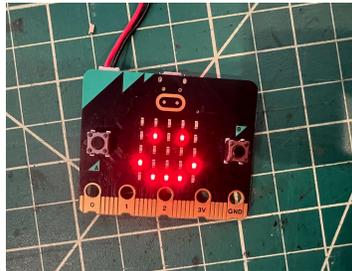


MAKER SKILLS LIBRARY

Maker Skill: micro:bit LED Matrix

Your micro:bit has a square of 25 LEDs that you can program to light up and turn off. You can use this feature to display images, text, and numbers on your micro:bit



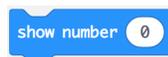
To get started:

- Head to <https://makecode.microbit.org/> and click on “New Project”
- If you are planning to code a physical micro:bit (not just the on-screen simulator), make sure your micro:bit is plugged in and connected correctly.
- Check out [this tutorial](#) to learn how to download a program to your micro:bit.

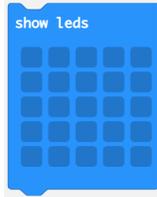
To code your LED matrix:

- Click on  Basic to display the blue, “Basic” coding blocks.

Blocks to Try:



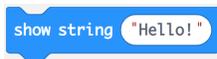
This block will tell the micro:bit to display the number in the white oval on its LED matrix. You can type any number into the white oval. The number will remain on the LED matrix until you use another block to change it.



The squares on this block represent the individual LEDs in your micro:bit's LED matrix. This block tells the micro:bit to display whatever pattern of LEDs is shown in the block. You can click on the squares to create a pattern of LEDs. Click once to turn a square on (it will become white) and again to turn the square off again. The pattern you create will remain on the LED matrix until you use another block to change it.



This block will tell your micro:bit to display one of several pre-loaded symbols on your LED matrix. To choose a symbol, click the heart icon and scroll through the options. Click on the symbol you want to use. The symbol you choose will remain on the LED matrix until you use another block to change it.



In coding, a string is a series of characters. This block will tell your micro:bit to display whatever string of characters you type into the white oval on its LED matrix. The letters will scroll from left to right, and then disappear.

- Choose one of the blocks described above, and drag it into the coding area. Place the block inside



of either

or

.

- "On start" runs whatever coding blocks are inside of it one time when the micro:bit is first turned on.
- "Forever" runs whatever coding blocks are inside of it over and over again, in order, until the micro:bit is turned off or the code is changed.
 - If you use both "On start" and "forever" in the same code, the micro:bit will first run the "on start" code one time, then run the "forever" code over and over.
- Download your code to the micro:bit and try it out! (Or, use the simulator to test your program by clicking the triangular "play" button underneath the micro:bit simulator)

Keep on coding! Try some of these challenges:

- Create code that tells your micro:bit to switch back and forth between two or more different displays on the LED matrix.
- Create code that sends a message to a friend.
- Create code that tells a story using the LED matrix.