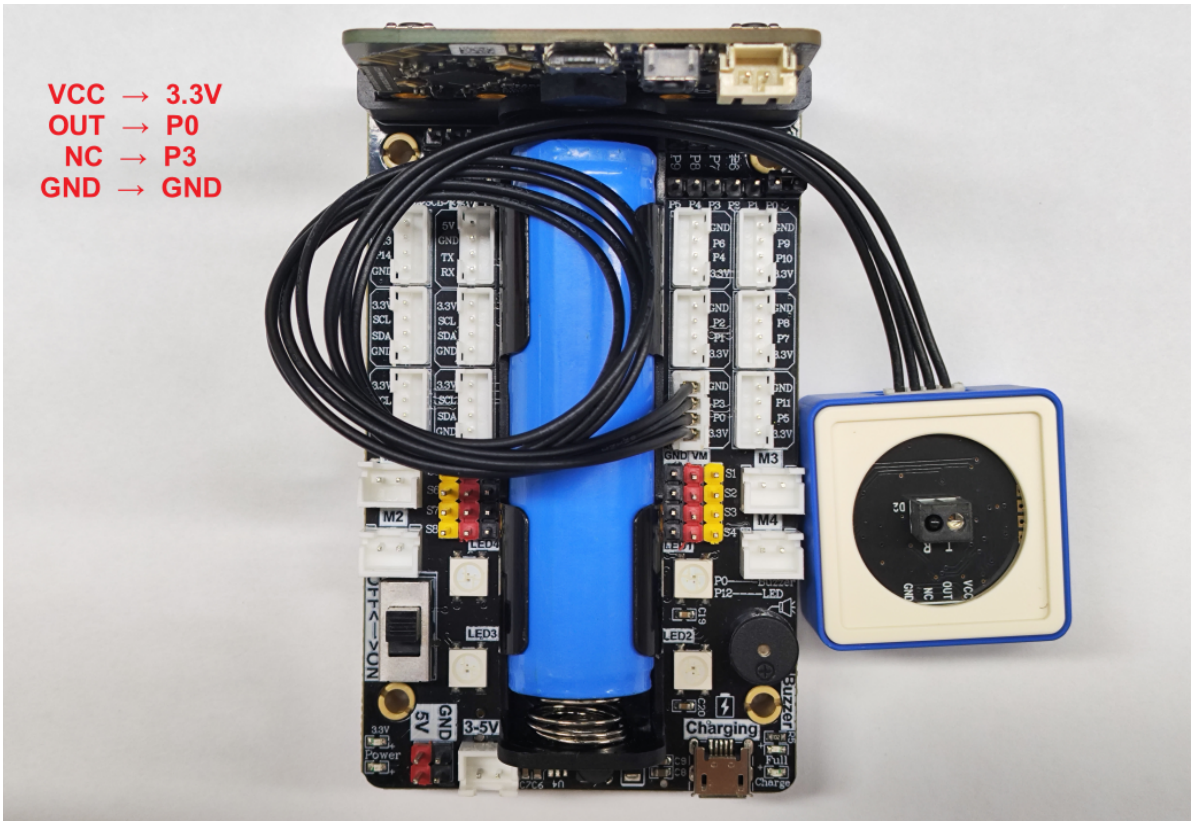
Obstacle detection

1. Learning objectives

In this course, we mainly learn how to implement obstacle detection through MakeCode graphical programming.

2. Sensor wiring

The infrared module is connected to the P0P3 interface.



