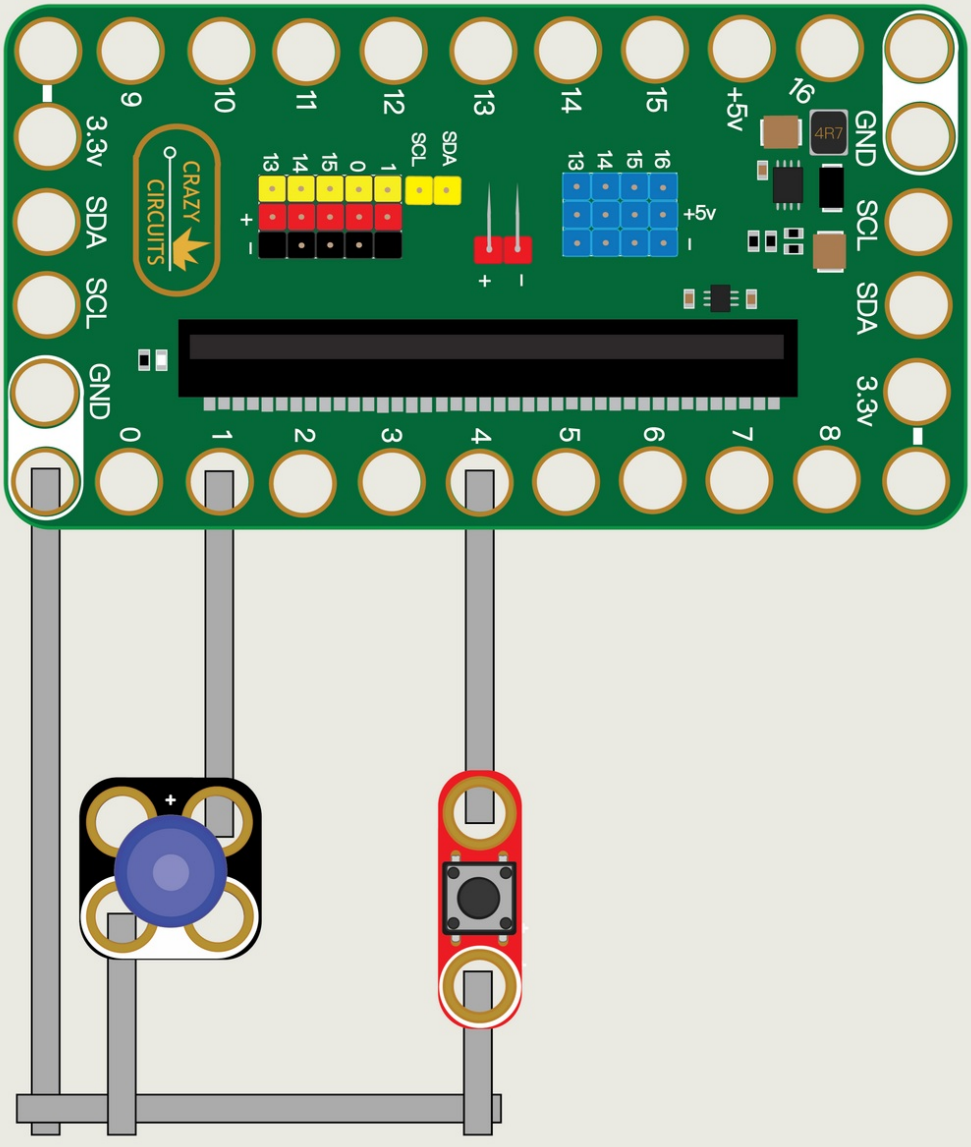
CH4-B - Button Press

Connect a pushbutton to a Bit Board and control an LED with it.

Written By: Pete Prodoehl



INTRODUCTION

Connect a pushbutton to a Bit Board and control an LED with it.

We'll explore how we can use a pushbutton as an input for the micro:bit

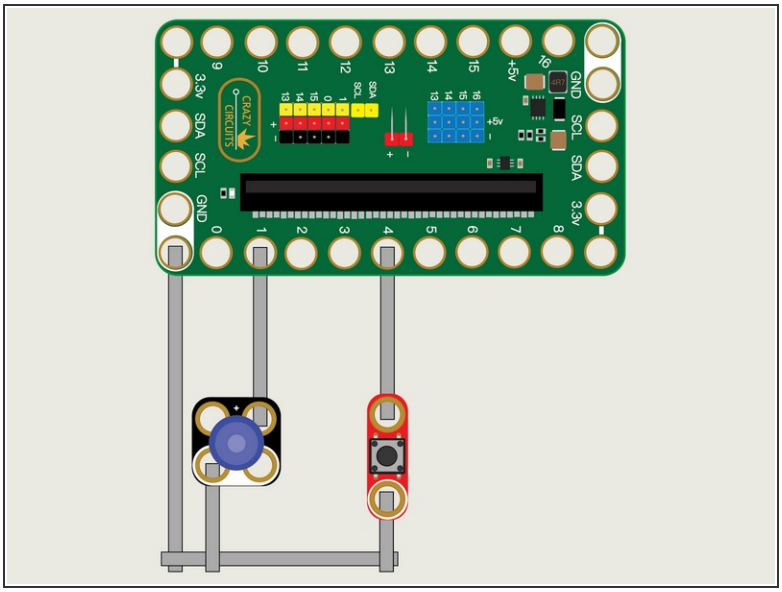
TOOLS:

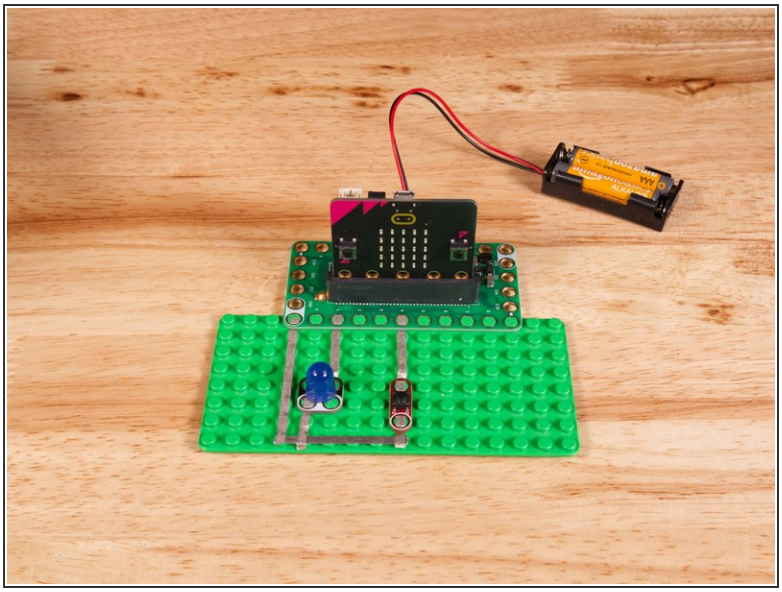
- Computer (1)
- Scissors (1)

PARTS:

- Crazy Circuits Bit Board (1)
- micro:bit (1)
- Maker Tape (1)
  1/8" Wide
- Standard Pushbutton Chip (1)
- Crazy Circuits LED Chip (1)

Step 1 — Connect the Button (and LED)



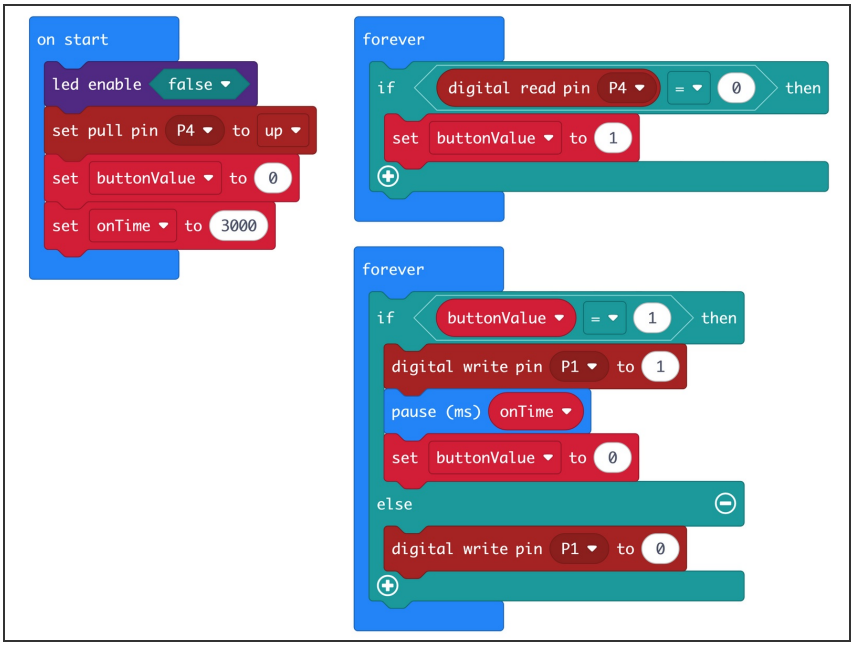


- We'll use **Maker Tape** to connect the Button and LED to the Bit Board on a LEGO baseplate.
- We've already connected an LED in Chapter 1 so our new addition this time is the **Button**.
- We'll connect our **LED** to **Pin 1** and our **Button** to **Pin 4**.
- And of course we'll connect the **Ground** (GND) sides of each component to **Ground** on the Bit Board.

☑ You'll notice the **Ground** on the Bit Board (as well as the LED and other Crazy Circuits components we'll use) is color coded **White**.

