

Scratch Programming: 1. Shapes

Task: Create a square

Lesson Objectives:

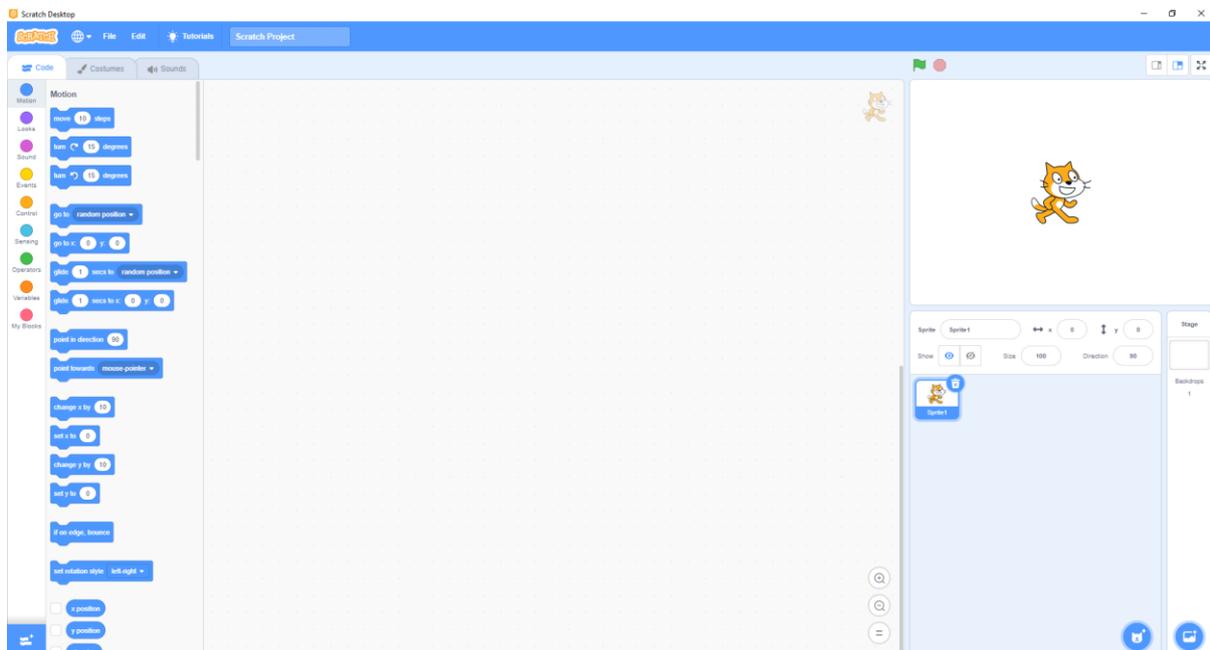
To learn how to scratch blocks as instructions to make a program

What do you need to do?

Follow the instructions below. Always remember to save your work (Save as) in a place you can remember and test your program. Regular saving of your programs will help you if you make mistakes or if there is problem and you lose your work.