3. Programming

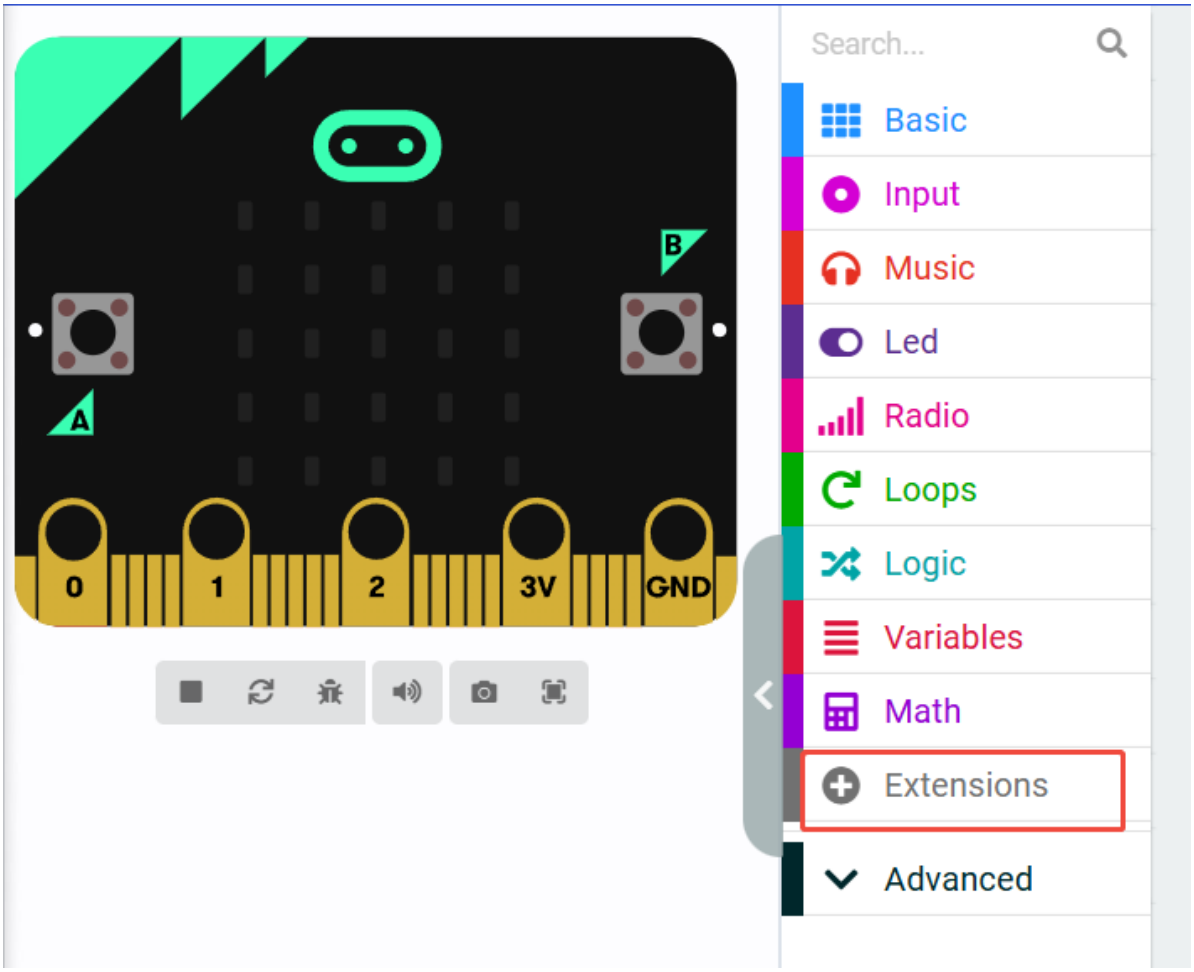
Method 1 Online programming:

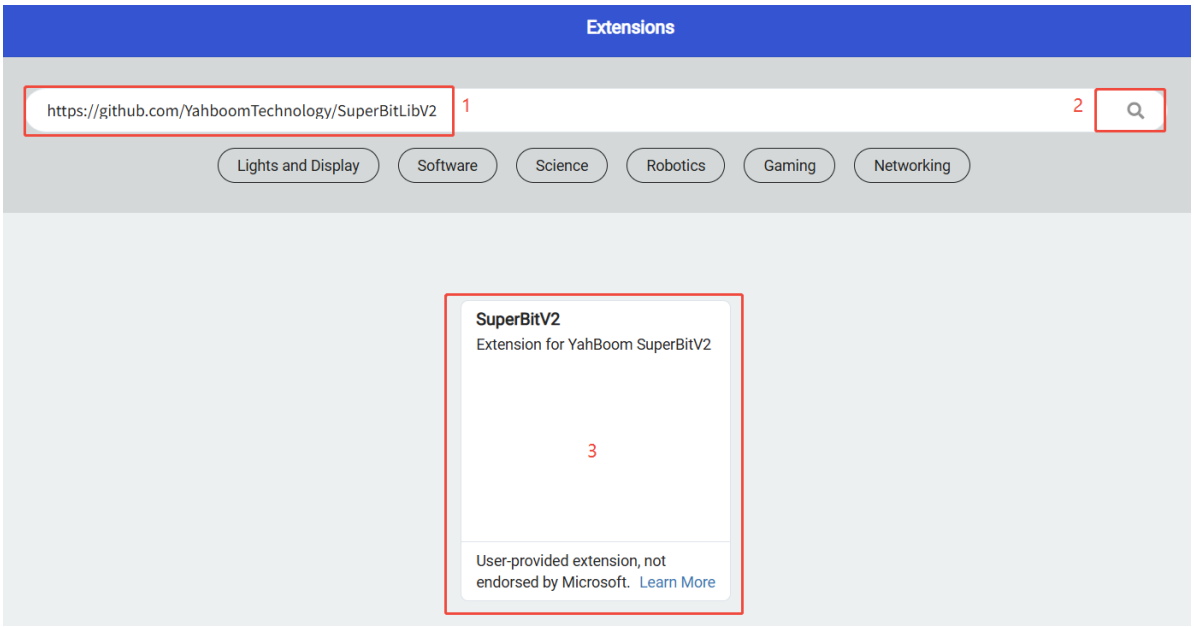
First, connect micro:bit to the computer via a USB cable, a USB flash drive will pop up on the computer, click the URL in the USB flash drive: https://makecode.microbit.org/ to enter the programming interface. Then, add the Yahboom software package **https://github.com/YahboomTechnology/SuperBitLibV2** to start programming.

Method 2 Offline programming:

Open the offline programming software MakeCode and enter the programming interface. Click [New] and add the Yahboom software package **https://github.com/YahboomTechnology/SuperBitLibV2** to start programming.