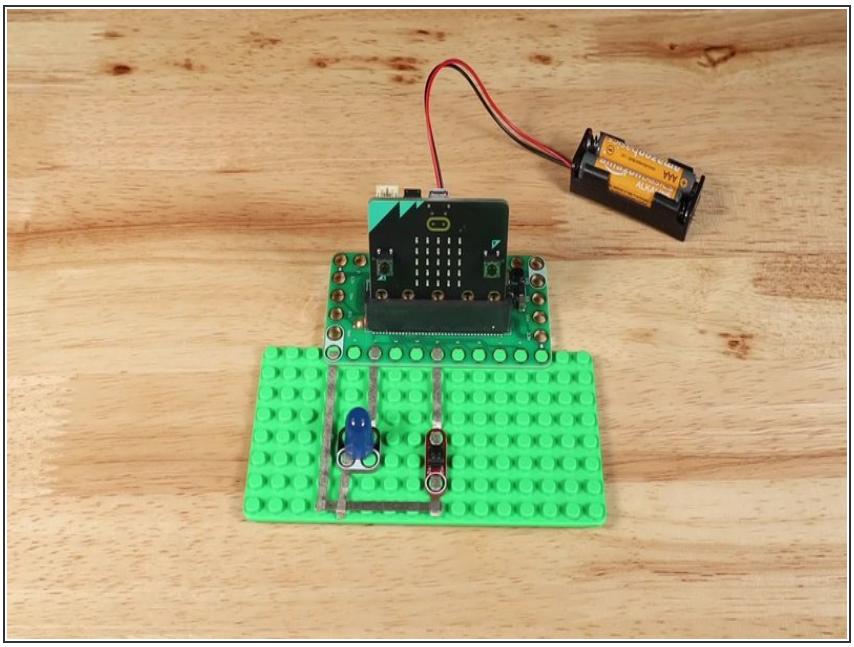
☑ While the LED has **Polarity** our **Button** does not. If you connect it the other way around *it will still work fine*. Not all components have **Polarity**.

Step 2 — Load the Code



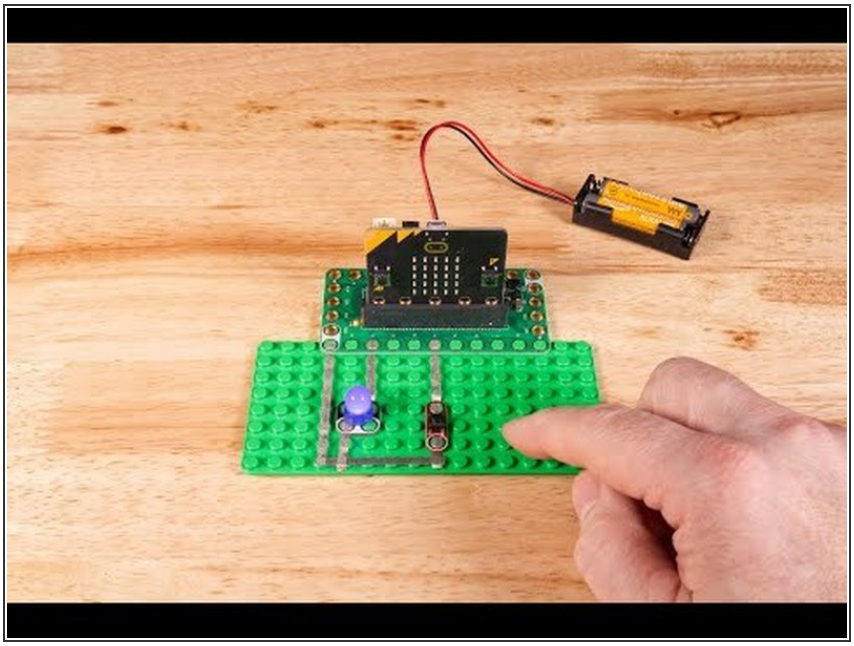
- If you've never used a micro:bit before you'll want to check out this guide: Bit Board V2 Setup and Use
- We're going to load the following code for our **Button Press** program: https://makecode.microbit.org/_ghw7KwC7J...
- This code will *turn on* the LED when the button is pressed, and then the LED will stay on for 3 seconds before it *turns off*.
- For this code we are using two variables, **buttonValue** to hold the result of digital read pin, and **onTime** to hold the number of milliseconds the LED will stay on.
- We've also got two separate forever blocks, one which reads the *value* of **Pin 4**, and one which acts upon the that value by looking at the **buttonValue** variable.

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 or you can use a battery pack plugged into the Bit Board.
- The LED should turn on when the button is pressed, stay on for 3 seconds, and then turn off.

Step 4 — Follow Along



- Follow along with our recorded Live Stream!
- ⓘ You can watch the full video of us walking through this project, along with explaining and exploring the code: https://www.youtube.com/live/sWfe8znn6C0