

# Color recognition machine

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## Color recognition machine

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## 1. Learning objectives

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In this course, we mainly learn how to implement the temperature and humidity reminder function through MakeCode graphical programming.

## 2. Building blocks

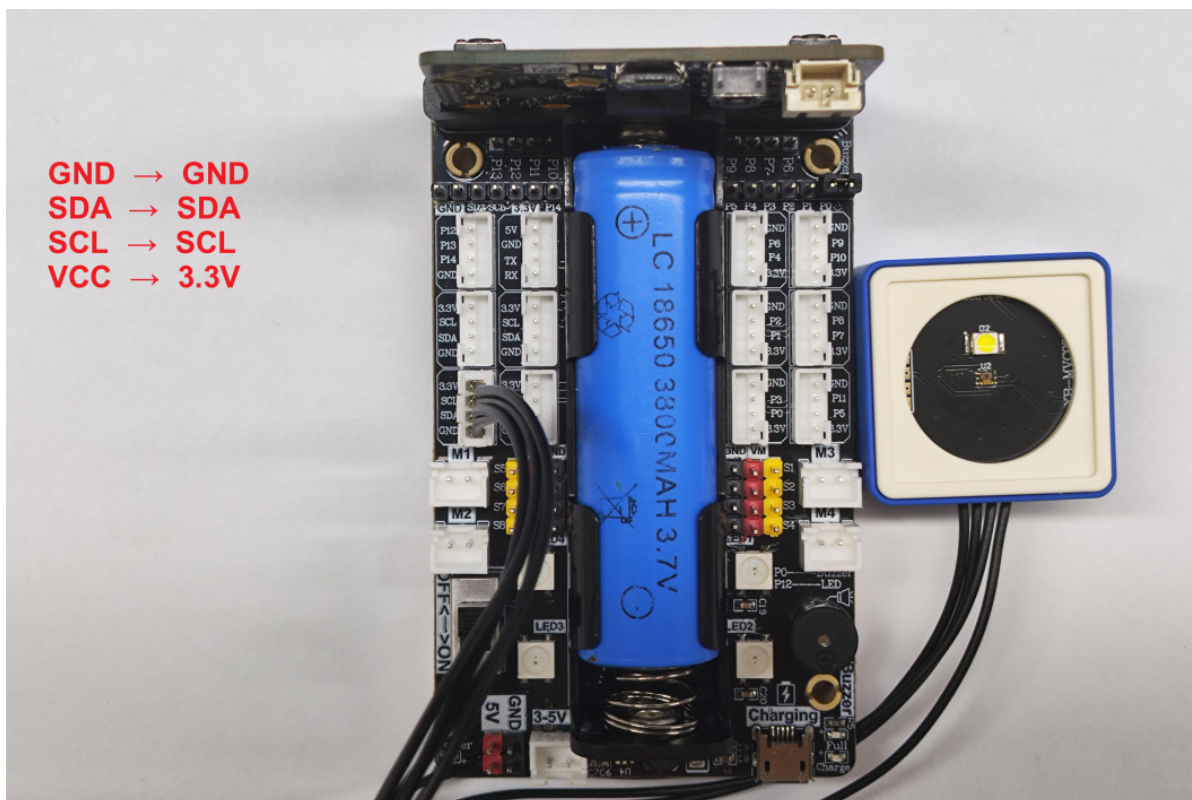
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For the building blocks steps, please refer to the installation drawings of [Assembly Course]-- [Color recognition machine] or the building blocks installation brochure in the materials.

## 3. Sensor wiring

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The color recognition module is connected to the I2C (SDA, SCL) interface.



First, connect micro:bit to the computer via a USB data cable. The computer will pop up a U disk. Click the URL in the U disk: <https://makecode.microbit.org/> to enter the programming interface. Then, add the Yahboom software package to program.

### Method 2 Offline Programming:

Open the offline programming software MakeCode and enter the programming interface. Click [New] and add the Yahboom software package to start programming.

