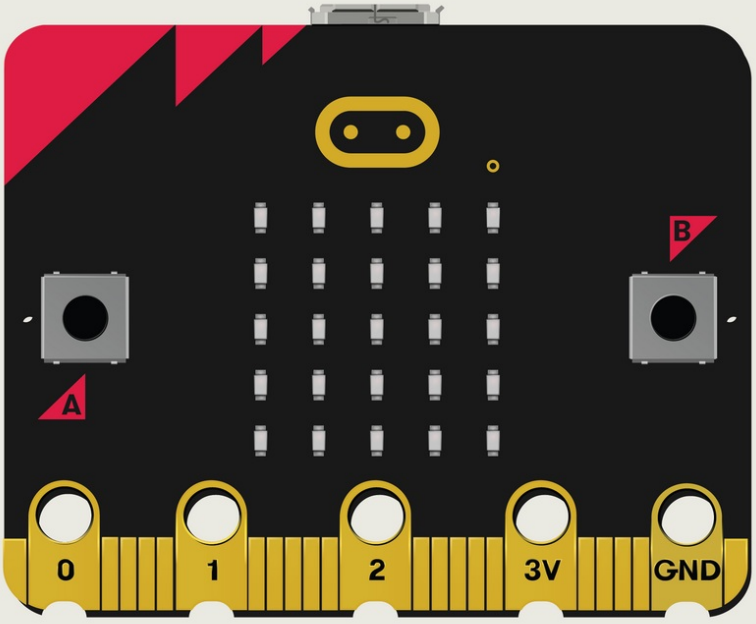
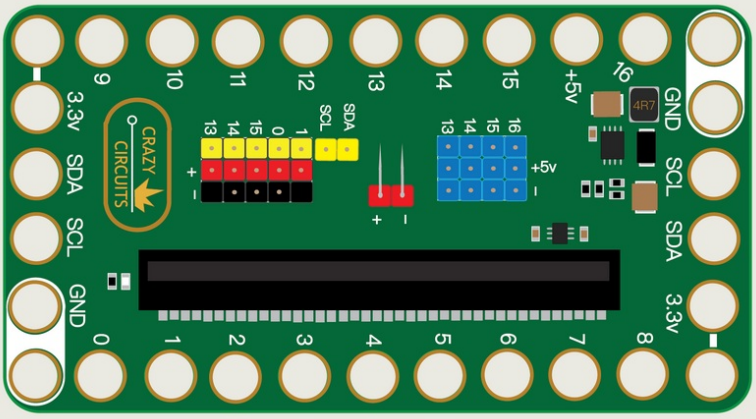
CH8-D - LED Matrix Loop Loop

Program the built-in LED Matrix found on the micro:bit

Written By: Pete Prodoehl





INTRODUCTION

Program the built-in LED Matrix found on the micro:bit

We'll explore how we can control the LED Matrix to show information and animations.

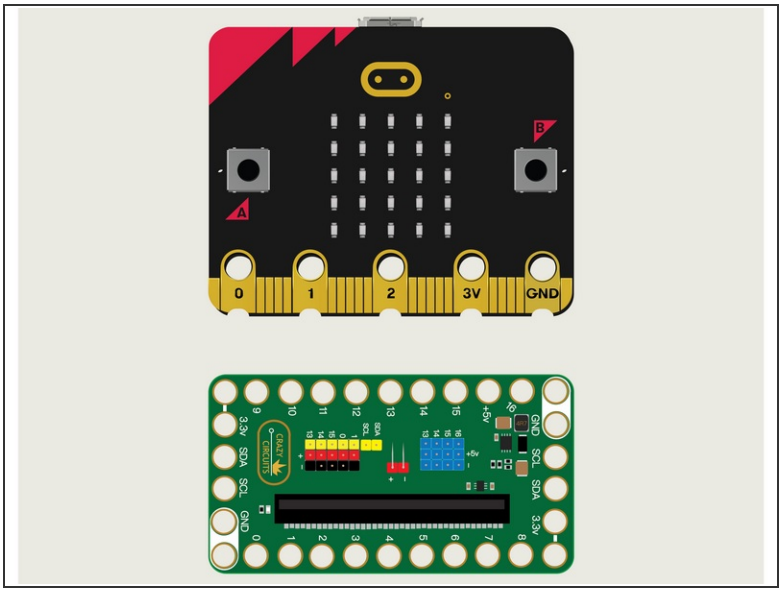
TOOLS:

