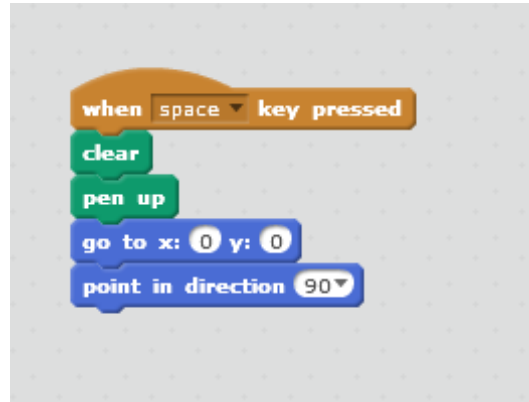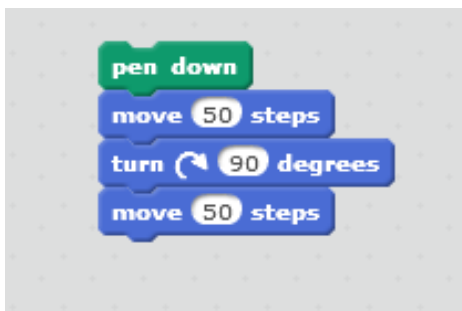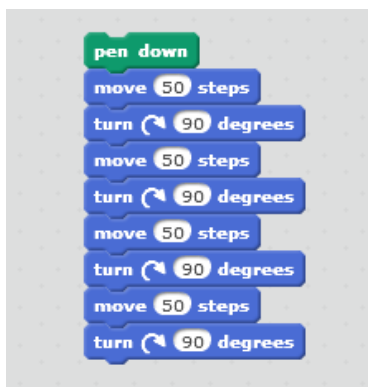# Bronze Project

This project will use the PEN option in SCRATCH to get the cat to draw things. Before you start this project you might like to create this code, as it will clear the screen off all the pen marks, put the cat back in the middle of the stage and make it face the right way.

I like to get Felix the Scratch cat to draw things on the stage. To do this I use the PEN blocks. When I use the block PEN DOWN anywhere the cat moves it drags the pen with it. Try this code and see what happens:

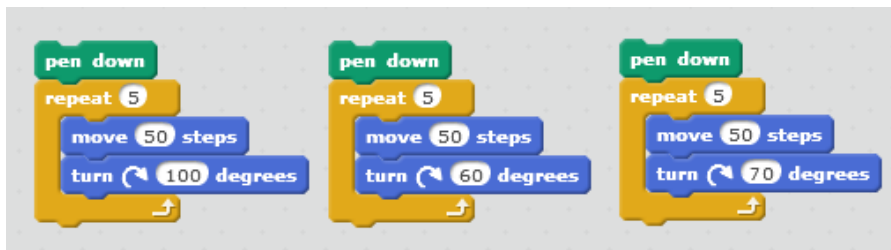
Now try this code, what has Felix the Cat drawn?

If you add a HIDE block from the LOOKS section the cat will disappear and you can see the shape.

How could you use a REPEAT block to simplify this code? How could you make the shape bigger? What GREEN block could you use to change the colour of the pen?

I decided I wanted to get scratch to draw a Pentagon. A Pentagon has 5 sides, so I changed my repeat block from 4 to 5 times. Try it. Does it draw a Pentagon? What have I done wrong?

In coding the best way to try new code is to make duplicates and change a small part and see if it gets closer to what you want it to do or further away (Guess and Check). Try it now, right click on your code and choose duplicate and drag the copy off to one side. I used the duplicate and guess method to change my code and draw a pentagon:

None of these codes draws a perfect Pentagon, but I am getting closer. Can you finish my code? Once I have a code that does what I wanted I can delete the others.

A Hexagon has 6 sides. Can you draw a hexagon? What about an Octagon? What about a circle? A circle turns 360 degrees.

Looking at the number of repeats and the amount the cat turns, can you see a pattern? Can you work out a rule? Talk to a grown up about it.

Want to try some more? Try the Silver project.

Well Done!

You have taken one more step towards being a computer programmer. You looked for patterns and used them to solve a problem (this is Pattern Recognition and is very cool). You have solved a problem by breaking it into smaller parts (this is called DECOMPOSITION and means you are totally boss). You have taken something complex, the drawing of a shape, and found the simple parts of repeats and degrees to make your code (this is called ABSTRACTION and means you beasted it).