**superbit kit expansion package:** <https://github.com/YahboomTechnology/SuperBitLibV2>

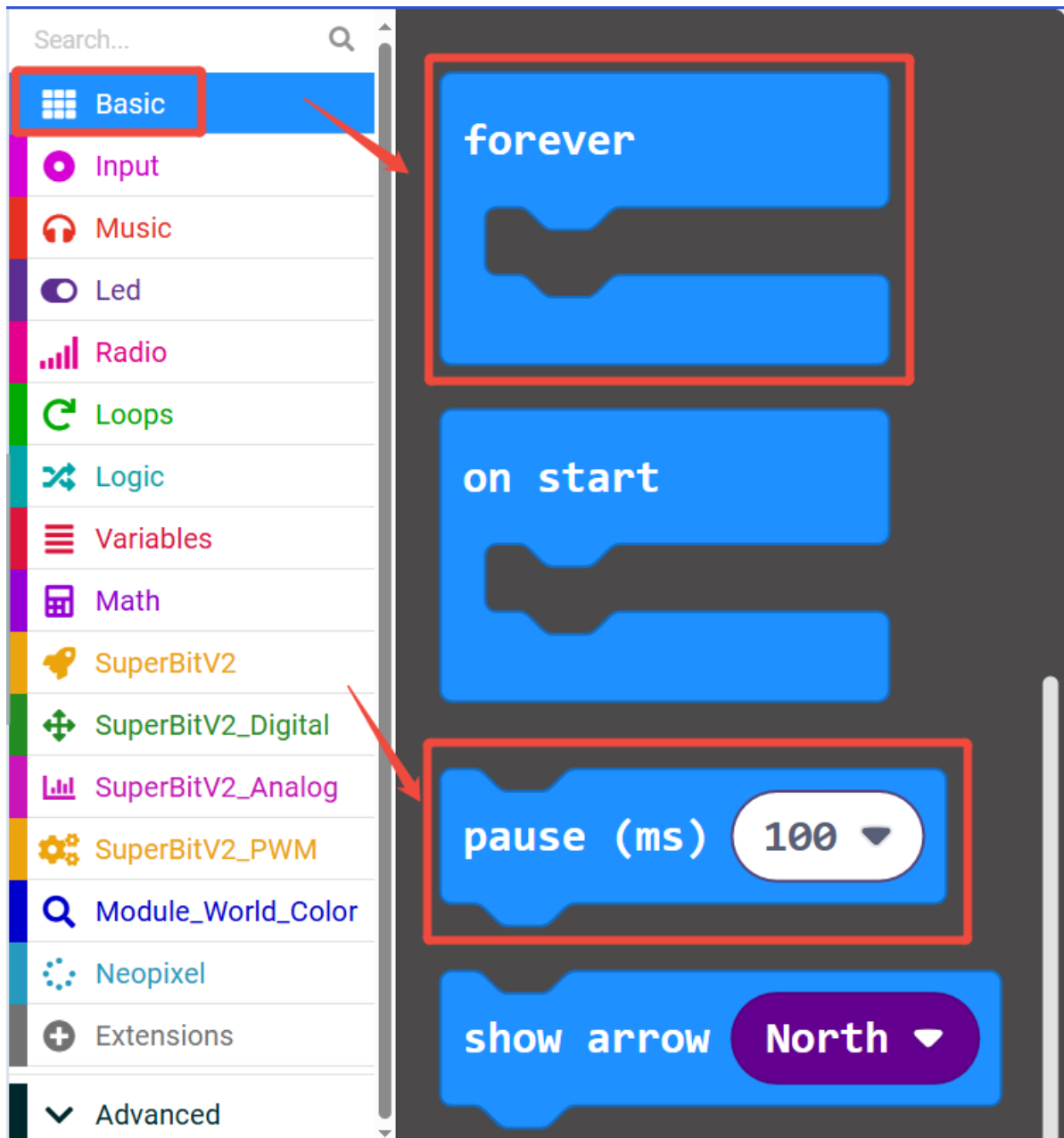
**Color recognition sensor:** [https://github.com/YahboomTechnology/module\\_world\\_color](https://github.com/YahboomTechnology/module_world_color)

