

## Light up the dot matrix

### 1.Learning goal

In this course, we mainly know LED:bit and learn the use of building blocks in the LEDBit extension package.

The experimental results we are about to achieve is that, light up the dot matrix.

### 2.Programming method

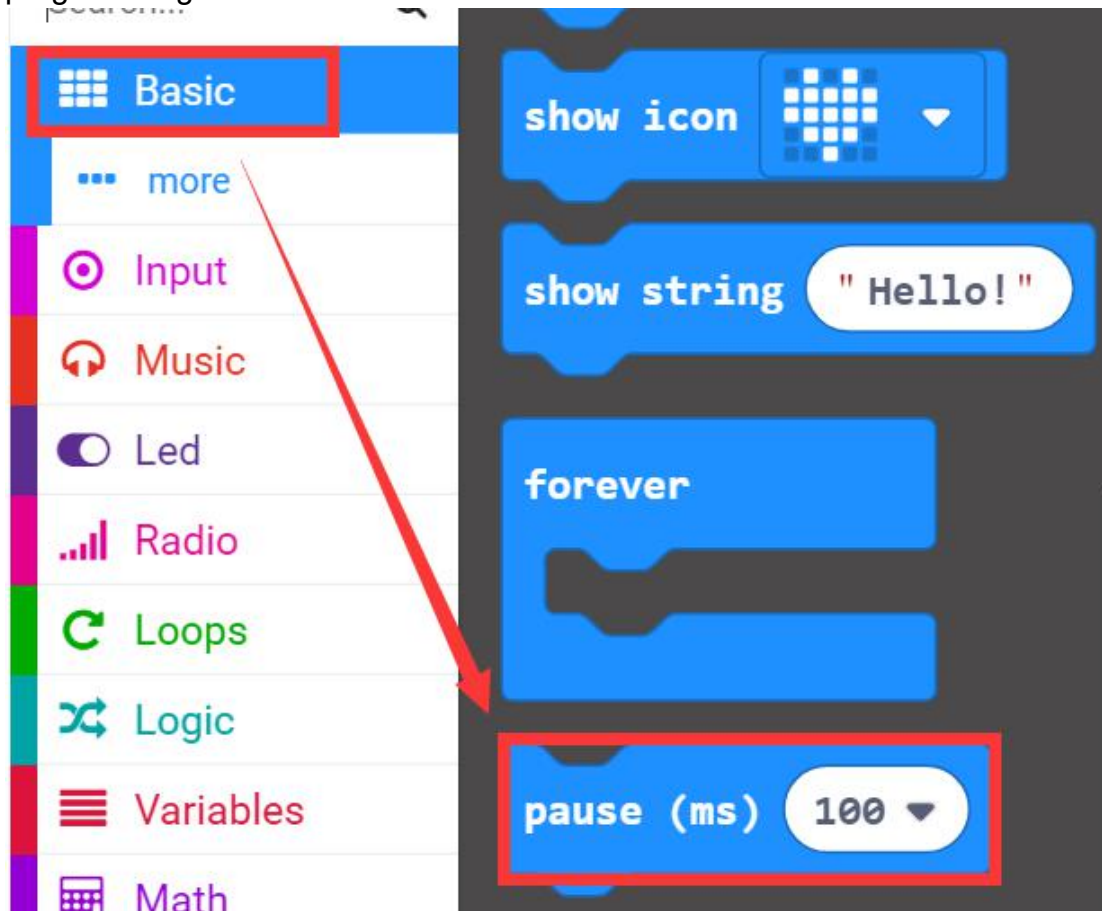
**Mode 1 online programming:** First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: <http://microbit.org/> to enter the programming interface. Add the Yahboom package <https://github.com/lzty634158/LED-Bit> to program.

**Mode 2 offline programming:** We need to open the offline programming software. After the installation is complete, enter the programming interface, click 【New Project】 , add Yahboom package:

<https://github.com/lzty634158/LED-Bit>, you can program.

### 3.Looking for blocks

The following is the location of the building blocks required for this programming.



The image displays the Yahboom software interface, which is designed for controlling LED strips. It features a left-hand sidebar with various functional categories and a main workspace on the right.

