Continuous Servo Experiment

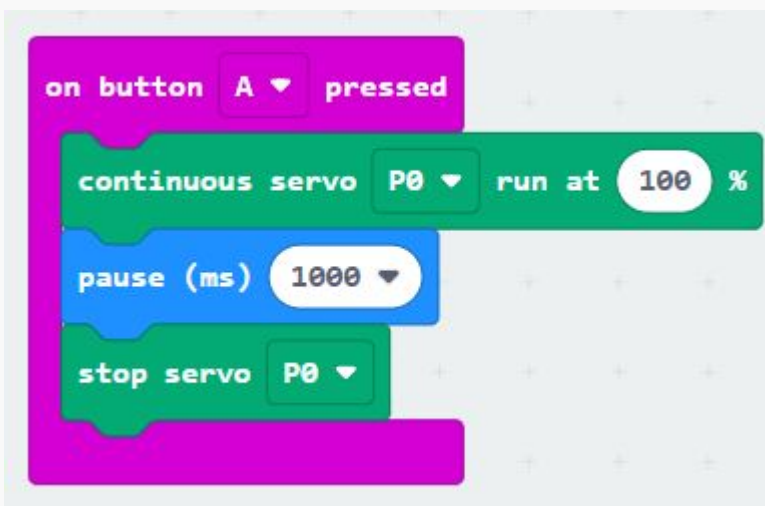**micro:bit**

Introduction

In this experiment we will be investigating how to control a continuous servo using the Microbit.
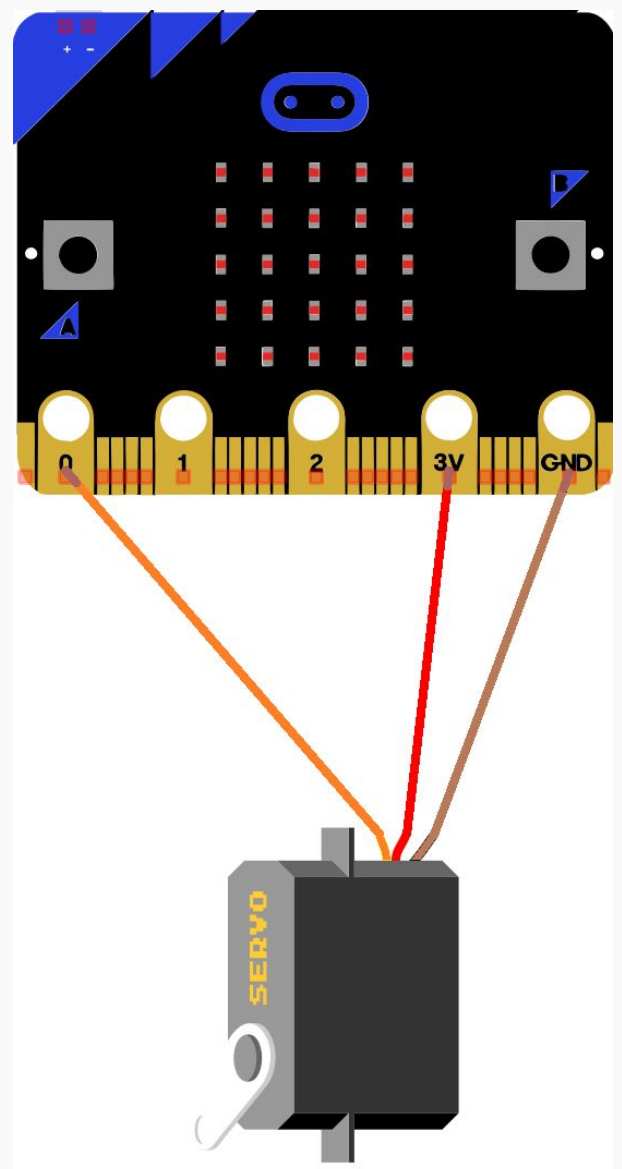
Components

1 micro:bit	1 continuous servo	3 crocodile clips	3 Male to Male jumper wires

Example Code

You will need to enable the 'Servo' blocks by clicking on the 'extensions' block.

servo
A micro-servo library

Wiring Diagram


```
on button A ▼ pressed
  continuous servo P0 ▼ run at 100 %
  pause (ms) 1000 ▼
  stop servo P0 ▼
```

Coding Challenges

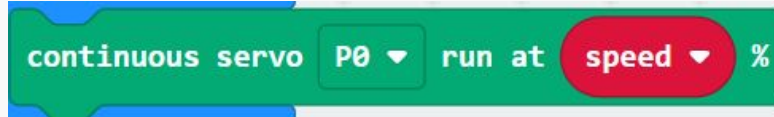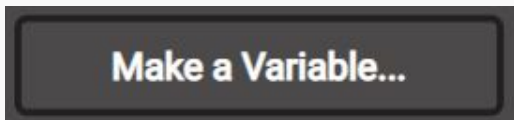**Challenge 1 - Random Spinner**

Can you adapt the code so that when you shake the Micro:bit it spins in a random direction at a random speed for 1 second?

Challenge 2 - Speed changer 🌶️

Can you adapt the code so that when you press the A button the servo speeds up, when you press the B button the servo slows down and when you press A+B the servo stops?

Hint: You'll want to create a variable called 'speed' and get your program to change the variable when the buttons are pressed

Challenge 3 - Tilt power 🌶️🌶️🌶️

Can you adapt the code so that the servo spins clockwise or anticlockwise depending on whether you are tilting the Micro:bit left or right. The more it tilts the faster it should go?

Hint: the servo has a power setting between -100 and 100 but the accelerometer has values between -1024 and 1024. How can you convert these values?