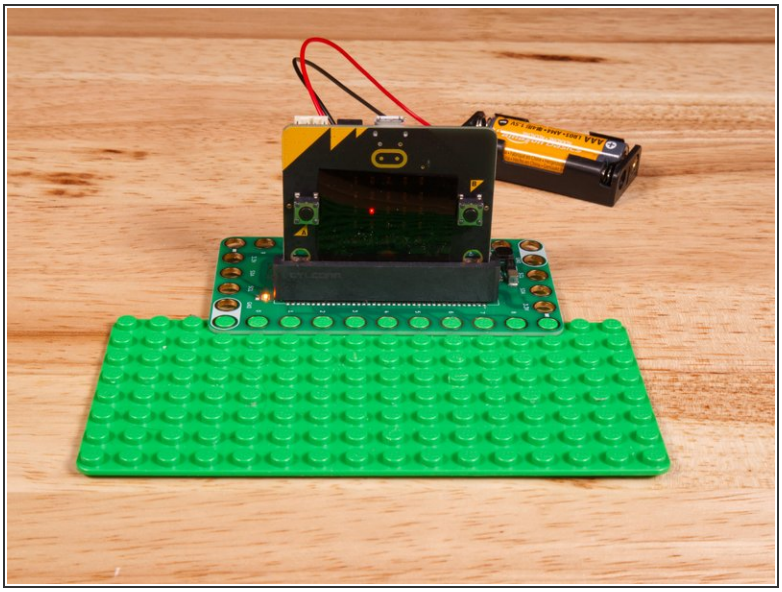
- Computer (1)

PARTS:

- Crazy Circuits Bit Board (1)
- micro:bit (1)

