Text

Description automatically generated with low confidence

**Servo Motors**

https://makecode.microbit.org

A picture containing meter

Description automatically generated

*A servo is an electric motor that can be rotated to a specific angle. This angle is normally between 0° and 180° (degrees).*

The Servo can be plugged into the **P1** socket to the front-right of the robot.

The plugs MUST be put in the correct way around to work. The servo cable has three wires:

**Orange**: the control signal (P1/P2)

**Red**: +3 volts power or **+**

**Brown**: Ground (GND) or **–**

A close-up of a machine

Description automatically generated with low confidence

The Orange wire should be facing front on either side.

Imagine what you could do with a servo – add a robot gripper, or hold robot jousting competitions!

*The code is over the page.*

Graphical user interface, text, application

Description automatically generatedThe servo instructions are in:

**Advanced** > **Pins**

This moves the servo between 0° and 180°

Servos are power hungry so try to avoid operating them at the same time as the main motors.

Graphical user interface, text, application

Description automatically generated

Turn this into a function that we can call when its needed.

The servos sometimes struggle with angles at the limits of their travel (0° and 180°), so this function moves the servo between 5° and 175°.

Experiment with different angles.

Graphical user interface, application

Description automatically generated

Add a **start** routine to initialise the servo angle, the delay gives it time to move before the motors start up.

A screenshot of a phone

Description automatically generated with medium confidenceUsing the same **drive** function as before, you could call the servo function if it sees an obstacle.

Make sure you **stop** the motors first.

See if you can clear the obstacle out of the way.