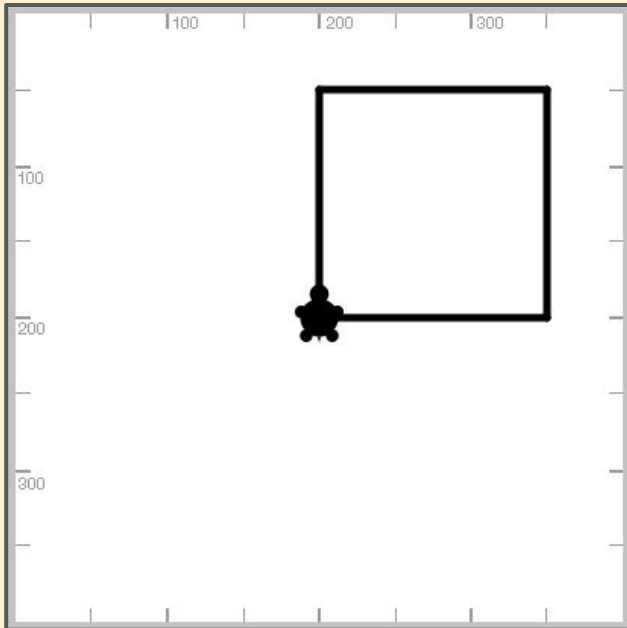


Tutorial:

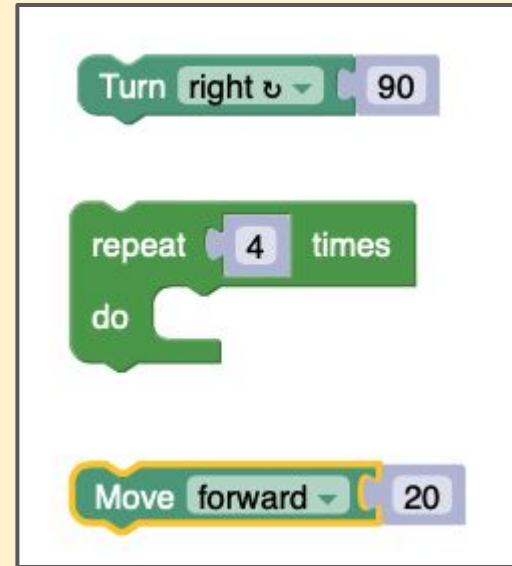
These challenges are all about using **loops**

A loop repeats a section of code a set number of times

So, we can use a loop to draw a square using only the blocks shown

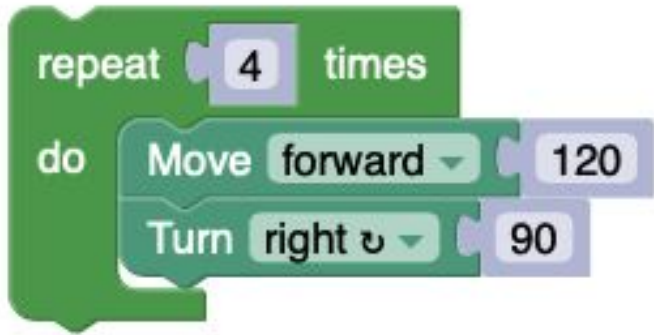


IMPORTANT: You must **only** use the blocks shown and Hide or Show the Turtle



Solution:

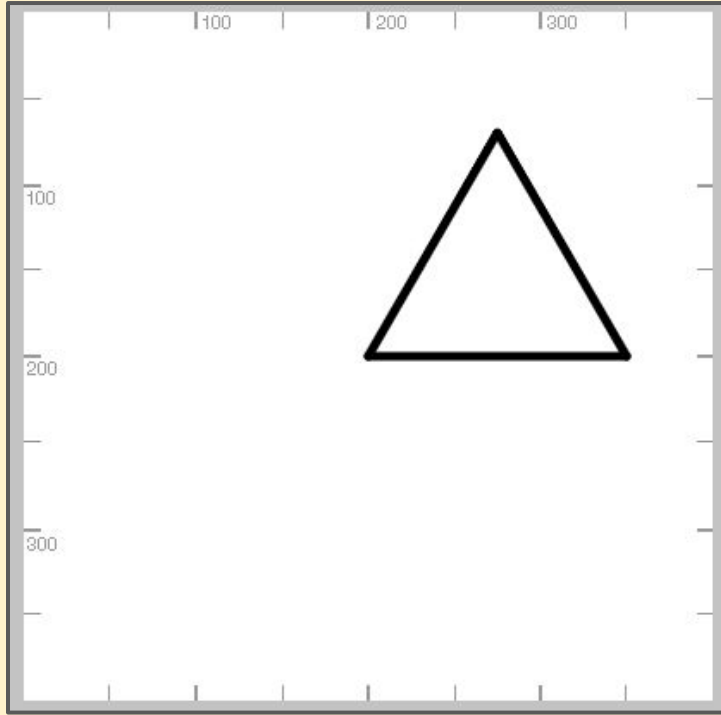
Here's the solution to the square problem