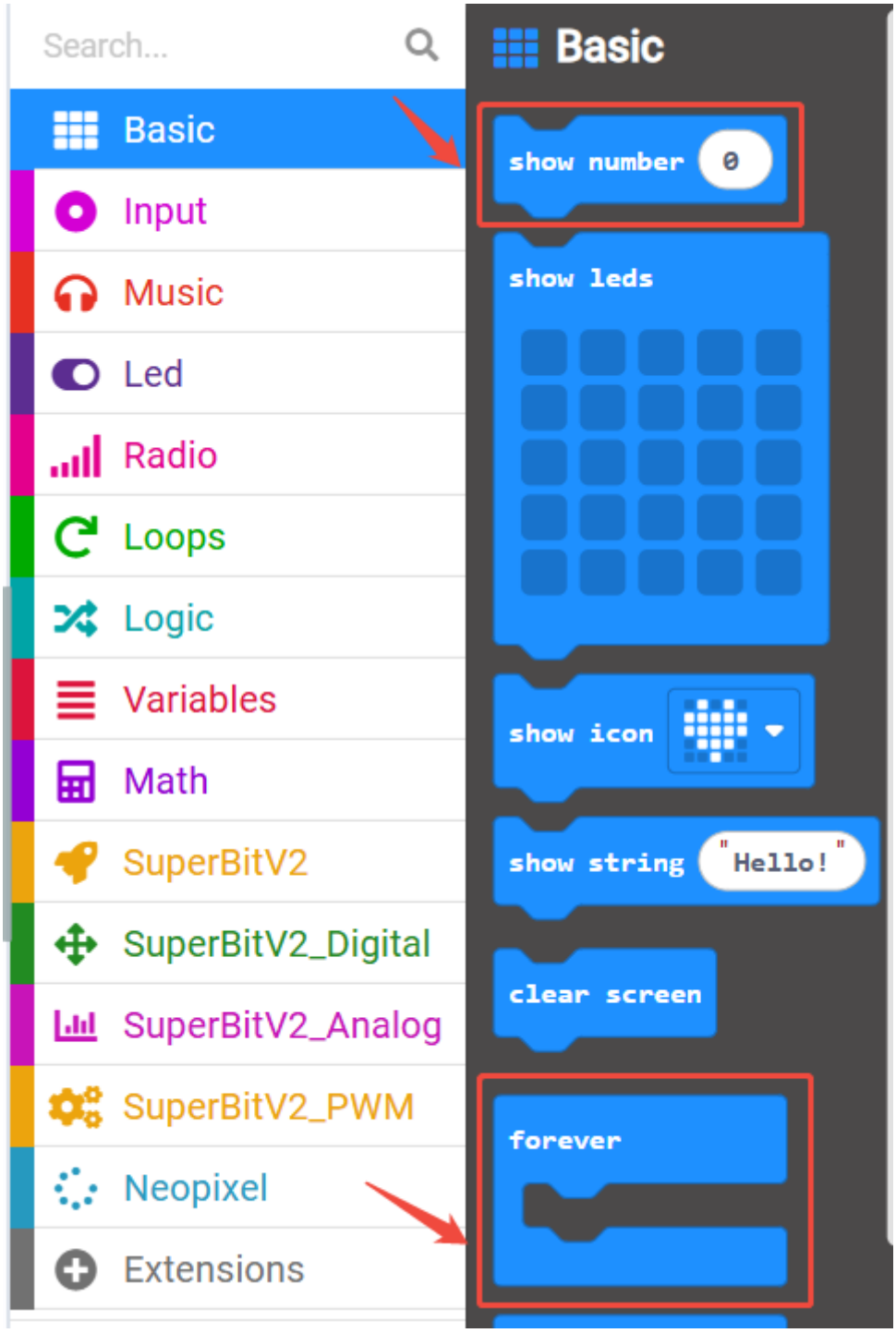
3.1 Adding extension packages



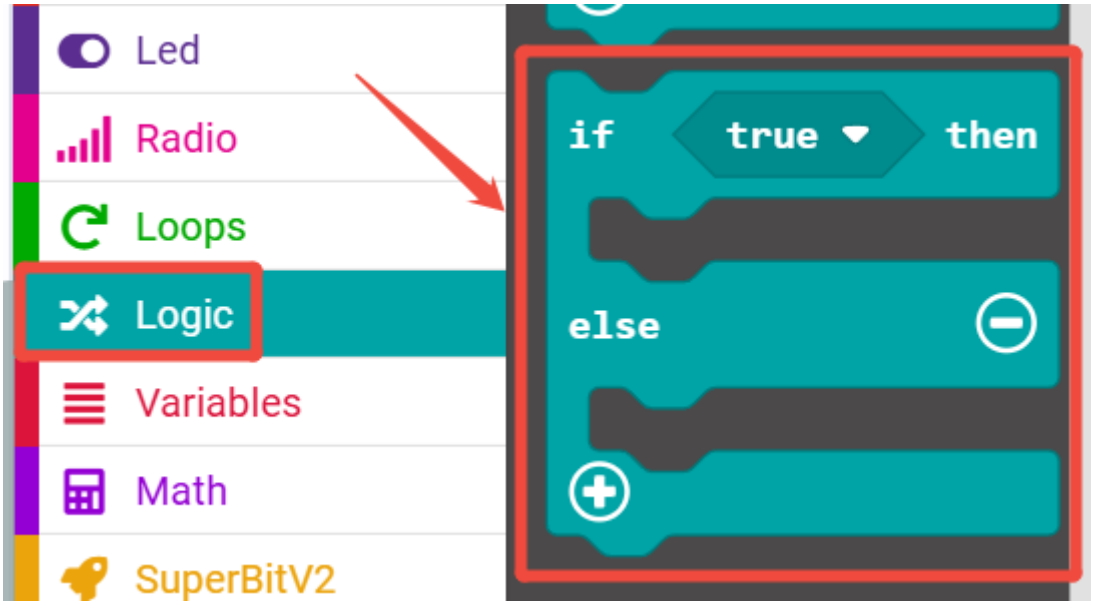


3.2 Building blocks used

The locations of the building blocks required for this programming are shown in the figure below.