Instructions

Open Scratch 3. You should see something like the screen shot below

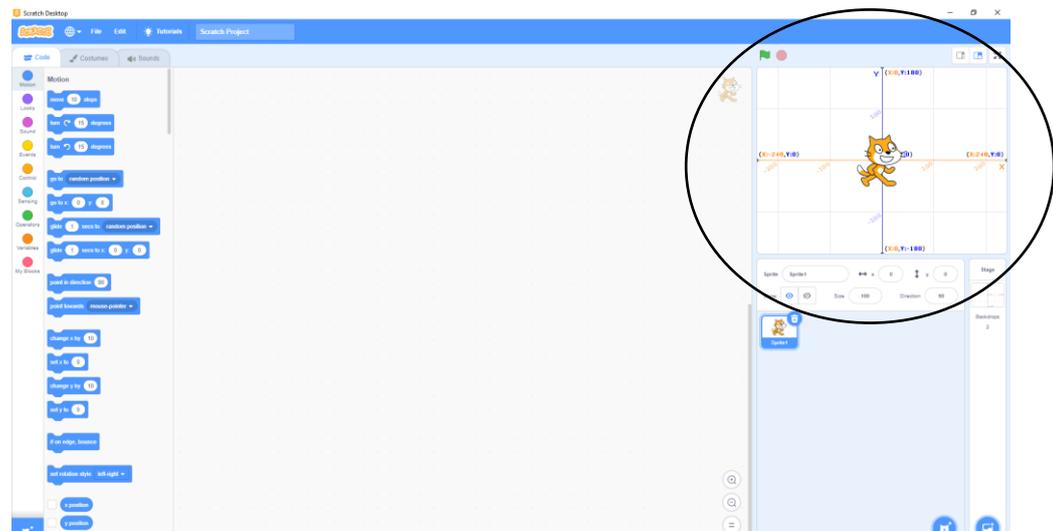
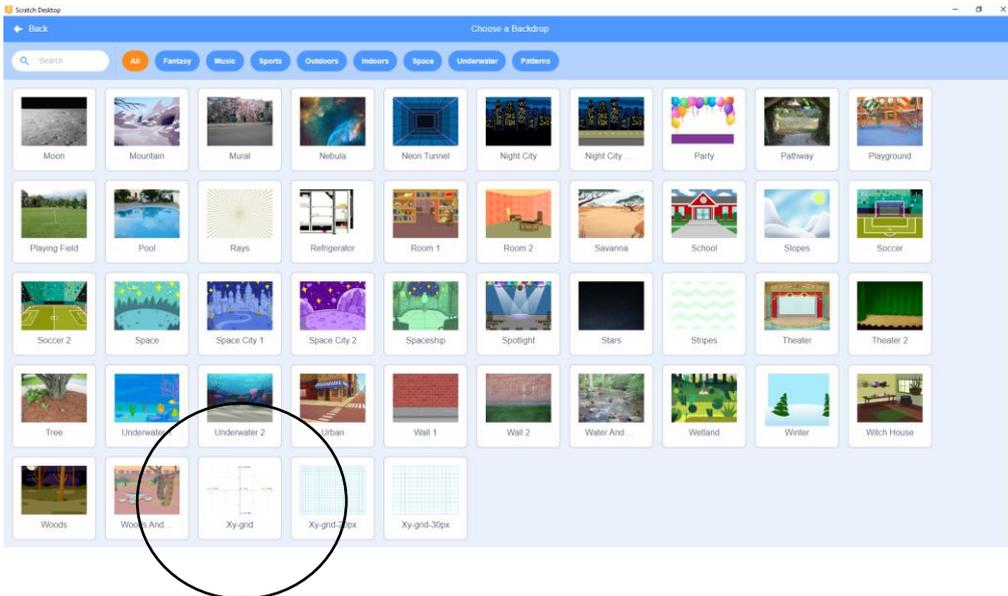
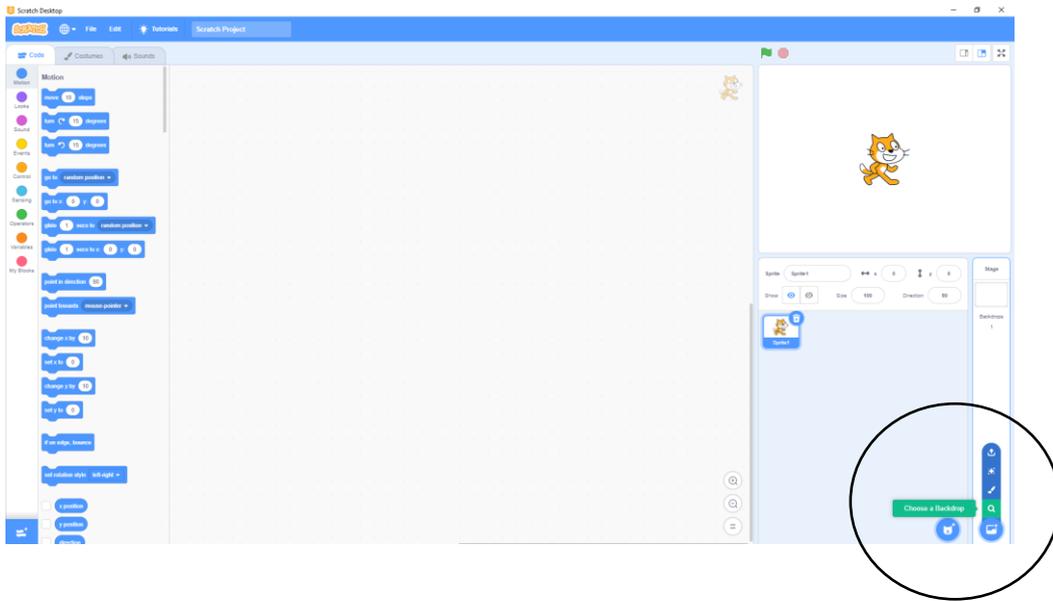


We will use the blocks to the left to make instructions that the cat (right) will follow. To use blocks we drag a block from the left into the middle stage area. To make the cat follow the instructions we can either click on the block in the stage, or use event blocks (e.g. when green flag clicked) which we will see soon.