The repeat loop means that the code inside it is repeated four times to draw the four sides of the square

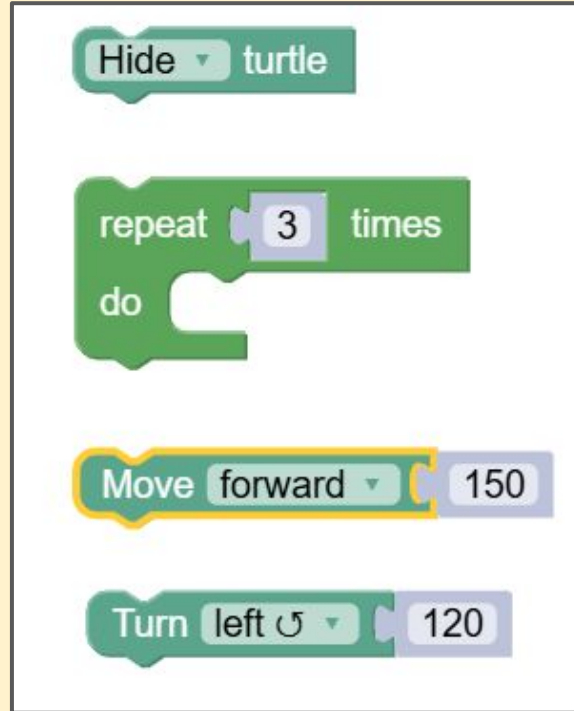
Challenge 1:

Draw a triangle using only the blocks shown



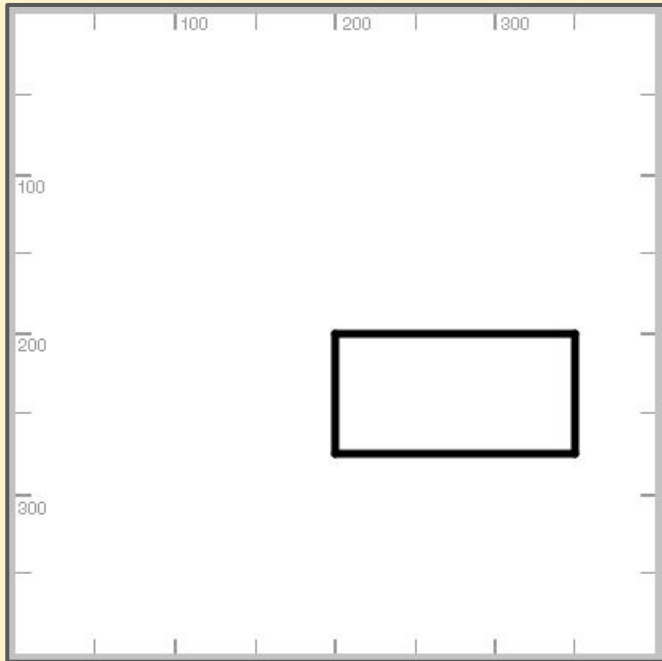
Hint: the angle to turn needs to be 120

Paste your code screenshot here



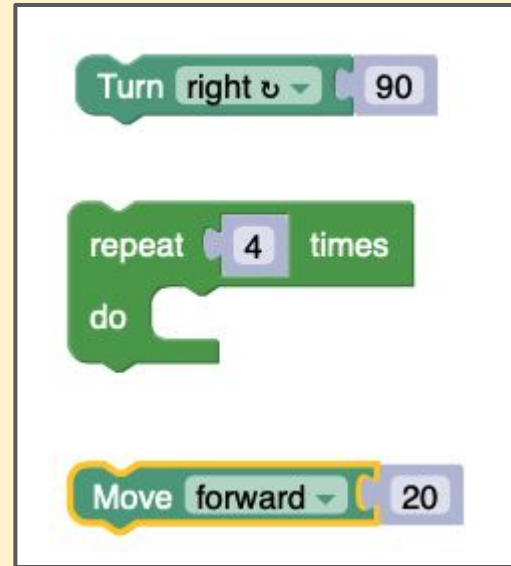
Challenge 2:

Draw a rectangle using only the blocks shown. The shape should be twice as long as it is high



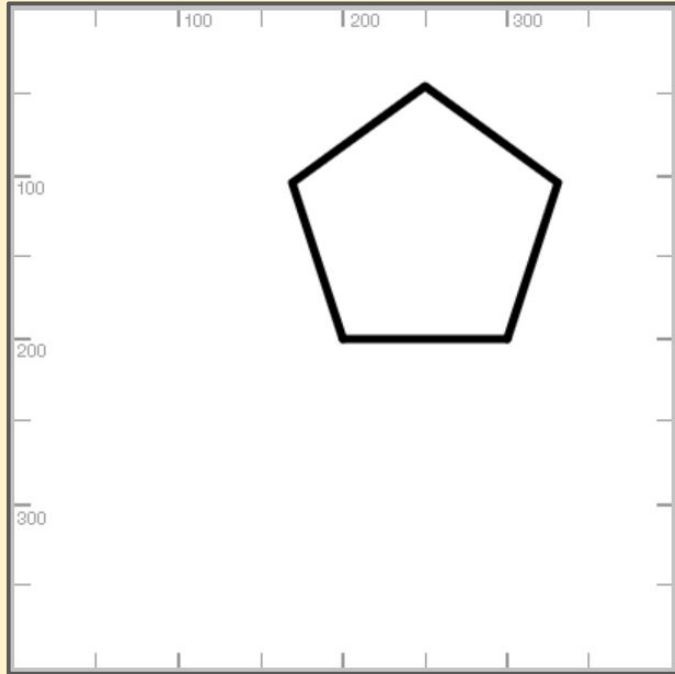
Hint: you need to loop twice

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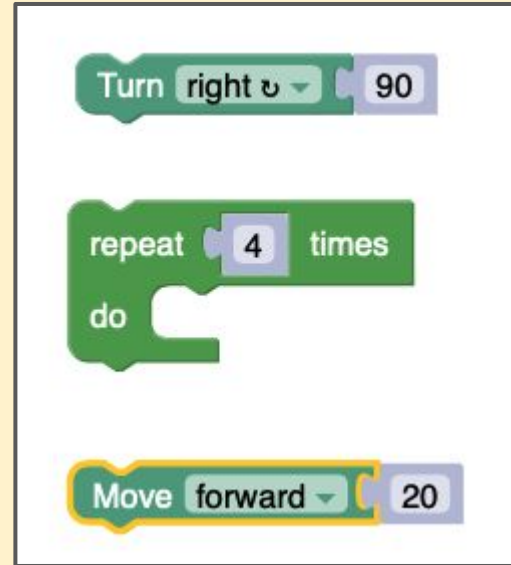


Challenge 3:

Draw a pentagon using only the blocks shown



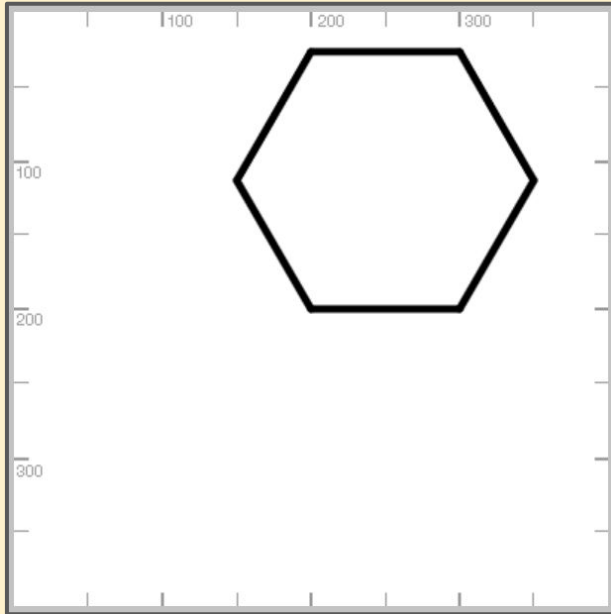
Paste your code screenshot here



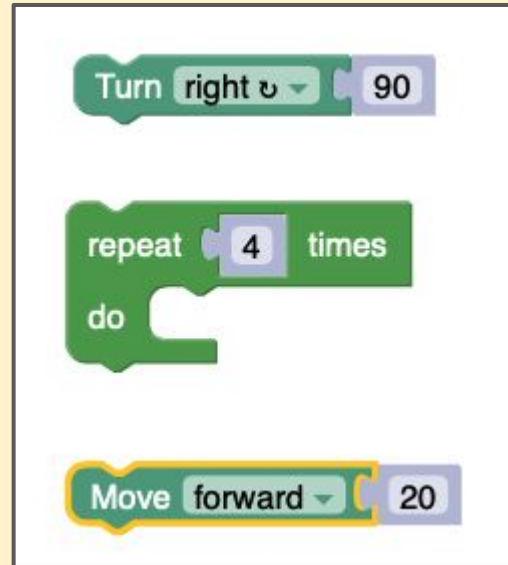
Hint: a pentagon has five sides. The angle to turn needs to be 72 each time

Challenge 4:

Draw a hexagon using only the blocks shown



Paste your code screenshot here

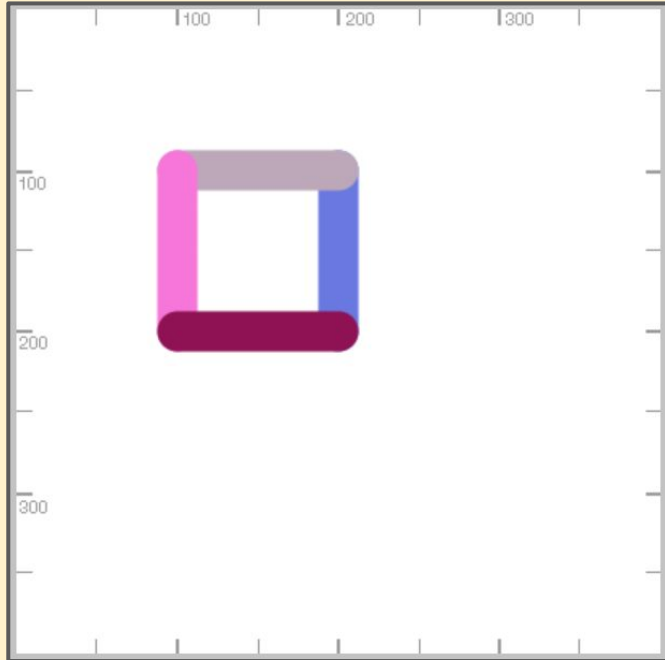


Hint: a hexagon has six sides. The angle to turn needs to be 60 each time

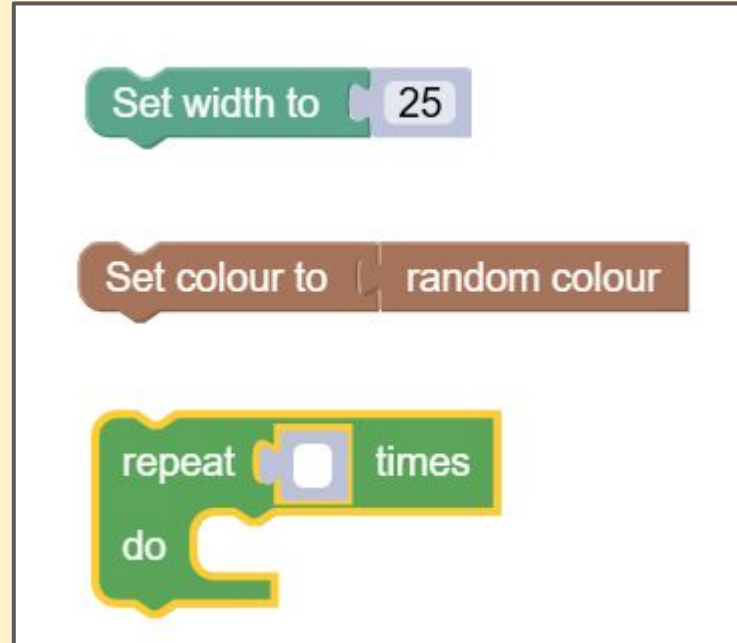
Extension: can you add another, smaller hexagon to the canvas as well?

