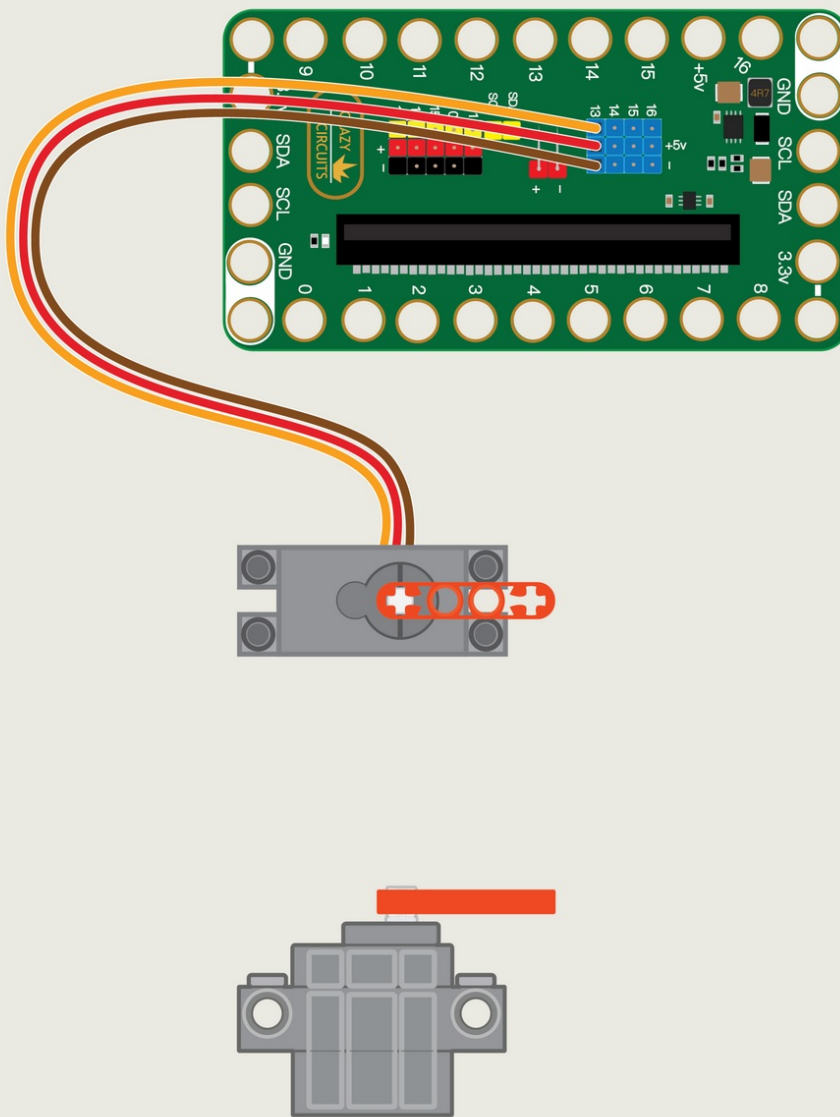




CH24-E - Servo Random

Connect a 270° Servo to a Bit Board and control it with code.

Written By: Pete Prodoehl



INTRODUCTION

Connect a 270° Servo to a Bit Board and control it with code.

We'll explore how to control a servo motor.



TOOLS:

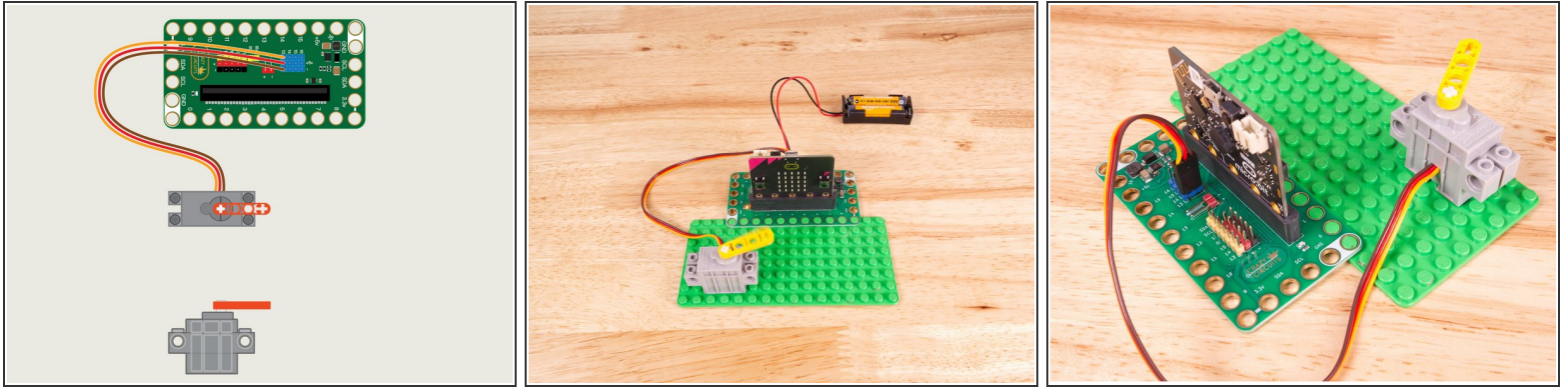
- [Computer](#) (1)



PARTS:

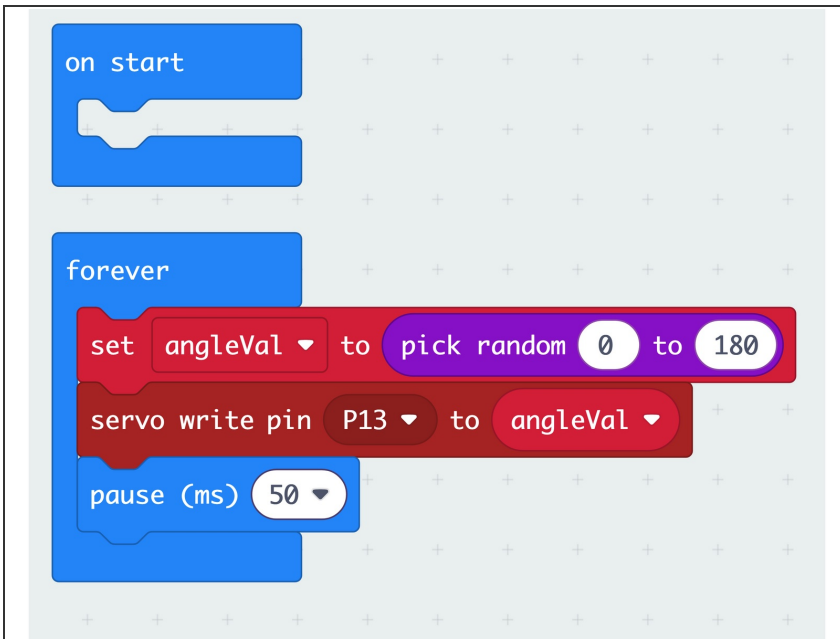
- [Crazy Circuits Bit Board](#) (1)
- [micro:bit](#) (1)
- [Brick Compatible 270 Degree Servo](#) (1)