**Left Sidebar Categories:**

- Logic
- Variables
- Math
- LEDBit** (highlighted with a red box)
- Neopixel

**Main Workspace:**

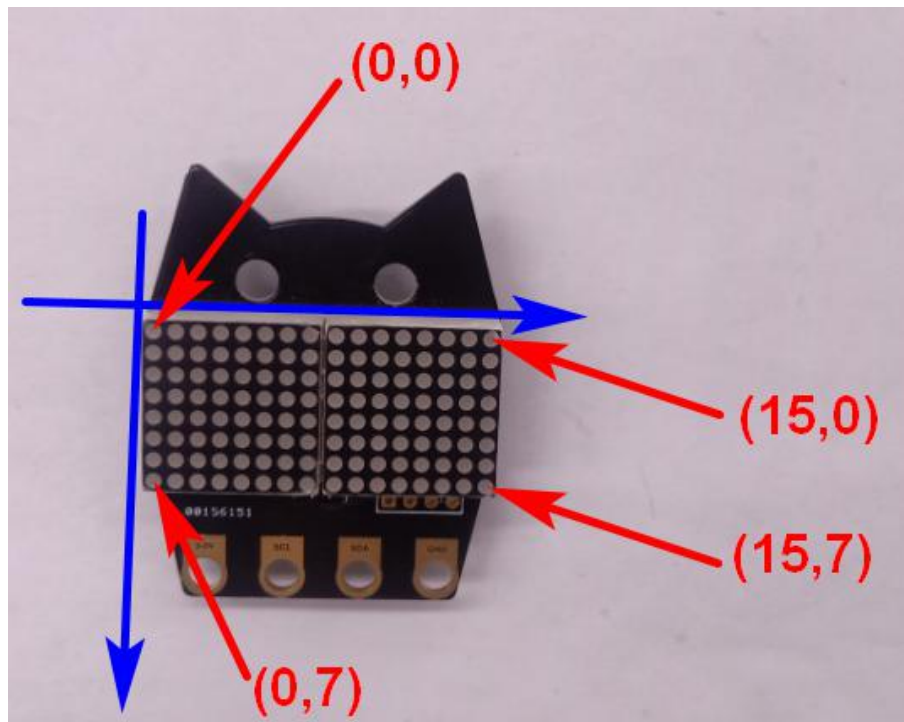
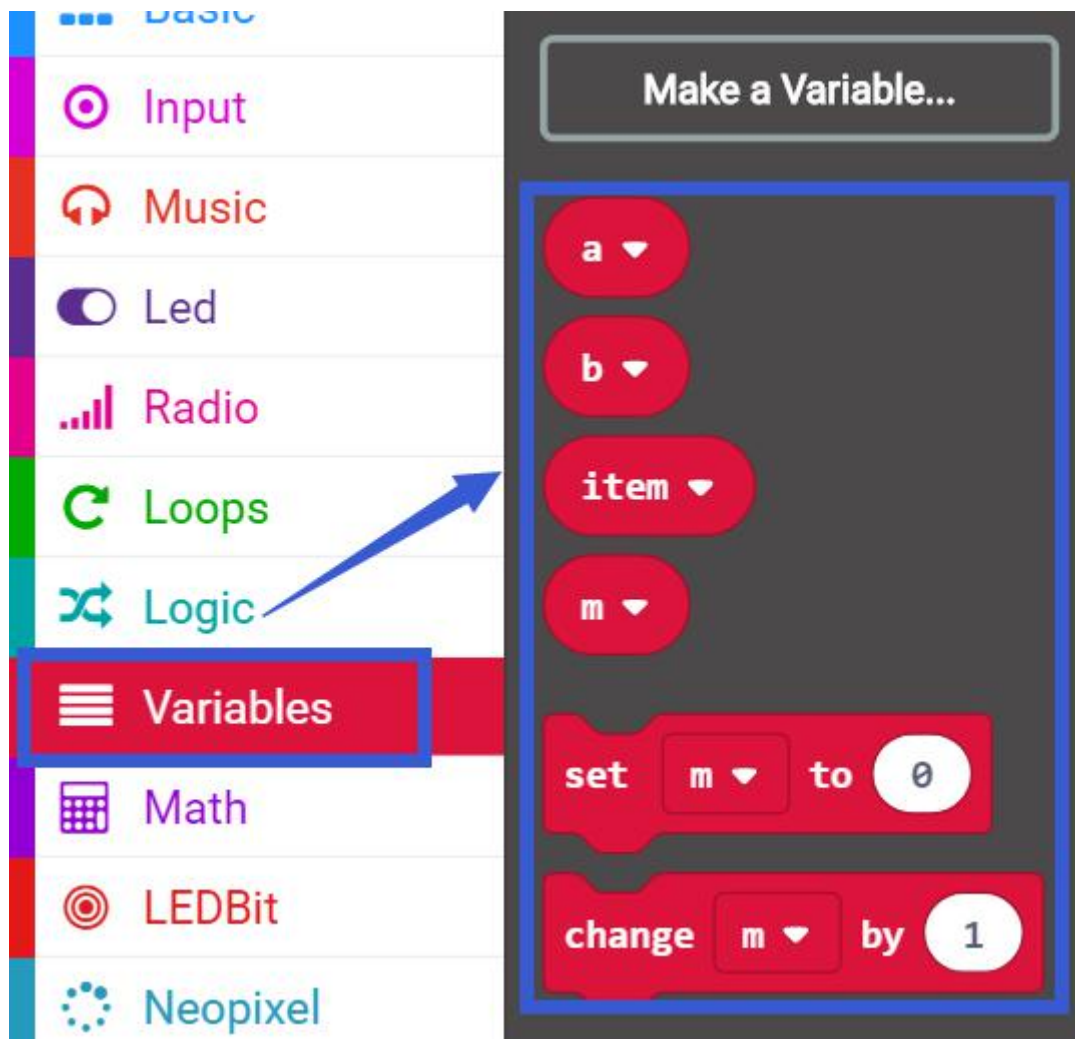
- LED expression Draw X** (0) **Y** (0) **OFF** (dropdown menu)
- LED expression Clear**

