

Hand-held range finder

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1. Learning objectives

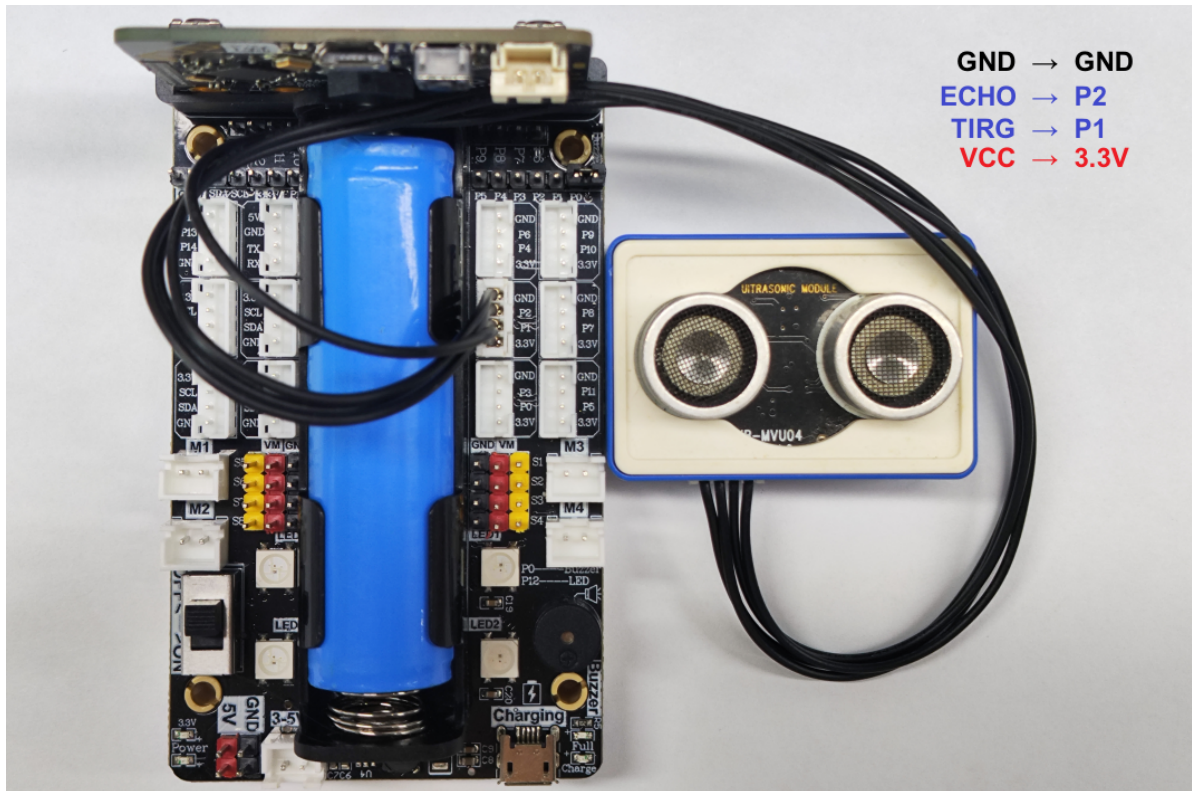
In this course, we mainly learn how to use MakeCode graphical programming to achieve handheld ranging of ultrasonic modules.

2. Building blocks

For detailed steps of building blocks, please refer to the installation drawings of [Assembly Course]--[ultrasonic handheld rangefinder] in the materials or the building block installation album.

3. Sensor wiring

Ultrasonic connection is at P1P2 interface.



