code club / AUSTRALIA

POWERED BY TELSTRA FOUNDATION

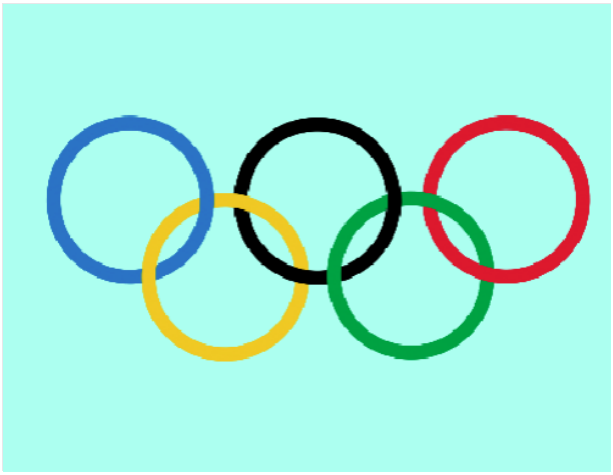
Olympic Rings

Use the pen extension blocks to draw the Olympic Rings, with correct detail about how they overlap.

INTRODUCTION

What you will make

Create a program that will accurately draw the Olympic Rings.



What you will learn

- **drawing tools**
- **clones**
- **variables**

What you will need

HARDWARE

A computer capable of running Scratch 3

SOFTWARE

Scratch 3:
either online
http://rpf.io/scratchon
or offline
http://rpf.io/scratchoff

SCRATCH STARTER PROJECT

Offline starter project
https://scratch.mit.edu/projects/1048263697/

SCRATCH COMPLETED PROJECT

Here is a link to the completed project
https://scratch.mit.edu/projects/1048245134

ADDITIONAL NOTES FOR EDUCATORS

Here is a link

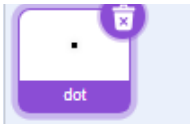
1. SETTING UP THE OLYMPIC RINGS

Open the starter project - https://scratch.mit.edu/projects/1048263697/

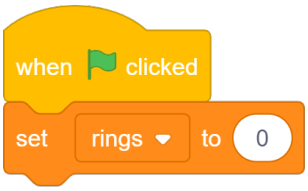
In this project we will use the pen tool to draw the Olympic rings accurately. Pay close attention to where the rings lap over and which ring sits on top, to compare to the real Olympic rings!

Add in the pen extension blocks. Click on the extension menu in the bottom left corner, and choose the pen extension blocks.

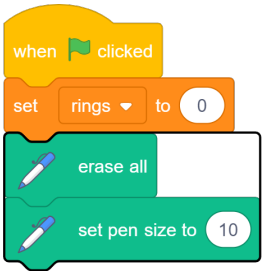
Select the dot sprite.



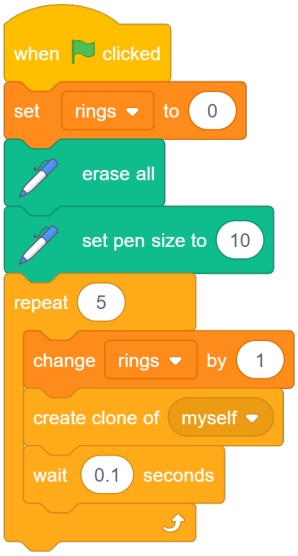
Start with the event when green flag clicked. Then create a new variable called rings and add in a set rings block. The variable will be used to control the 5 rings.



From the pen blocks add an erase all block, to erase any previous drawing, and then add a block to set pen size to 10.



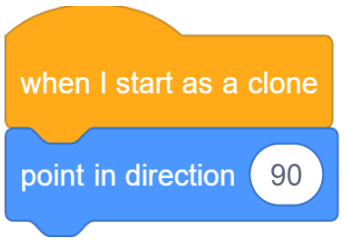
Now add a repeat block. This code will repeat 5 times, 1 for each coloured ring. Add a block to change the variable rings by 1. This will give each colour ring a number from 1 - 5. Then add a block to create a clone of itself and a wait block.