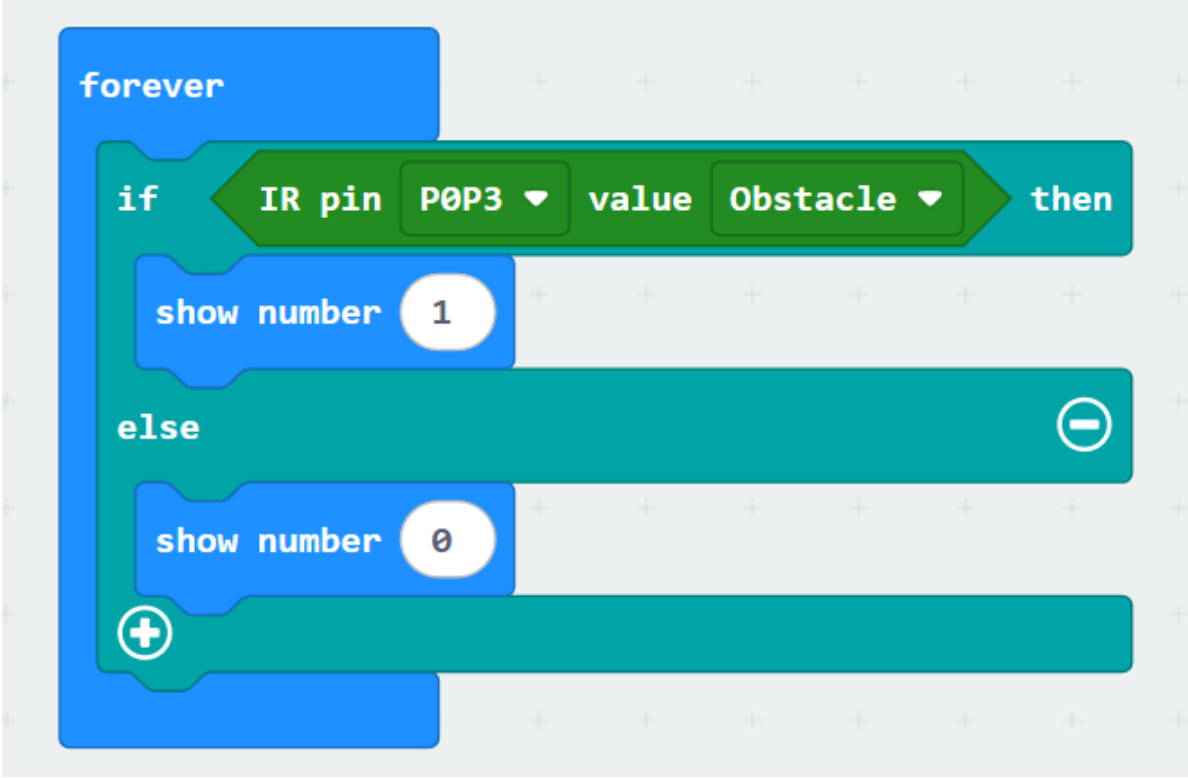

Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
SuperBitV2_PWM
Neopixel
Extensions
Basic
show number 0
show leds
show icon
show string "Hello!"
clear screen
forever


Math
SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
SuperBitV2_PWM
IR pin P4P6 value Obstacle



3.3 Combining blocks

The summary procedure is shown in the figure below.



You can also directly open the **Obstacle-detection.hex** file provided in this experiment and drag it into the browser that opens the URL, and the program diagram of this project source code will be automatically opened.

4. Experimental Phenomenon

After the program runs successfully, the microbit dot matrix displays 1 when an obstacle is detected, otherwise it displays 0.