4. Programming

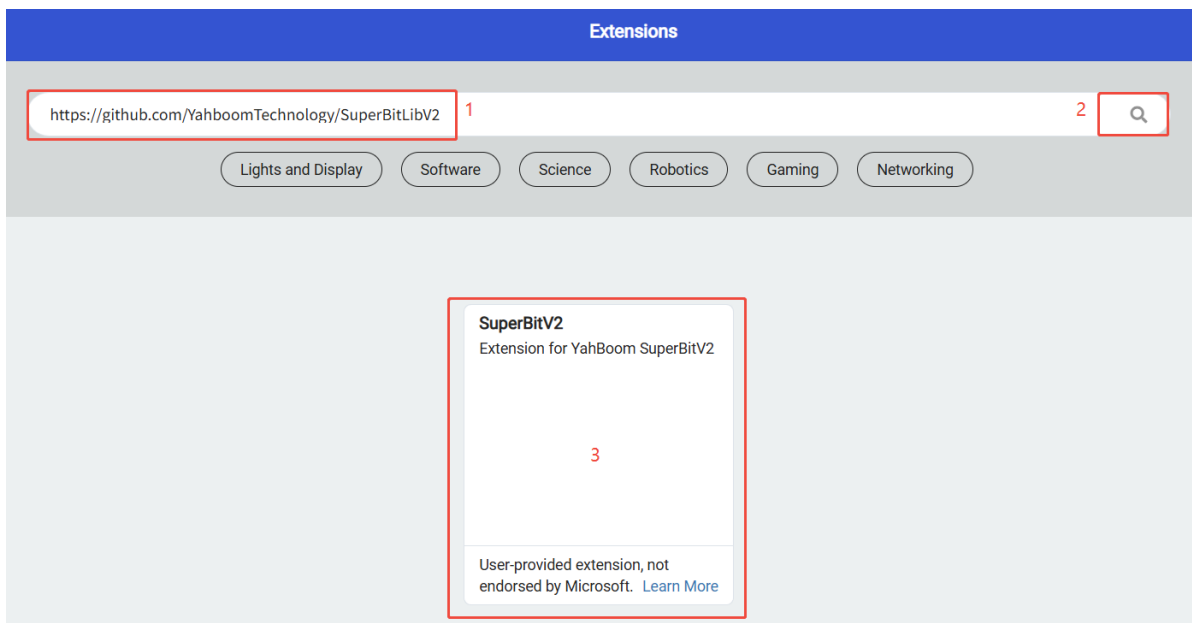
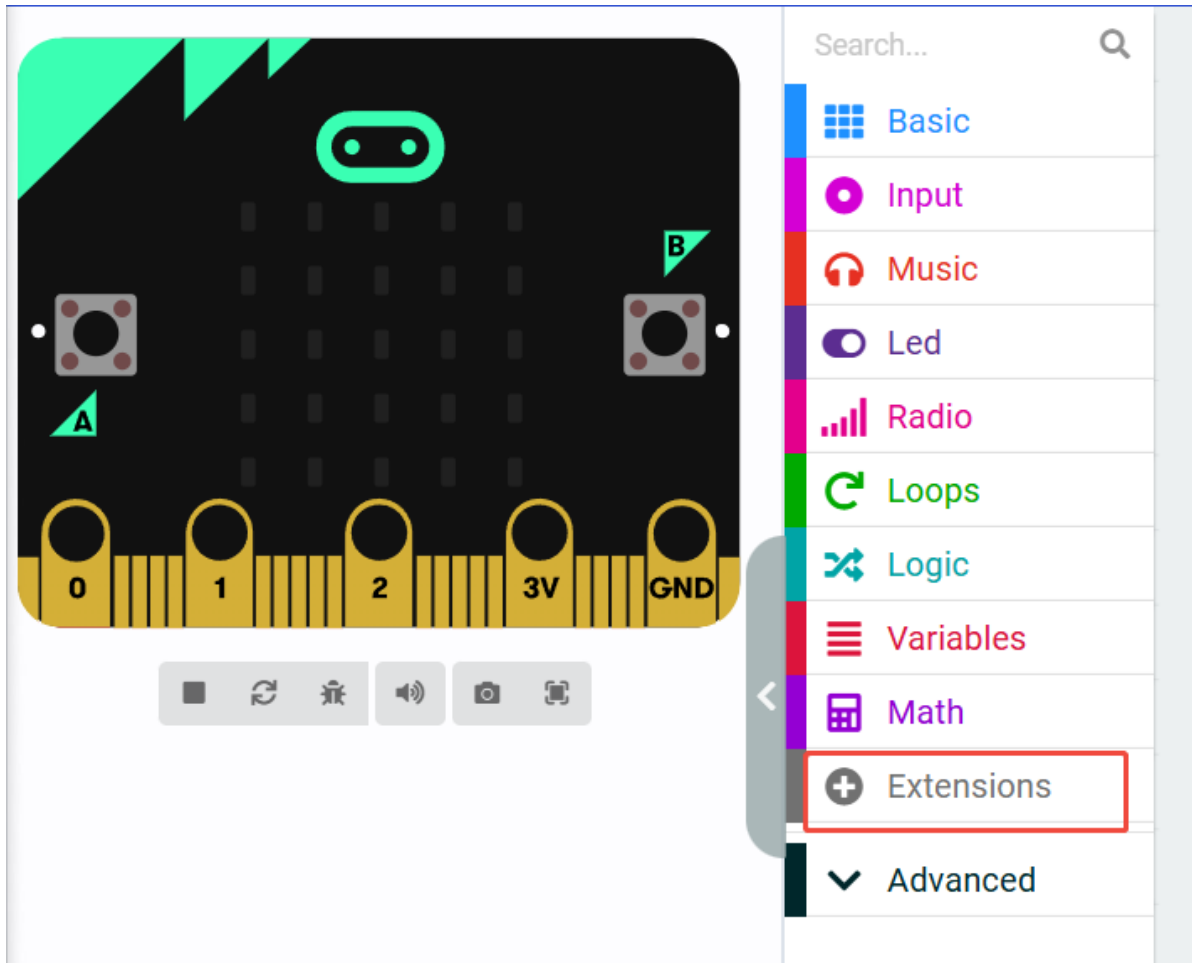
Method 1 Online programming:

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:

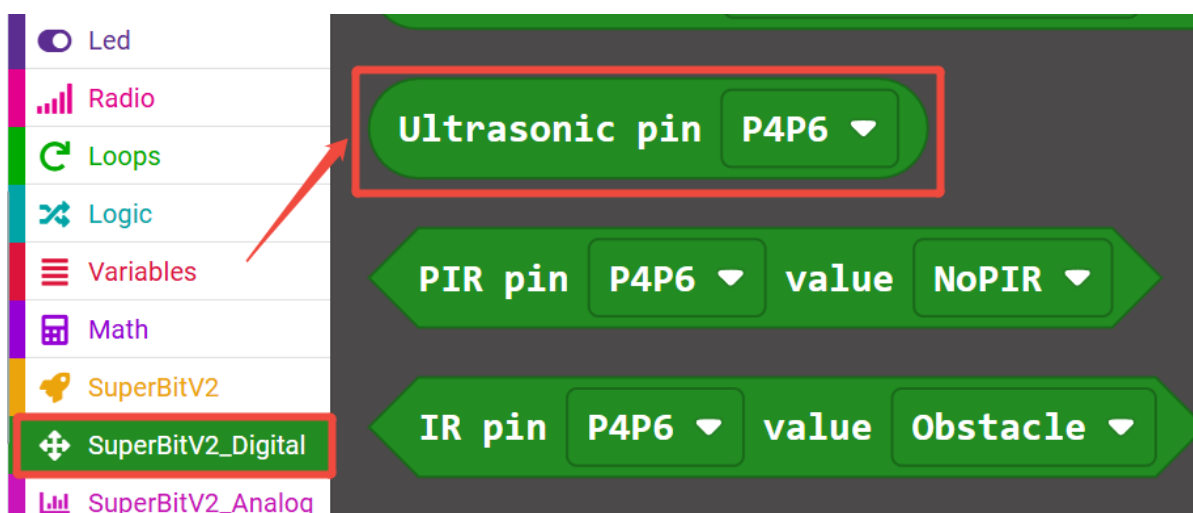
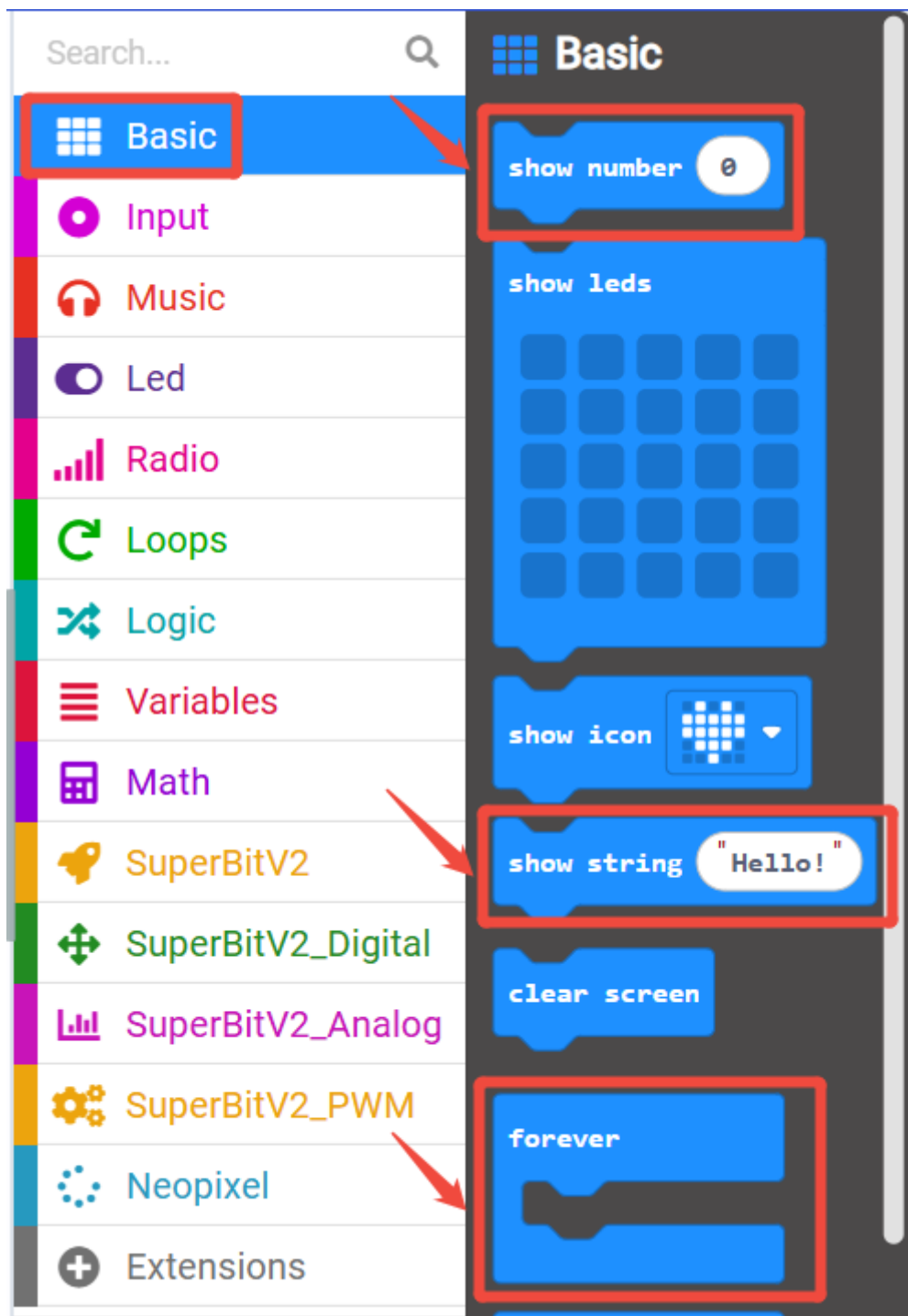
Open the offline programming software MakeCode and enter the programming interface. Click [New] and add the Yahboom software package <https://github.com/YahboomTechnology/SuperBitLibV2> to start programming.