Challenge 5:

Draw a colourful square like the one shown.
Some of the blocks you need are shown
here, but you'll need others as well

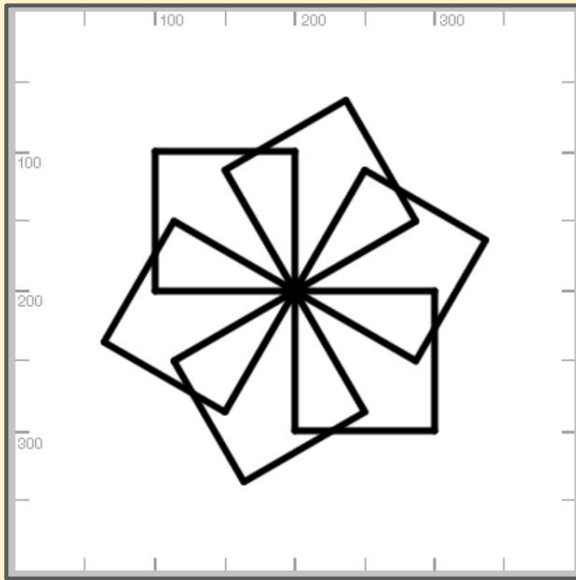


Paste your code screenshot here

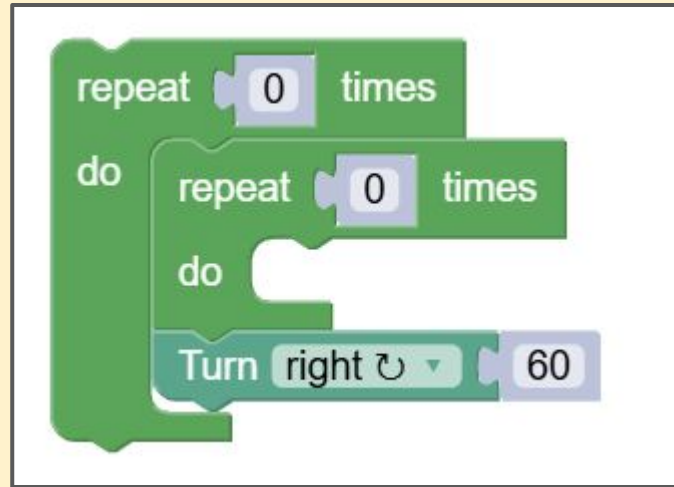


Challenge 6:

Use a loop to make a square.
Then put the code inside another loop box,
turning the loop 60 each time to create a
shape like this



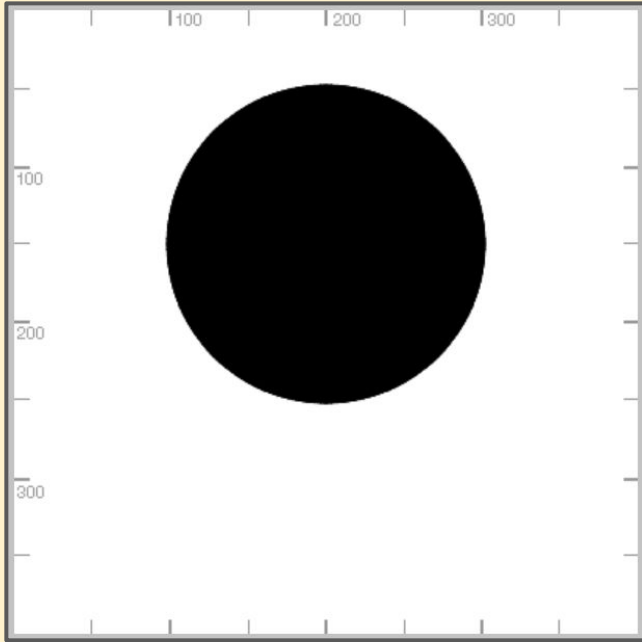
Paste your code screenshot here



Hint: put the loop to draw the square inside another loop, with the turn after the square is drawn

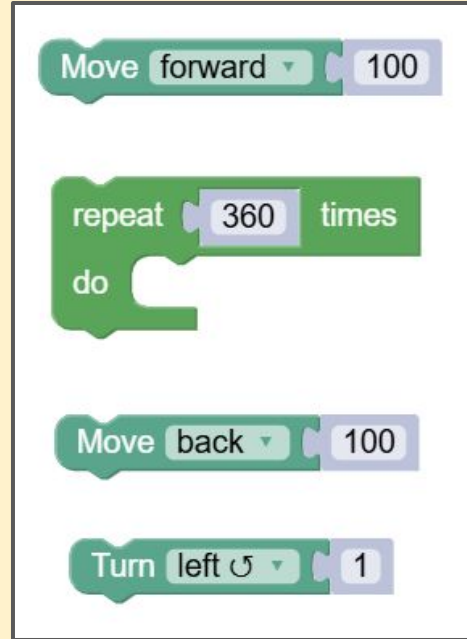
Challenge 7:

