

Activity:
LCD Hello World!



Description:

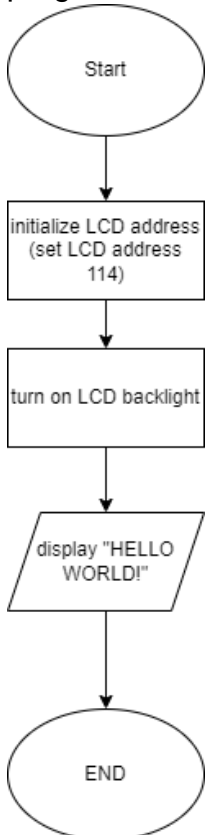
Build a program that will display hello world blinking onto the LCD screen.

Vocabulary and Concepts:

LCD (Liquid Crystal Display): A type of flat panel display that can let light go through it, or can block the light

Flowchart:

A flowchart is a way of representing the step-by-step process (algorithm) of your program. For this program, the flowchart is:

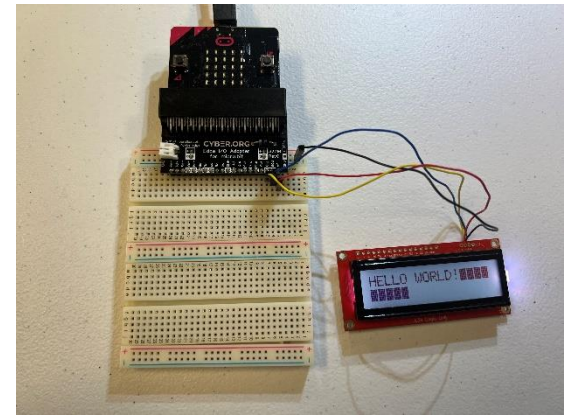


Build the Circuit

Materials Required:

- LCD Screen
- Edge I/O Adapter
- Breadboard
- Flexible Qwiic cable

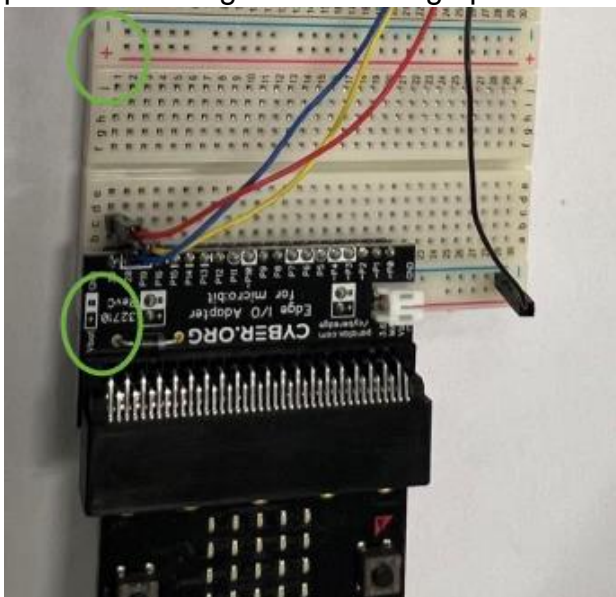
Hardware Hookup:



Contact from LCD	Connection to gator:bit	Connector (Qwiic Cable)
Connect qwiic cable in the back of LCD	OUT 3V (power)	Red wire
Connect qwiic cable in the back of LCD	GND (ground) _Blue negative column)	Black wire
Connect qwiic cable in the back of LCD	P20 (SDA)	Blue wire
Connect qwiic cable in the back of LCD	P19 (SCL)	Yellow wire

Instructions:

1) Place micro:bit into edge I/O adapter and connect Edge I/O adapter to breadboard with the positive and negative matching up.



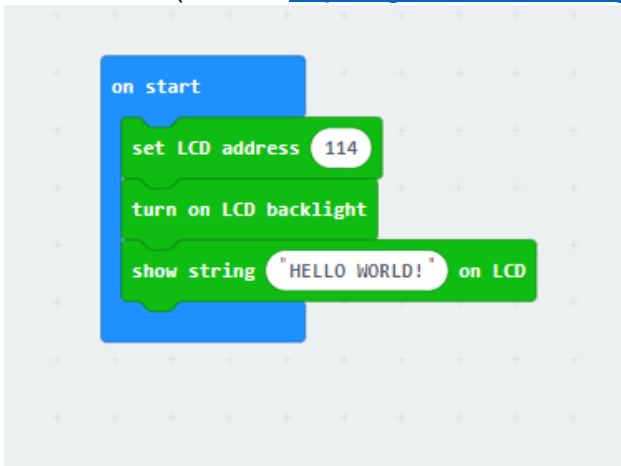
Let's Start Programming!

Step 1: Getting Started

First, search add the LCD extension. Next, grab on start block from basic tab and grab the needed blocks within the added LCD block from extension

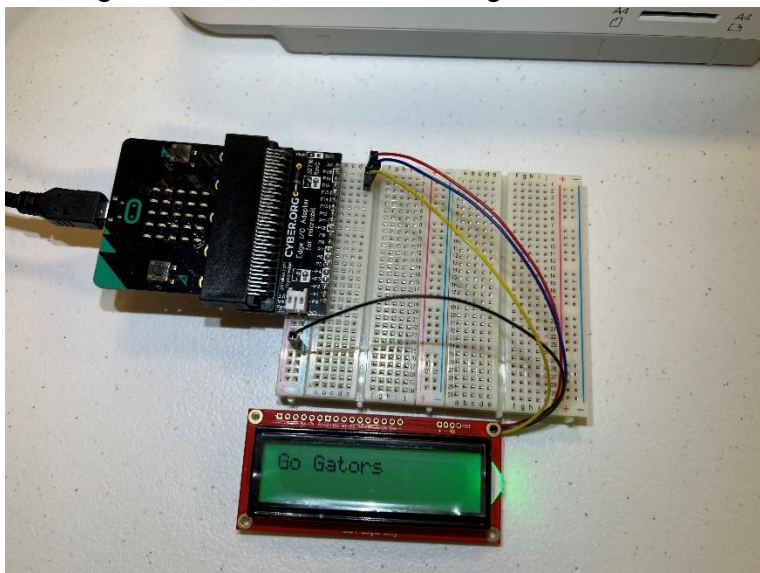
Extensions:

- LCD (search <https://github.com/evergreen22/pxt-lcd-rgb-16x2-i2c> in the extension search bar)



Step 2: Selection Changes

- Change LCD backlight block to the set LCD backlight red, green, blue. This allows to change the color of the screen.
- Change the text in the show string block



Step 3: Test your Program using the Emulator

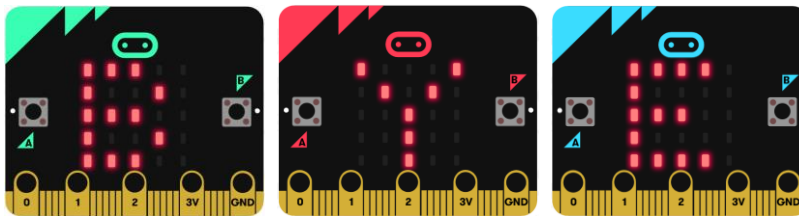
Step 4: Download the Program

Step 5: Connect to your micro:bit

Step 6: Running the Program on the micro:bit

Congratulations!

You have created your LCD program!!



References

LCD Display tutorial: <https://www.youtube.com/watch?v=oov5Q48V844>

Flowchart tool: <https://www.draw.io/>