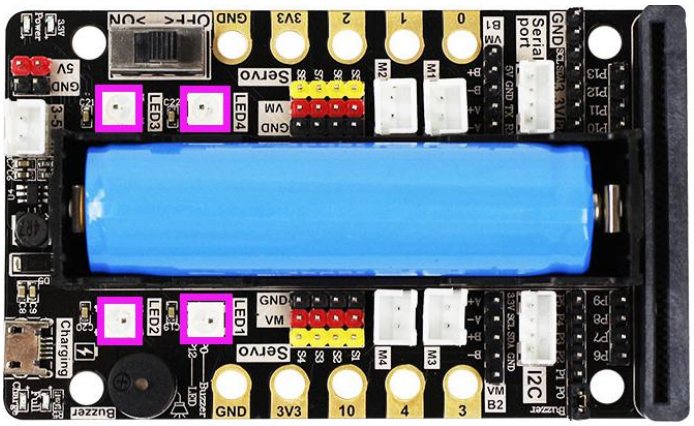
**Control RGB color**

## 1.Learning goals

In this course, we mainly learn how to control one RGB light on the superbit expansion board through MakeCode graphical programming.

Four RGB light is located on the expansion board as shown in the figure below.



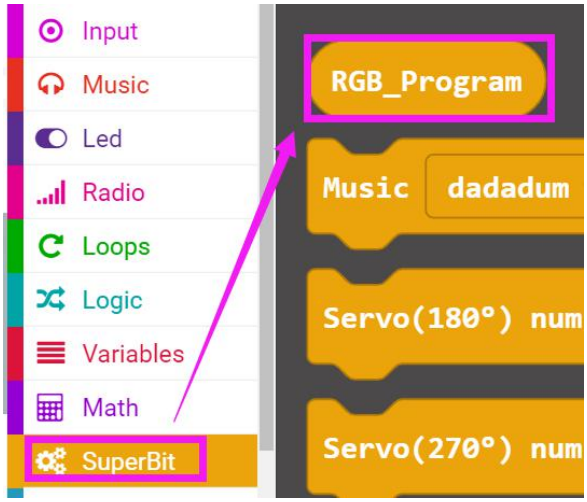

## 2. Programming method

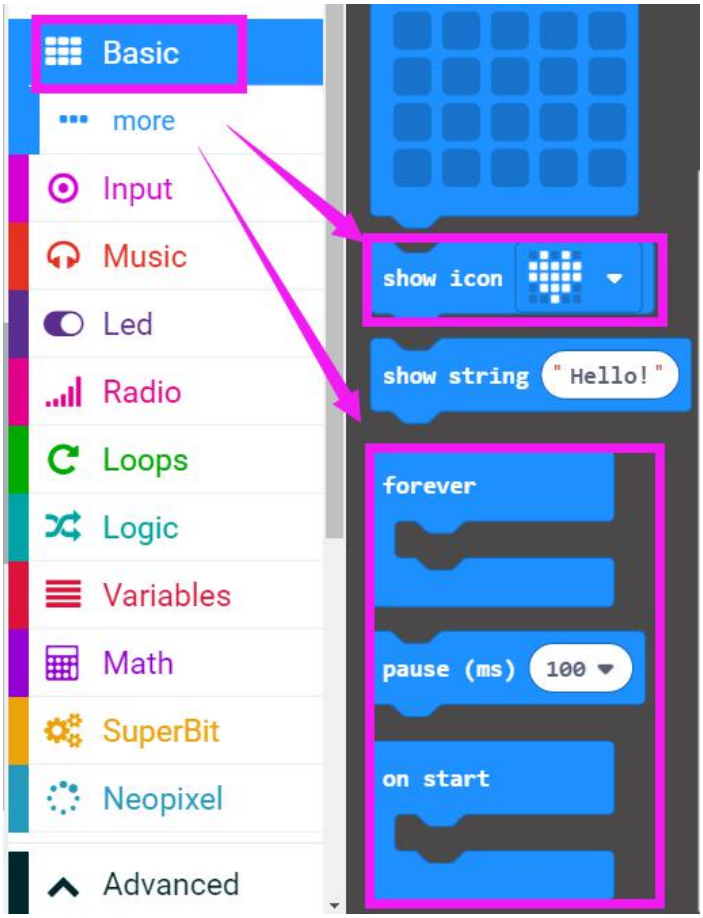
**Mode 1 online programming:** First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface. Add the Yahboom package **https://github.com/lzty634158/SuperBit**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

