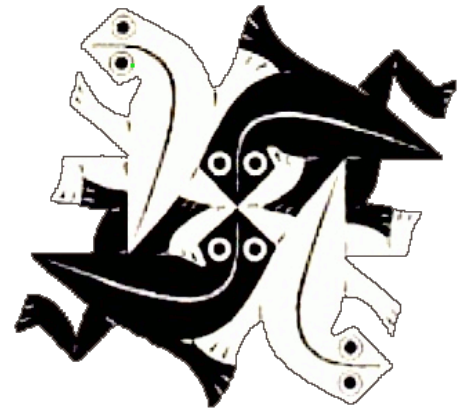


# SCRATCH Lizard Tiles



Register/login at <https://scratch.mit.edu>

*Stamp interlocking sprites on the screen, like tiling a wall, using nested loops.*



- 1) Click on **Add Extension** and add the **Pen** extension.
- 2) Download graphics from:  
<https://codeclub67.github.io/images/lizard104.gif>
- 3) Create a new sprite with lizard104.



*The tile is like a jigsaw piece. The sides can interlock with each other.*

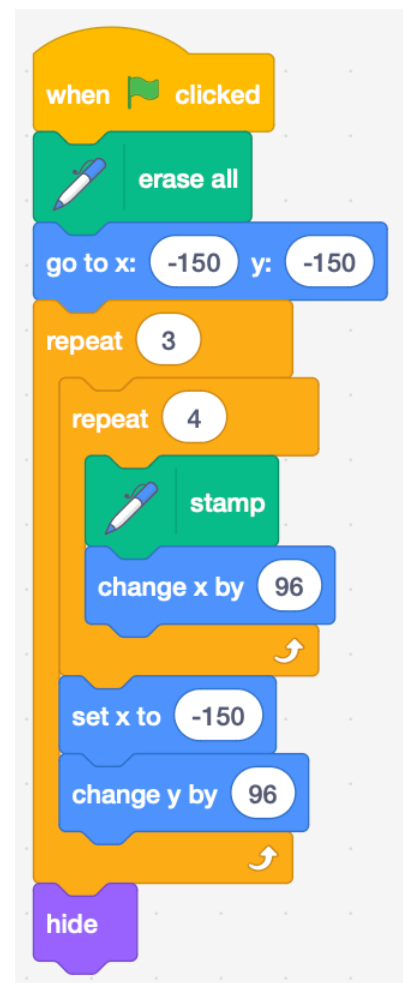
- 4) Drag the sprite to the bottom-left of the screen and make a note of its x, y coordinates. Add code to clear the screen and initialise the position of the tile. When you add the **goto** block it uses these coordinates.
- 5) Make a row of tiles from left to right, by **repeatedly stamping** the tile and **changing x** by the tile width.



*How do we tile upwards, as well as left to right?*

*You can extend the tiles upwards by adding an outer loop that repeats the rows.*

- 6) With the outer loop added, the code now looks like this. The loop to stamp rows of tiles is *nested* within another loop.
- 7) After each row (inner loop) we **set x** back to the starting position, and **change y** by the height of the tile, so everything is ready to tile the next row.
- 8) Hide the sprite at the end so you can see what it stamped.



*Nested loops are really useful for working with things arranged in a grid, like these tiles.*

*This example is based on **Lizard (No 104)** by M.C. Escher.*

*Remember to **Save** your code with a good name.*

**File > Save now**