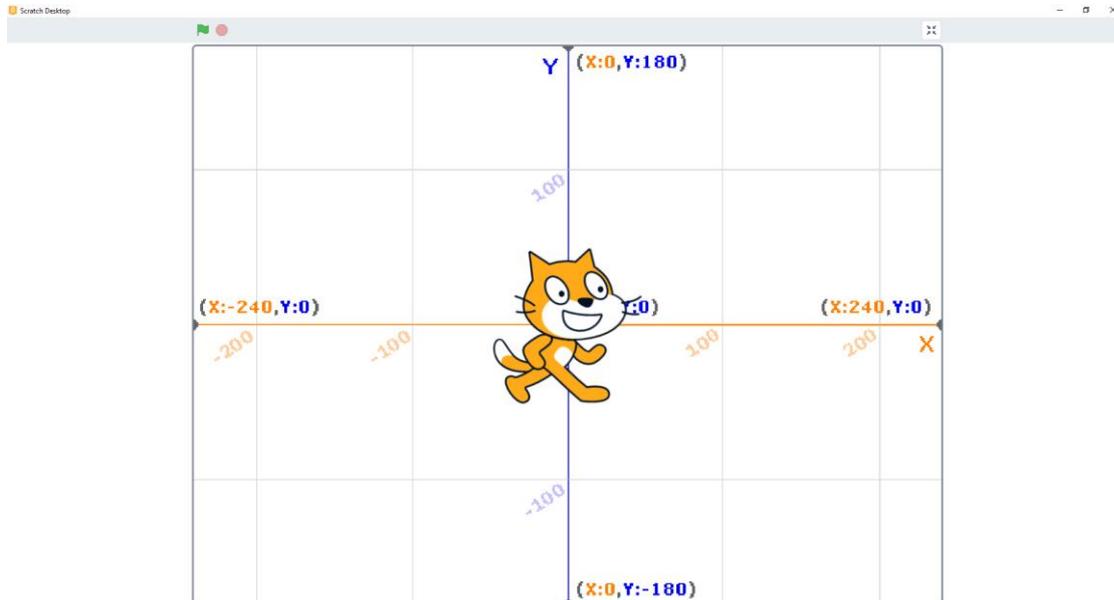
Choose a background – called a backdrop (see below)

- Click the blue circle – bottom right hand side,
- then choose a backdrop
- Choose backdrops from library