Step 1 — Connect the 270° Servo



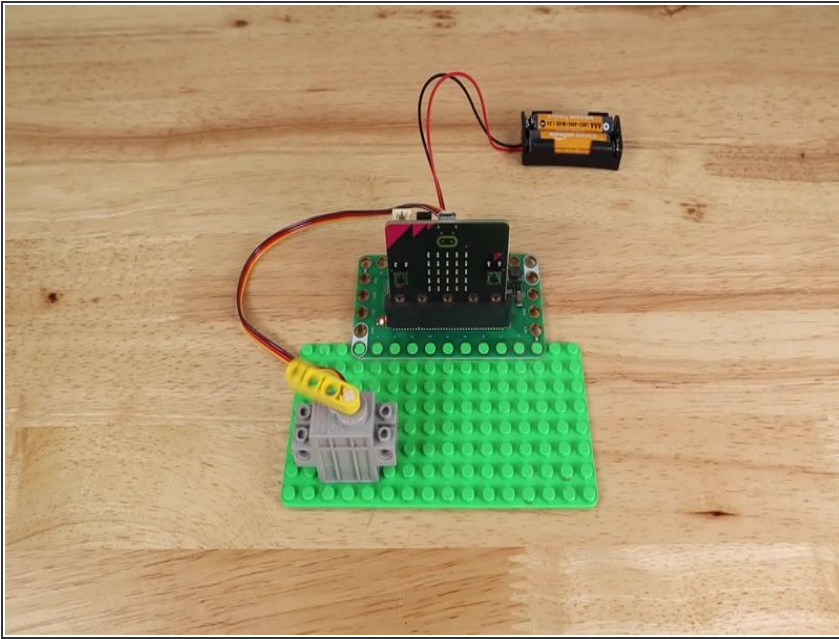
- The **270 Degree Servo Motor** has a 3-wire connector on the end that can plug directly into the pins on the back of the Bit Board.
- Make sure the **Orange Wire** is closest to the number **13** for the **Pin 13** column.
- Then the **Brown Wire** should be closest to the micro:bit (in the - row) and the **Red Wire** will be in the middle (the **+5v** row).

Step 2 — Load the Code



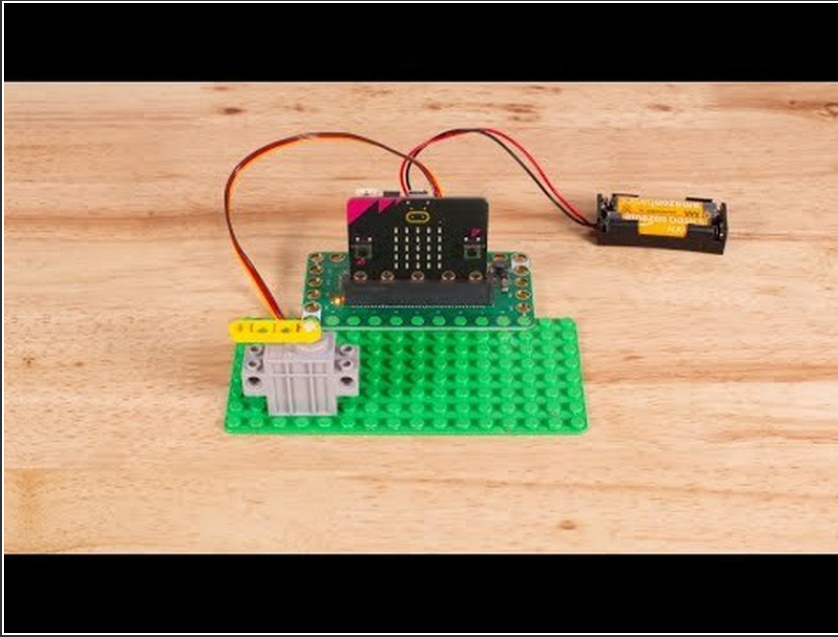
- If you've never used a micro:bit before you'll want to check out this guide: [Bit Board V2 Setup and Use](#)
- We're going to load the following code for our **Servo Random** program:
https://makecode.microbit.org/_DakToe3Ep...
- You should know by now we always like to give an example using random numbers!
- We're generating a random number between **0** and **180** and then setting the servo to that angle.
- A pause after each move of 50 milliseconds is just enough to get a "jittering" effect, but we could use a higher value if we wanted a bit more pause between moves.
- ☑ For a bit more fun we could even use random values for our pause statement!

Step 3 — Test it Out!



- Once the code is loaded it should start running immediately.
- ❗ You can power the micro:bit via the USB cable you used to load the code, but now that we are using servos we recommend using a battery pack plugged into the Bit Board.
- ★ The [Blue Pins](#) on the Bit Board provide extra power (5 volts instead of 3 volts) by **boosting the voltage** coming from the battery pack. This helps improve servo performance, especially with multiple servos.
- The servo will just start to jitter and jump around!
- This could be a useful effect for certain projects, and of course you can alter the variables and expand on this for even more jittery servo fun.

Step 4 — Follow Along



- Follow along with our recorded Live Stream!
- ① You can watch the full video of us walking through this project, along with explaining and exploring the code:
https://youtube.com/live/T8jrPuhOp_g