SCRATCH Pen Drawing

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

In this project we look at the **Pen extension**. This allows a sprite to 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. I chose LadyBug1.
- 4) Add a **When 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.



Draw with your sprites





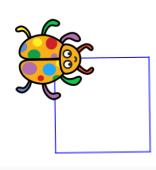
- 7) Copy (right click the block, then **duplicate**) the turns and moves to draw a square.
- 8) You can erase the drawing with the **erase all** block. You can trigger this on a key being pressed.

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.

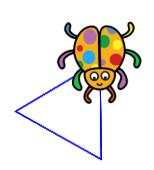
Can you draw a triangle? It has three sides so you have to change the loop count.

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