In this example choose the graph so we can see the x and y axis

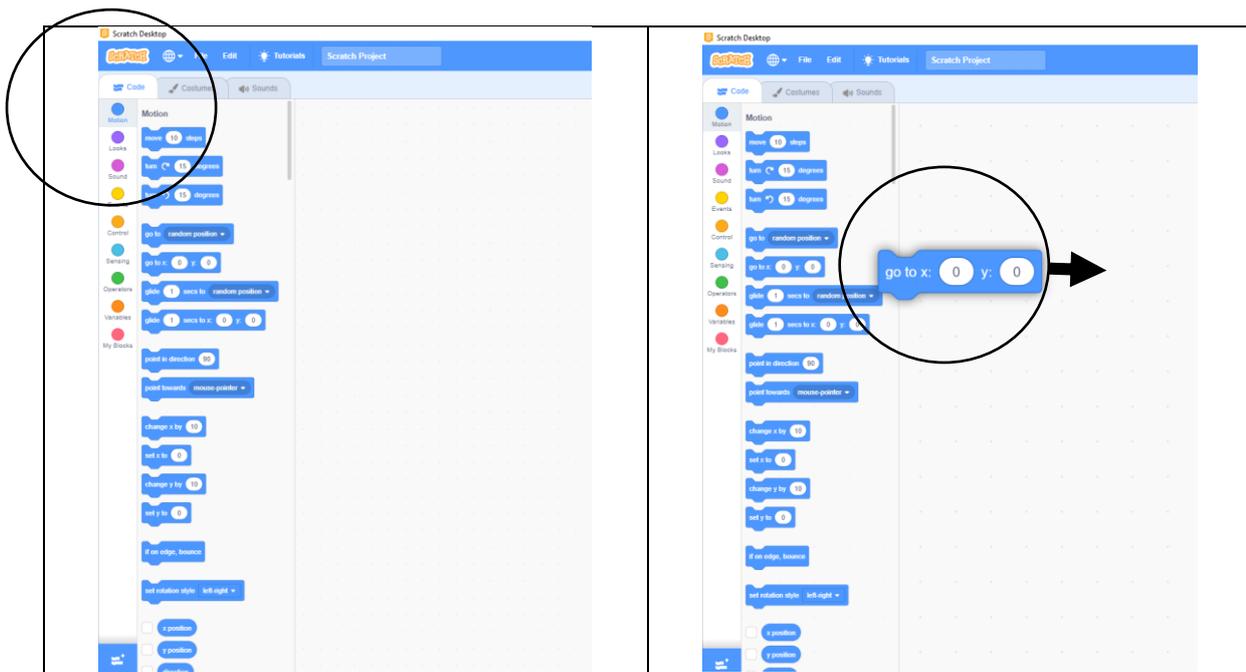


- Move the cat to the top – right part
- notice the x, y coordinates are both positive
- move it down y is negative
- or move it left x is negative
- bottom left x, y both negative

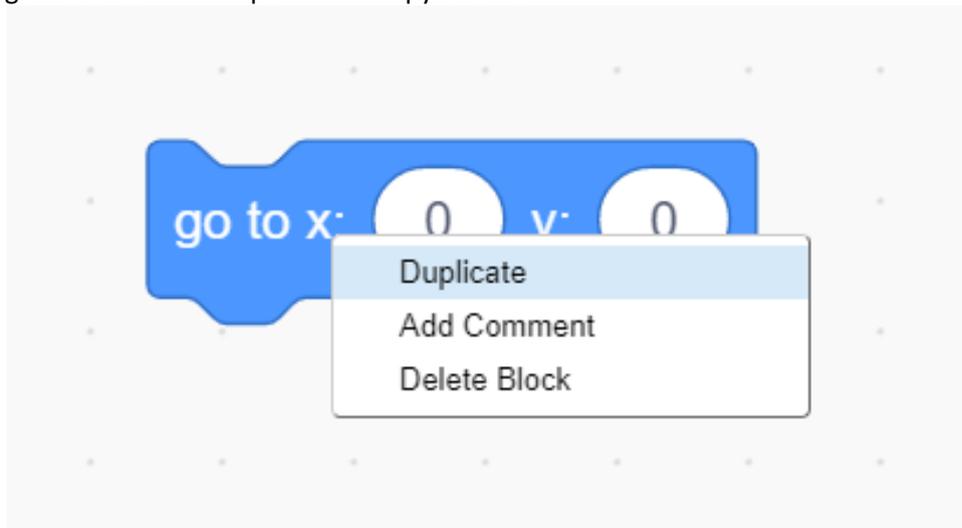


- Click the scripts tab
- Then motion (blue color)
- Move the **go to** block on to the script area
- Enter 100,100 for x & y
- Now click on the blue block

What does it do?



Blocks are separate commands –
You can join them by ‘snapping’ them together
You can right-click and use ‘duplicate’ to copy a block



How would you make the sprite move around in a square?

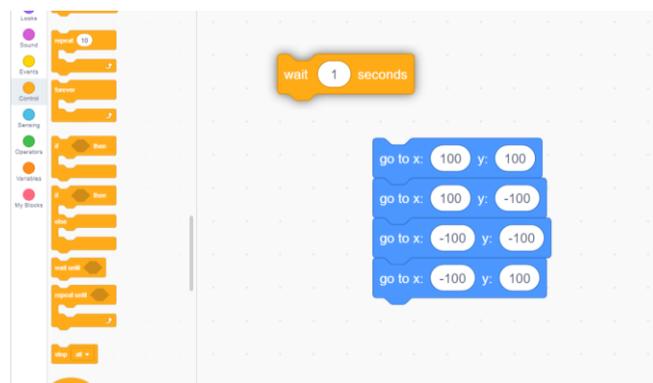
- Ask your partner / a friend
- Try it!
- what did you find?