**Logic Editor (Bottom Panel):**

- Search...** (with a magnifying glass icon)
- Basic**
- Input**
- Music**
- Led**
- Radio**
- Loops**
- Logic** (highlighted with a blue box)
- Variables**
- Math**
- LEDBit**
- Neopixel**

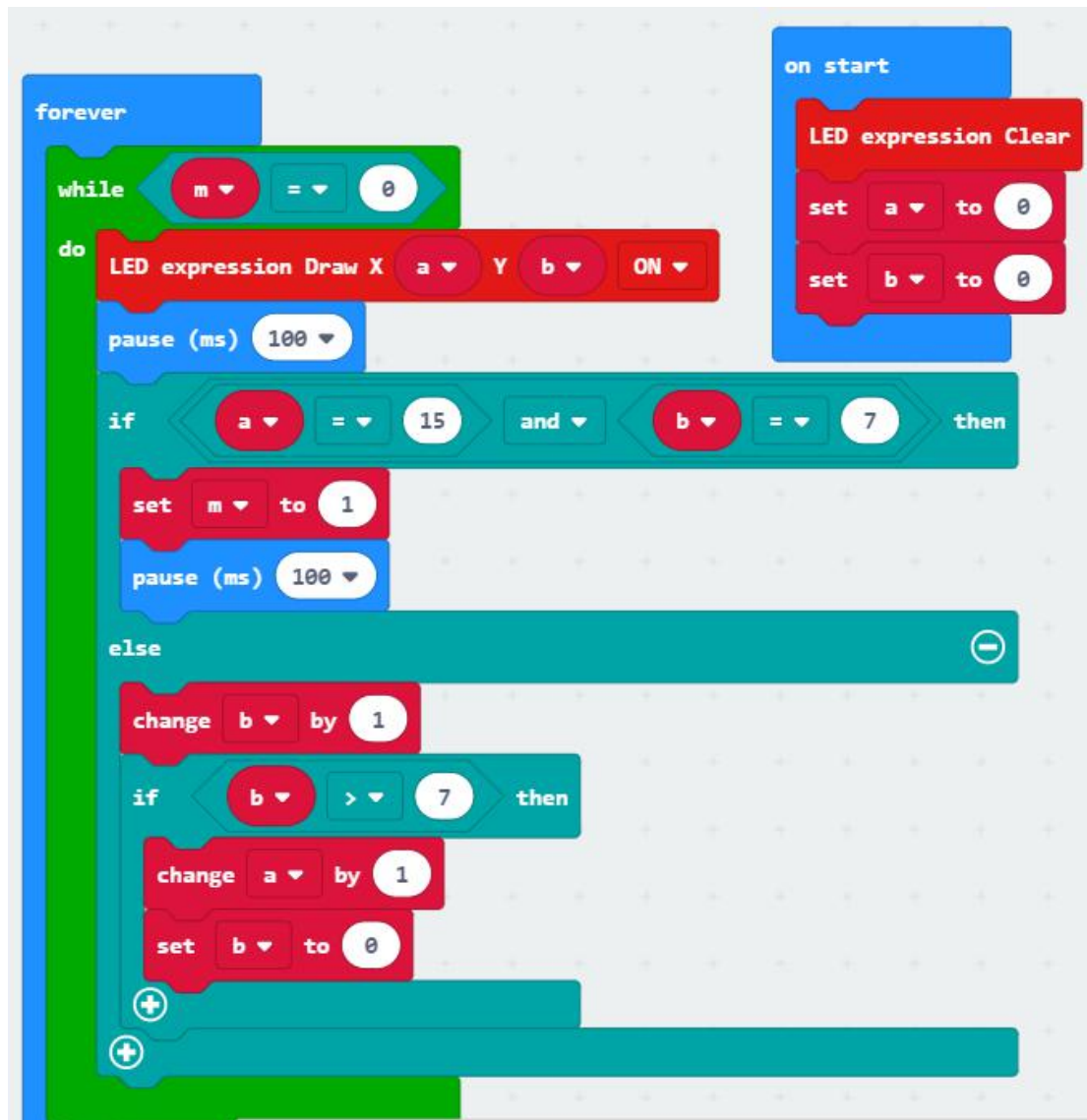
**Logic Editor Content:**

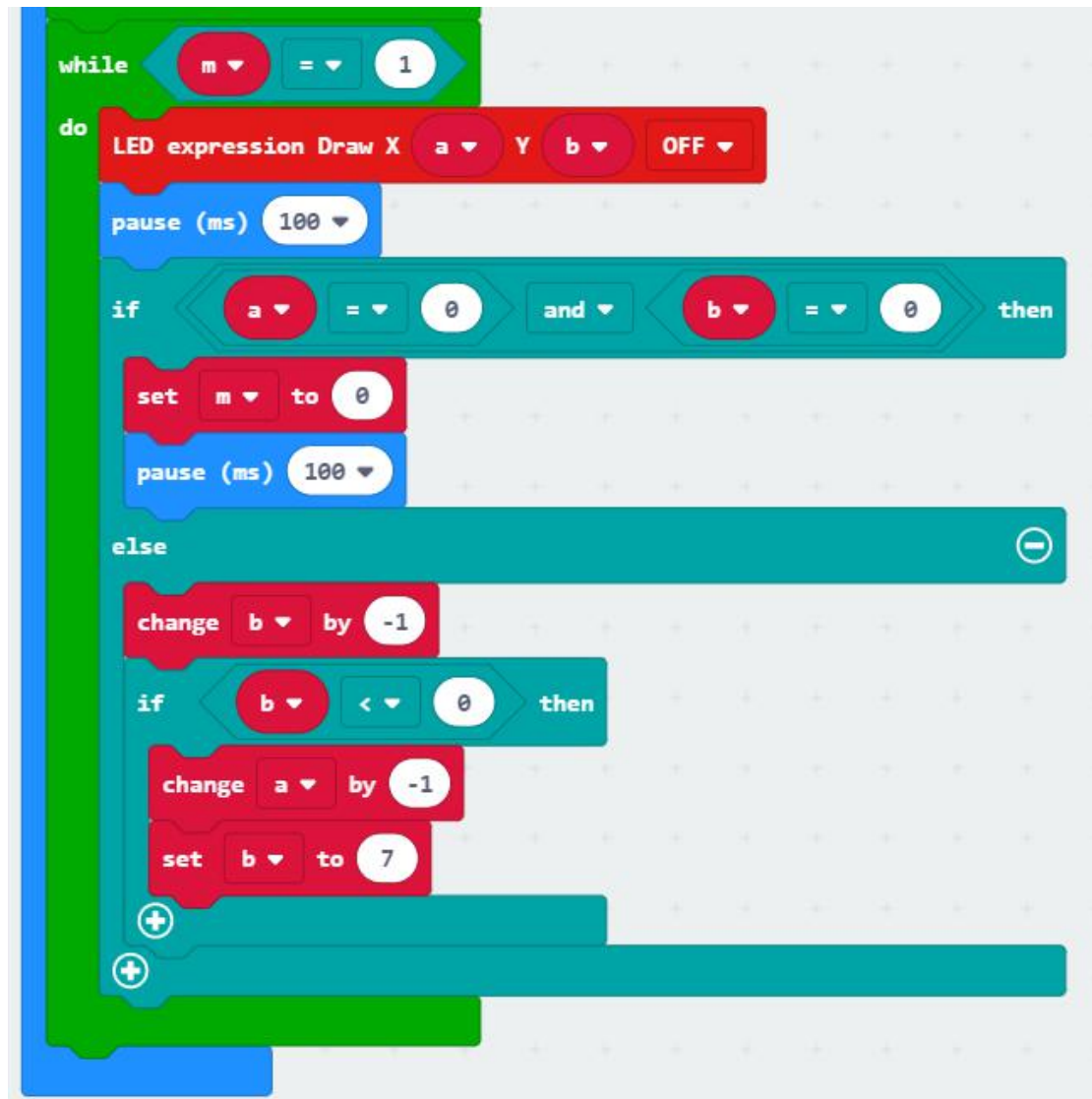
- if true then** block
- if true then** block
- else** block
- Comparison** section with two comparison operators: **=** (equals) and **<** (less than), both with input fields set to 0.



#### 4.Combine building block

The summary program is shown below:





## 5. Experimental phenomena

After the program download is successful, we can see that the LED: bit will turn on form (0,0), (0,1) (0,2)...(15,7) in proper order and the last LED:bit will be on full screen. Then it will turn off from (15, 7), (15, 6)... in proper order.