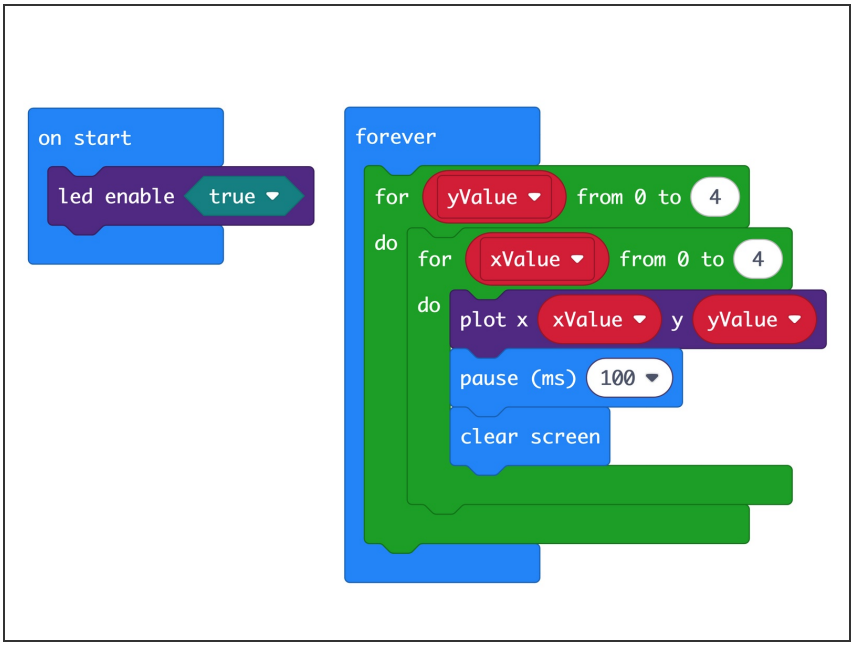
Step 1 — Prepare the micro:bit





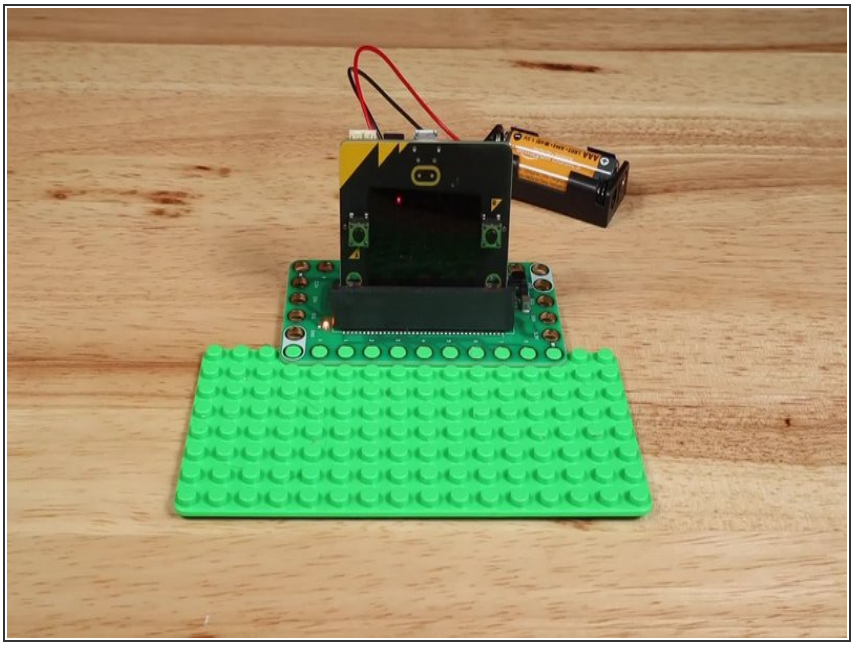
- For this guide we won't need Maker Tape or any components. We're just going to put the micro:bit into the Bit Board.
- We're only going to connect a USB cable and use the built-in LED Matrix found on the front of the micro:bit

Step 2 — Load the Code



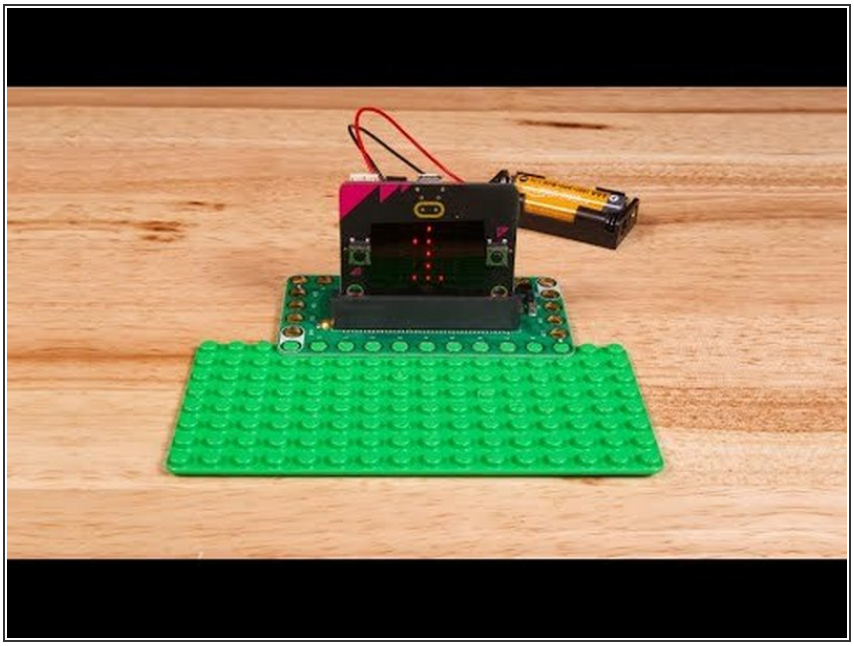
- If you've never used a micro:bit before you'll want to check out this guide: Bit Board V2 Setup and Use
- We're going to load the following code for our **LED Matrix Loop Loop** program: https://makecode.microbit.org/_2UDL7LVsz...
- We've now got a loop inside a loop! What this does is allow us to iterate through every single LED by plotting them out.
- While the **yValue** is **0** the **xValue** will loop from 0 to 4, which is the top row. Then **yValue** will increase by one for the second row, again looping from 0 to 4 to light up each LED.

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 micro:bit's built-in LED Matrix will turn on the first LED, then clear the screen, and turn on the second, and so on...
- The LEDs are not numbered 0 through 24 though, so we need to plot each one on an X/Y axes. (Which is easy to do with our **nested loops**!)

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://youtube.com/live/3A9rYMbcC04

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