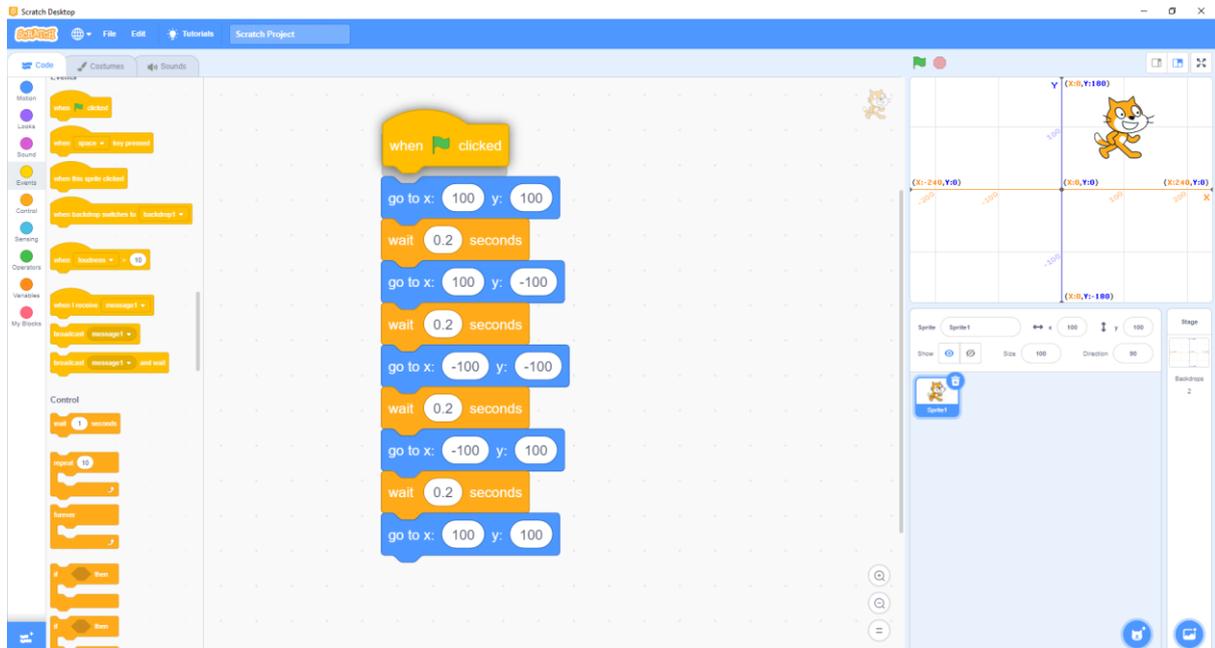
Click on the blocks

- Does it move in a square?
- How could we control the time?

