nears the edge, before it bounces. Experiment with the y position.

6) When the ball is **touching** the **bat** it has to bounce off. Add an **if** block that changes the ball **direction**, subtracting it from 180° (180 degrees is half a circle).

7) Give the player more control over the bounce by adding the horizontal (x) difference between the ball and the mouse, to the direction.
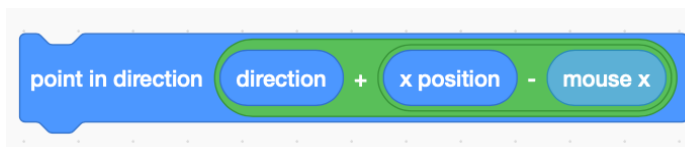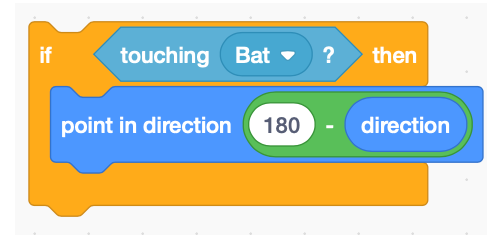
Add this inside the **if** block above.

8) Make a brick. Create a new colourful square sprite.

9) The brick will disappear when the ball hits it. Use **wait until touching Ball**.

10) To make the ball bounce off the brick, broadcast a 'pong' message to the ball.

11) When the ball **receives** the pong message it bounces the same way it bounced off the bat.
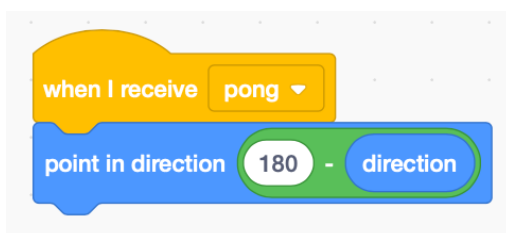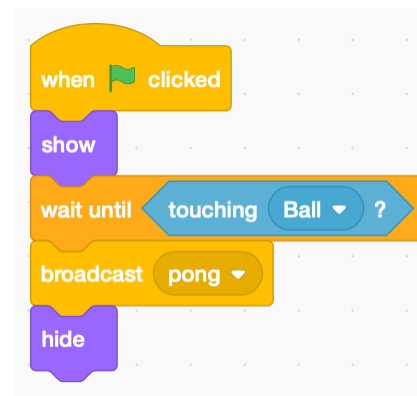
Click on the green flag to restart the game.

Duplicate more bricks. Try adding a score.

Save *your code with a good name.* **File > Save now**