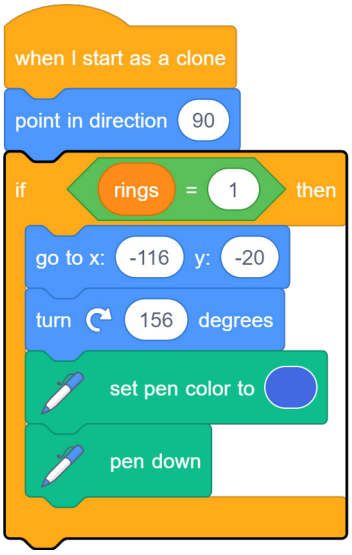
You can choose to hide the variable on your screen. Right click on the variable box on your screen and select hide.

2. DRAWING THE RINGS

Start a new algorithm with the event when I start as a clone. Add a block to point in direction 90. This is important so that the sprite is facing the correct direction to start drawing.

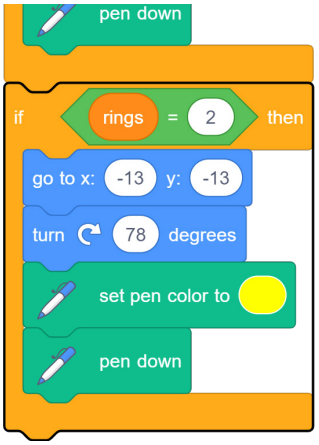


Add in an if-then control. Add an = operator and drop in the rings reporter from the variables menu. The clone that is created with the variable of 1 will follow this program. Add blocks to set it's starting position and its angle to start on. Set the pen colour to blue and add a block to put the pen down.

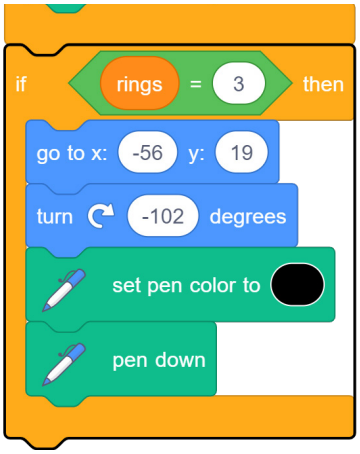


Duplicate the if-then block you just created (or drag in the same blocks again). This will be for the ring named variable 2. Change it's starting location and the angle that it starts on. Also change the colour to yellow.

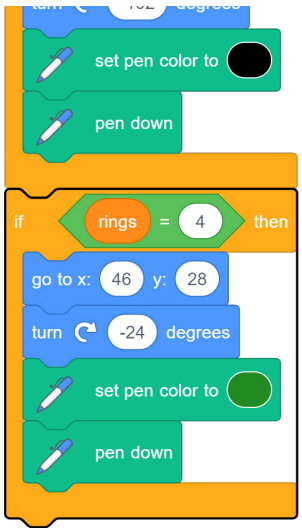
Make sure your algorithm starts UNDER the last section.



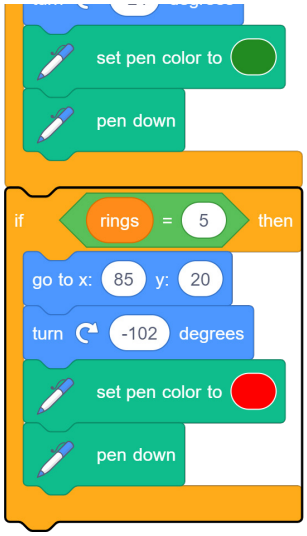
Duplicate the if-then block again. This will be for the ring named variable 3. Change it's starting location and the angle that it starts on. Also change the colour to black.



Duplicate the if-then block again. This will be for the ring named variable 4. Change it's starting location and the angle that it starts on. Also change the colour to green.

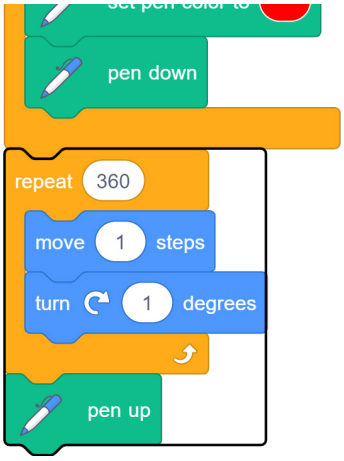


Duplicate the if-then block one last time. This will be for the ring named variable 5. Change it's starting location and the angle that it starts on. Also change the colour to red.



Now that we have set the starting location and direction for each clone, it is time to make it draw. Underneath add a repeat block. Inside add a move 1 step block and a turn right block. This will make it draw a circle.

Finally add a pen up block



Test your code again. You should be able to watch the Olympic Rings being drawn!