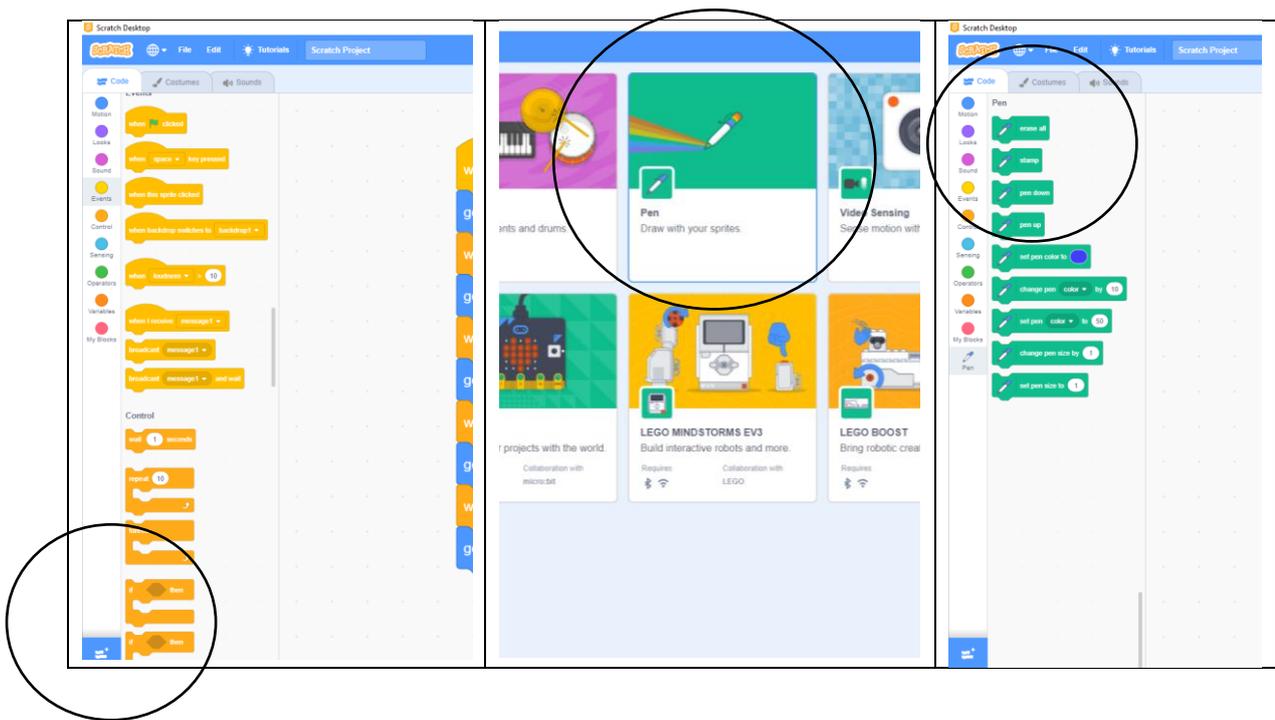
Timing

- Click the control option (orange)
- Select wait ___ seconds #e.g. 0.2 seconds
- run
is it OK now?
- you can add the forever block to run it continuously
- click the red button (hexagon) to stop it
- add ‘when (green flag) clicked’ in events
- this starts the program when the user uses the green flag





The Pen

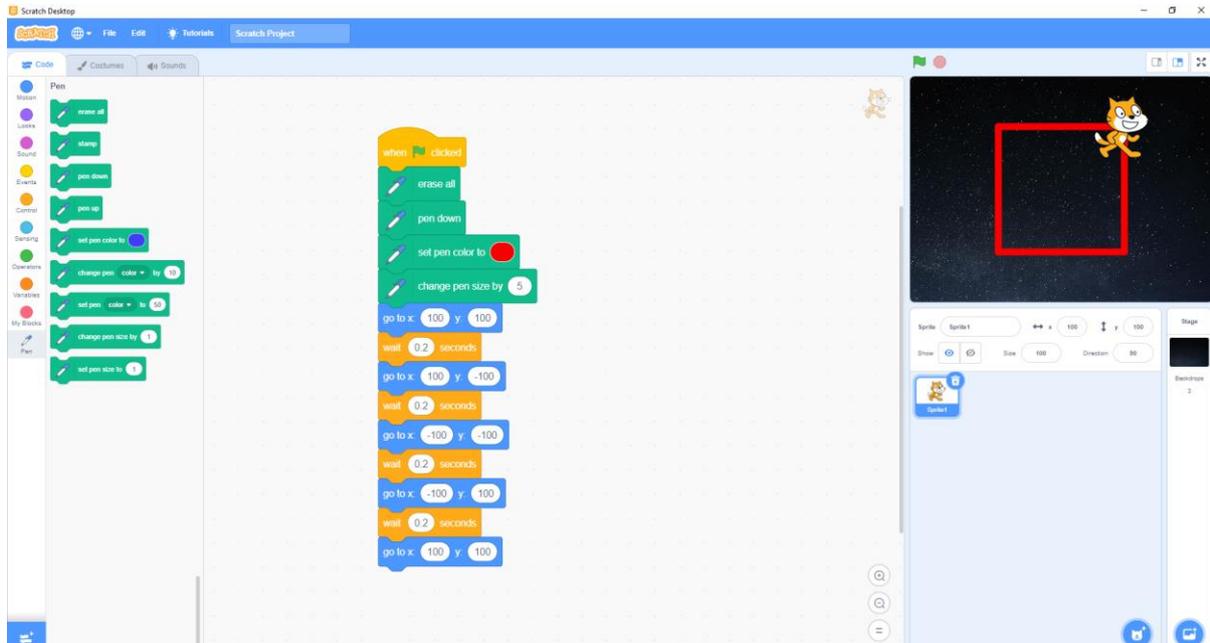


- use the pen down block
- Set the line thickness with set pen size = 10
- run
- Now set the line thickness with set pen size = 5
- Use the erase all block before the pen blocks start
- run
- Now try a different color
- use 'set pen color to _____'
- now click on the color box
- this selects that you wish to change the color

- now click on a red part of the screen (e.g. red button)
- now your color is red
- run

Final changes

- Move the cat back to the middle
- Now change to the background to 'stars'



- You can get rid of the line to start by using 'pen up' and moving the pen down instructions

Now try something different

- Draw a square by changing the angle
- Draw a triangle
- Draw a circle
- Draw five squares of different sizes inside each other
- Draw a House (without pen up)
- Draw something of your own!!!

Well done you have completed Task 1