Draw a circle using only these blocks



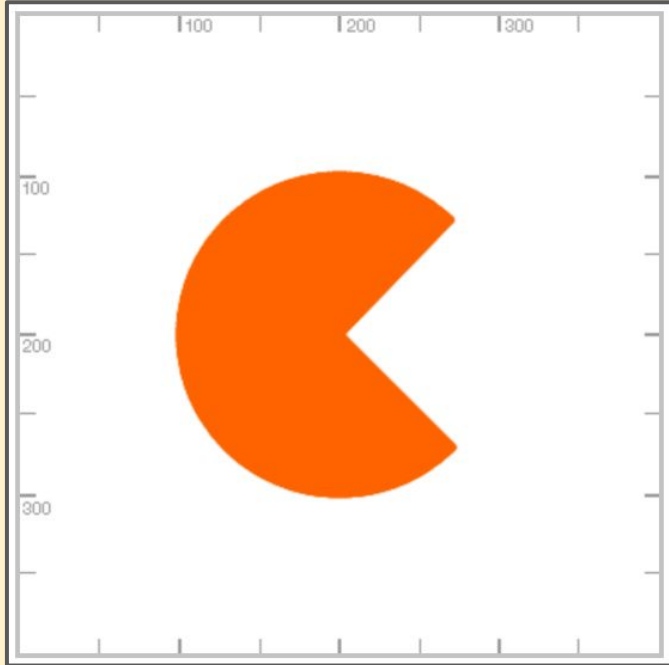
Hint: You may want to turn the speed up
Remember: There are 360 degrees in a circle

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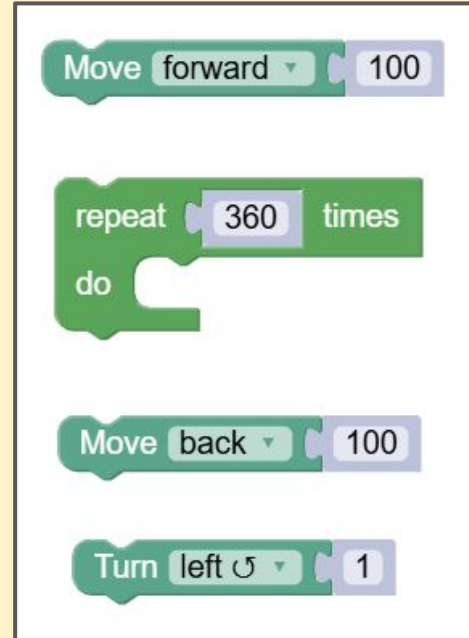


Challenge 8:

Create a pac-man style shape using the same blocks as in challenge 7



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```
Move forward 100
repeat 360 times
do
Move back 100
Turn left 1
```

The code consists of four blocks stacked vertically. The first block is a 'Move forward' block with a value of 100. The second block is a 'repeat' block with a value of 360 and the word 'times'. Inside the 'do' loop of the repeat block, there are two more blocks: a 'Move back' block with a value of 100, and a 'Turn left' block with a value of 1.

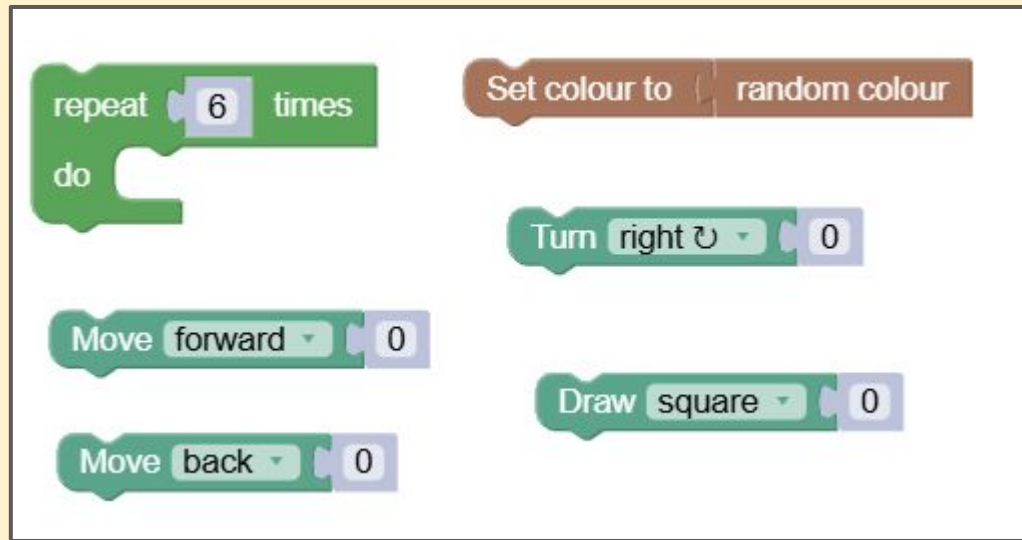
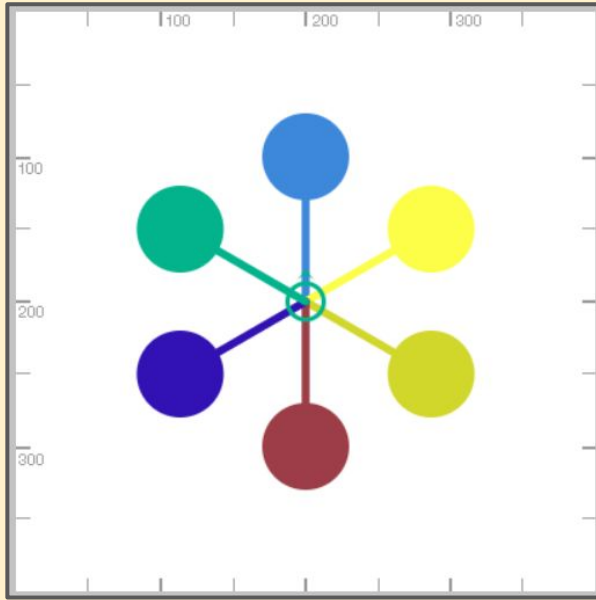
Hint: Watch how challenge 7 works and then change one of the blocks

Challenge 9:

Draw six circles as shown.

Your program **must** use only the blocks shown, but **you will have to change them**

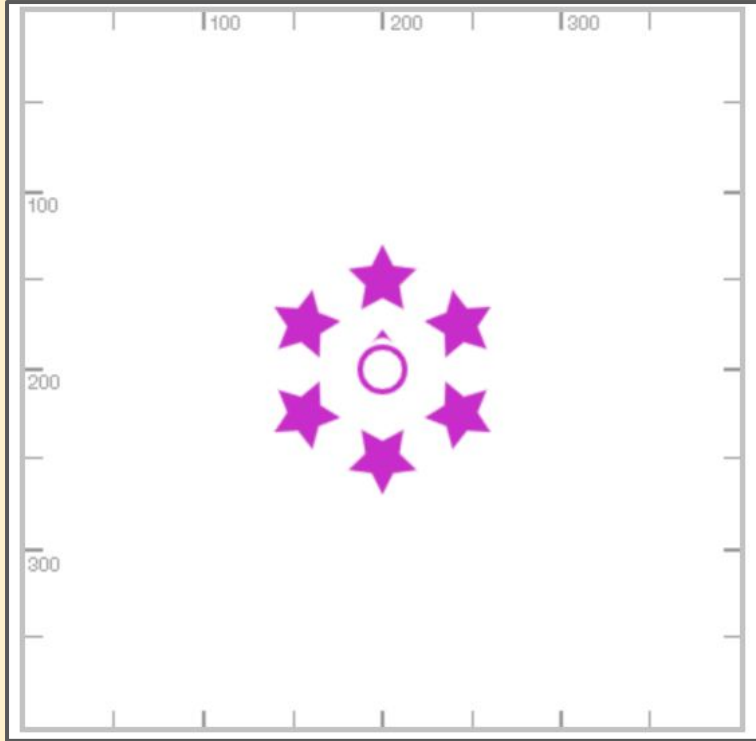
Paste your code screenshot here



Extension: Draw the circles but don't draw the connecting lines. Hide the turtle at the end