4.1 Adding extension packages



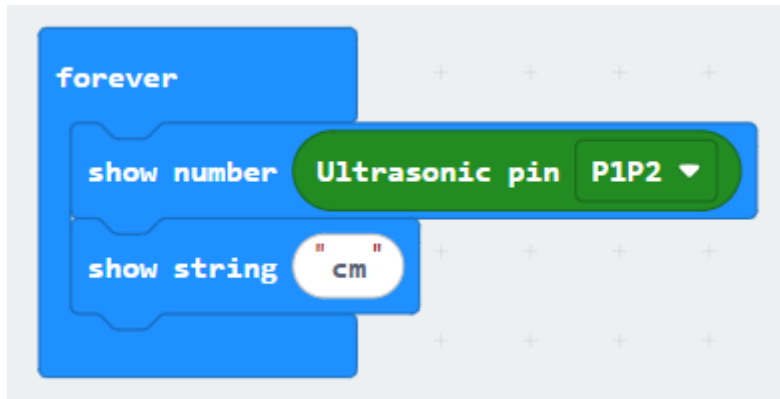
4.2 Bricks used

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



4.3 Combining blocks

The summary procedure is shown in the figure below.



You can also directly open the **Hand-held-range-finder.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.

5. Experimental Phenomenon

After the program runs successfully, the micro:bit dot matrix displays the distance and unit measured by ultrasound.