SCRATCH **Pen Drawing**

Register/login at https://scratch.mit.edu
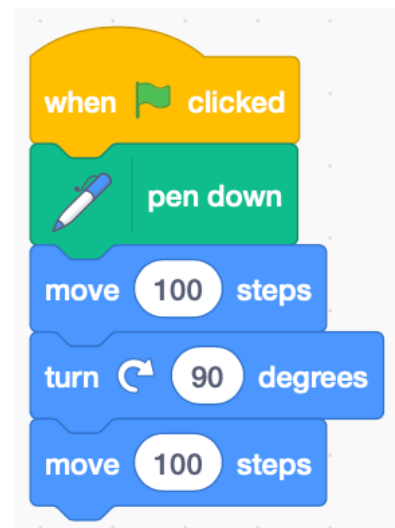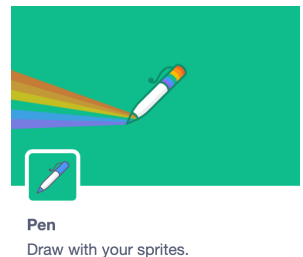Remember to write down your password.

*The **Pen extension** lets a sprite leave a trail when it moves.*

1) Click on the **Add Extension** button at the bottom left of the screen.

2) Select the **Pen** extension. New **Pen** code blocks appear below the other code blocks.

3) Choose a sprite that looks good when rotated. LadyBug1 is a good example.

4) Add a **when green flag clicked** code block, to run the program.

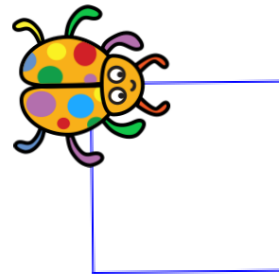5) From the new pen code blocks add **pen down** to start drawing. Add **move 100 steps** to draw a line.

To draw a shape like a square, turn the sprite at the corners.

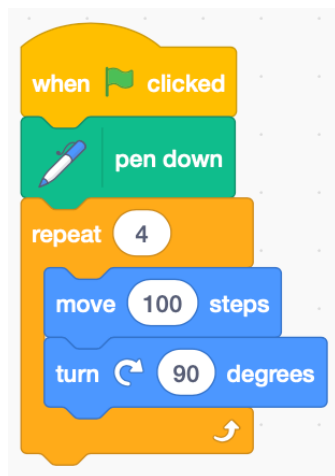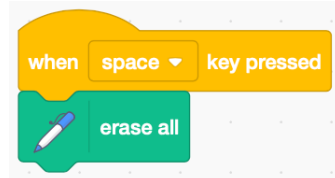6) Add **turn ↻ 90 degrees**, then **move 100 steps** again.

7) Copy (right click the block, then **duplicate**) the turns and moves to draw a square.

8) You can erase the drawing with the **erase all** block. You can trigger this **when the space key is pressed**.
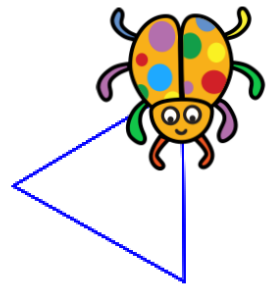
There's a lot of duplication in the square drawing code. Replace this with a loop that repeats four times.

9) Add a **repeat** block and change the loop count to 4 for each of the four sides. Place **move** and **turn** inside the loop.

Can you draw a triangle? It has three sides so you have to change the loop count.

The turn angle is 360 divided by the number of sides. Work out 360 / 3 (the '/' is division).

10) Change the loop count and the turn angle to draw a triangle. What about shapes with *more* than 4 sides?

The external angles of any polygon add up to 360 degrees.

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