Challenge 10:

Write a program to draw six pink stars as shown

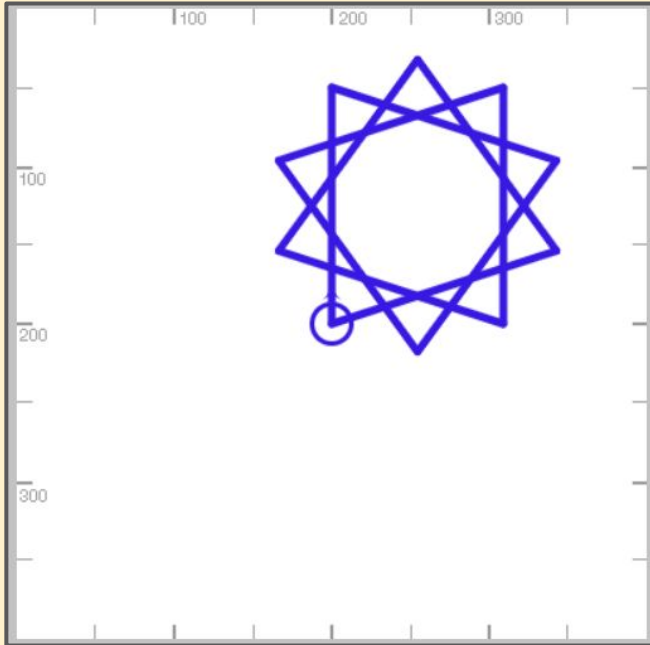


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Hint: Adapt your program from challenge 9

Challenge 11:

Draw a 10 pointed star. Make sure you use a repeat loop



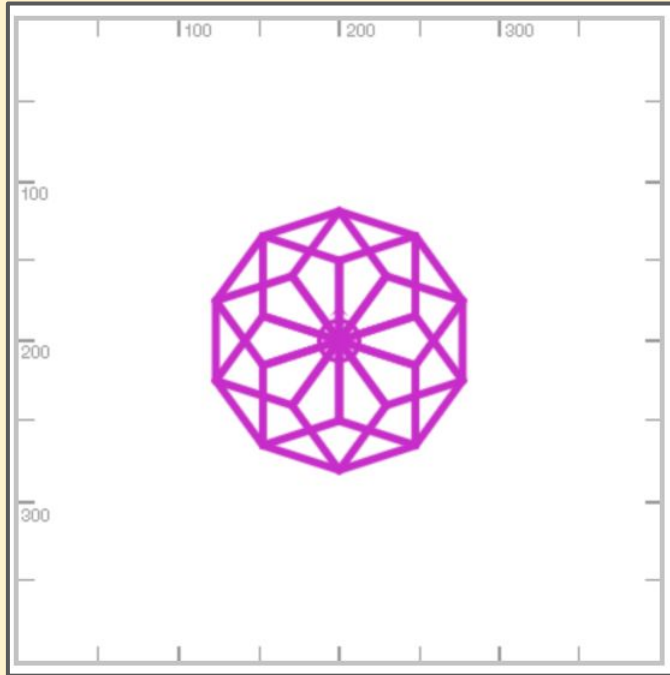
Hint: Each turn is 108 degrees

I only needed four blocks, and one of them was to change the colour

Paste your code screenshot here

Challenge 12:

Draw a pink rose



Paste your code screenshot here

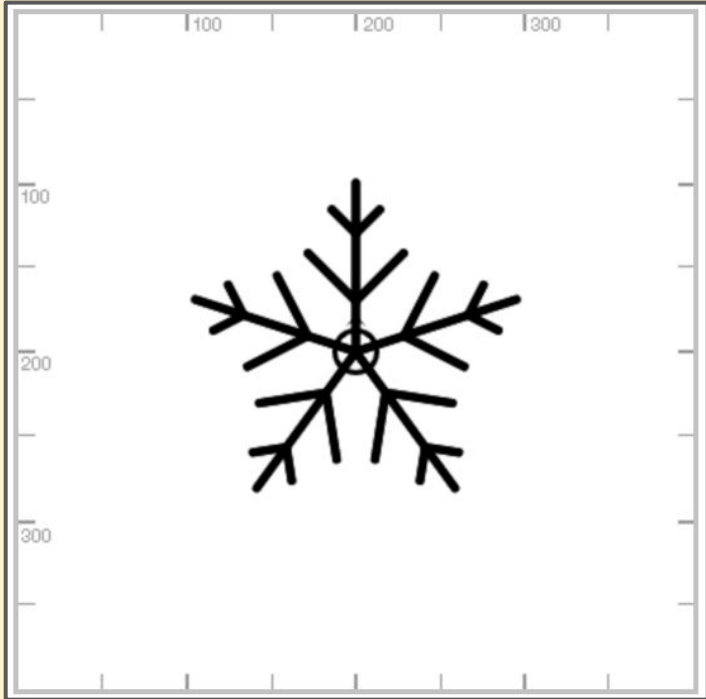
Hint: This uses 10 pentagons with a 108 degree turn between them

Each pentagon has five sides; the angle to turn after each side is 72 degrees (see challenge 3)

This will need two loops, one inside the other

Challenge 13:

Draw a snowflake like the one shown



Paste your code screenshot here

Hint: Use a loop which repeats five times. And good luck...