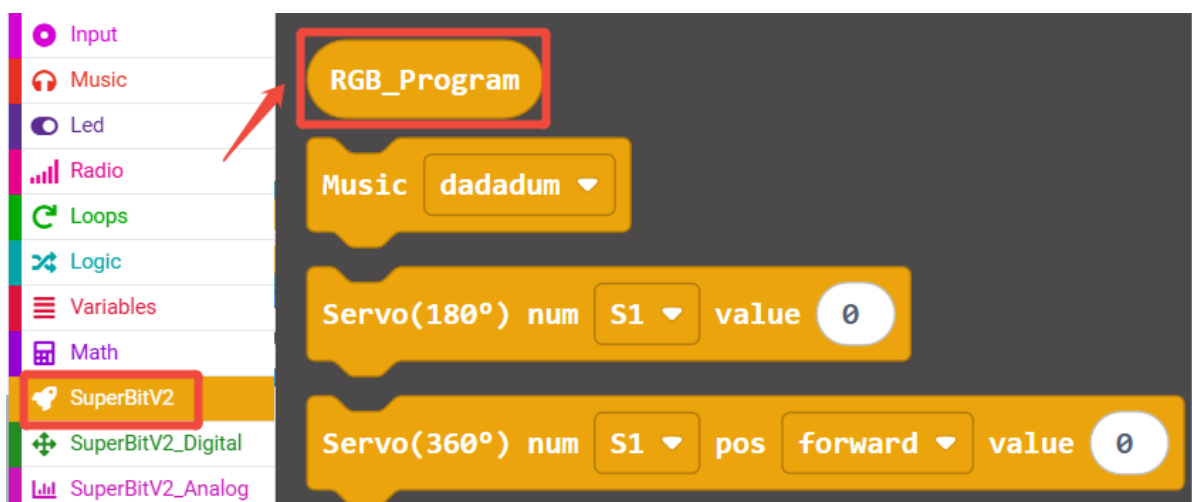
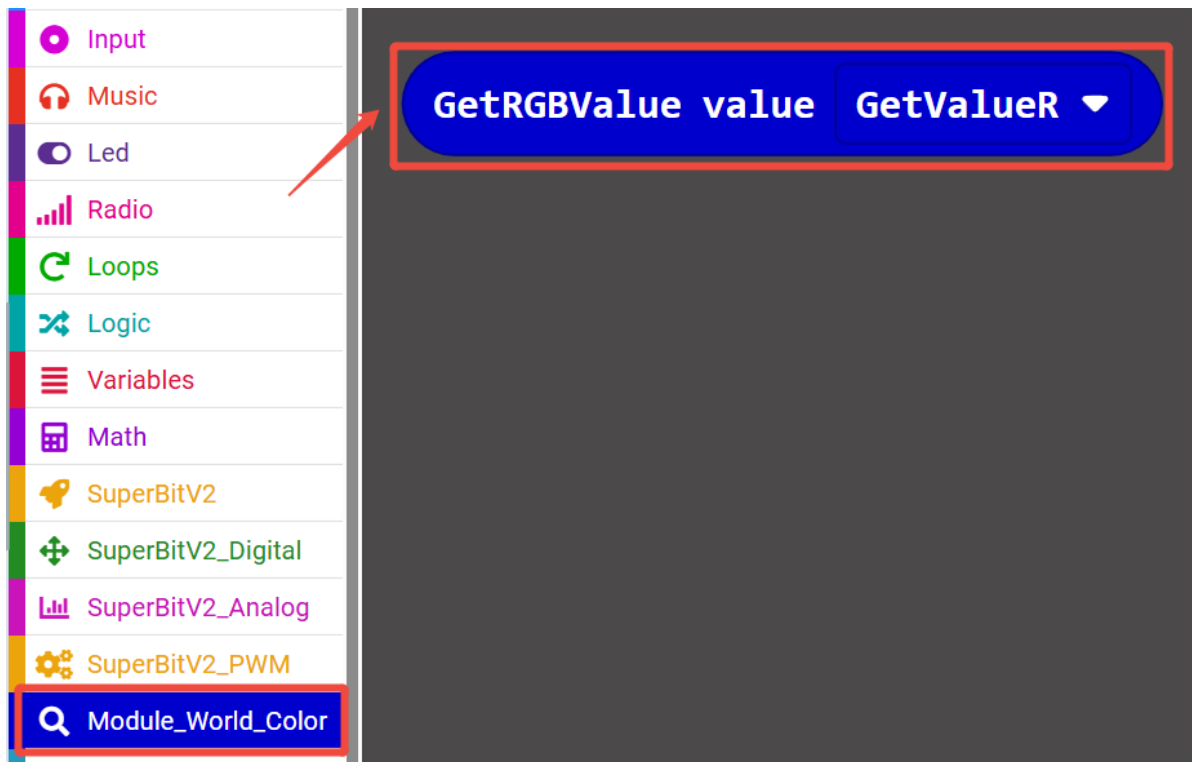
## 4.1 Add expansion package

The image shows the MakeCode Micro:bit IDE interface. On the left is a visual representation of a Micro:bit board with pins labeled 0, 1, 2, 3V, and GND. On the right is a sidebar with a search bar and a list of categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, Extensions (highlighted with a red box), and Advanced. Below the main editor area, there is a section titled 'Extensions'. It features a search bar (labeled 1) containing the URL 'https://github.com/YahboomTechnology/SuperBitLibV2', a search icon (labeled 2), and several category buttons: Lights and Display, Software, Science, Robotics, Gaming, and Networking. Below these, a card for 'SuperBitV2' is displayed (labeled 3). The card title is 'SuperBitV2', the subtitle is 'Extension for YahBoom SuperBitV2', and it includes a red number '3'. At the bottom of the card, it states 'User-provided extension, not endorsed by Microsoft. Learn More'.

## 4.2 Building blocks used

The location of the building blocks required for this programming is shown in the figure below.





## 4.3 Combining blocks

The summary program is shown in the figure below.



You can also directly open the **Color-recognition-machine.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

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After the program runs successfully, the color sensor recognizes different colors, and the RGB light displays the corresponding color.