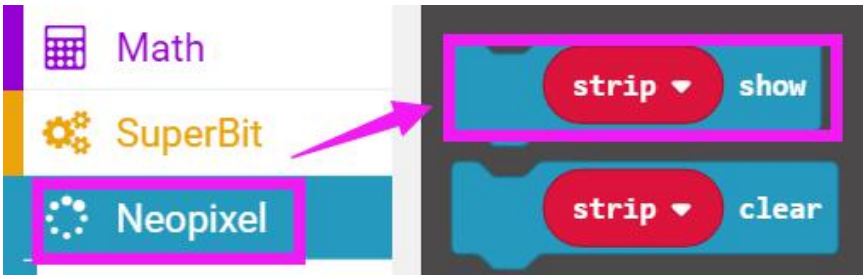
## 3.Looking for blocks

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





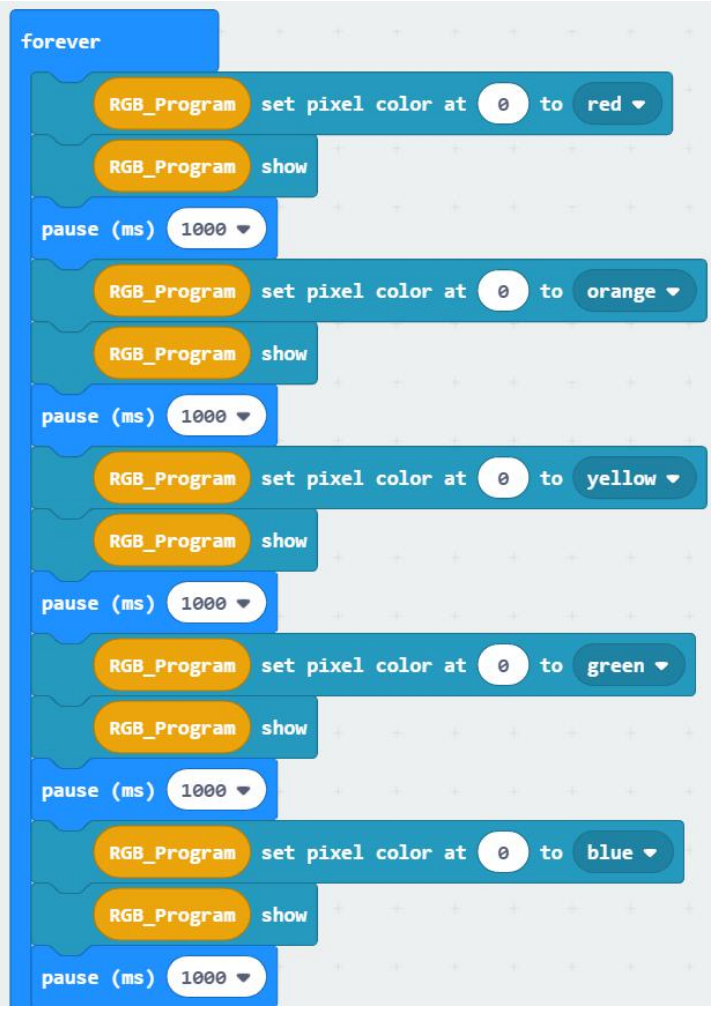

There are a total of 4 RGB lights on the Super:bit expansion board, the serial number is from 0 to 3.
In the following block, we can control different RGB lights by setting different pixels. (In this course, we set the pixel to 0, which is to control the first RGB light)

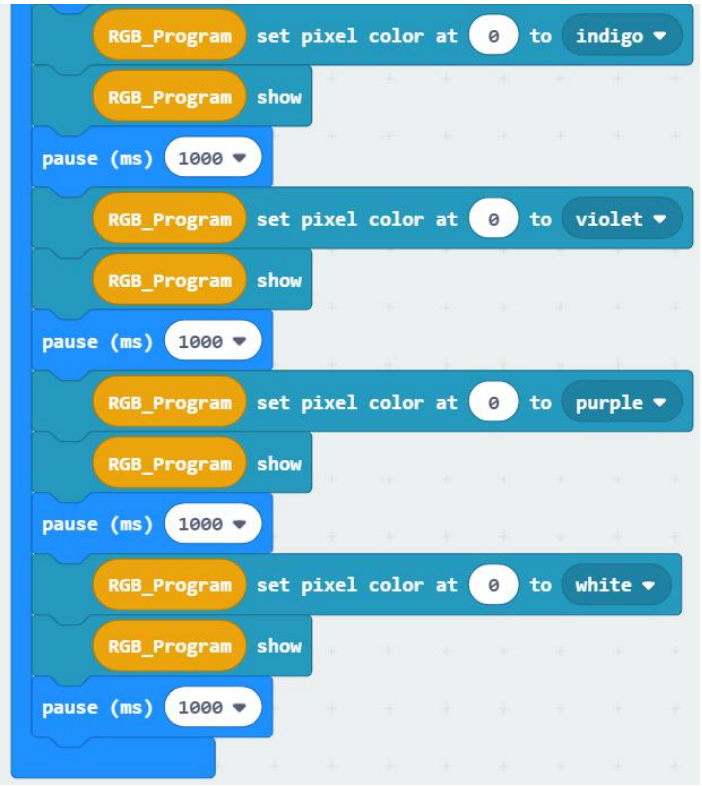



**4.Combine block**

The summary program is shown below.


on start
show icon

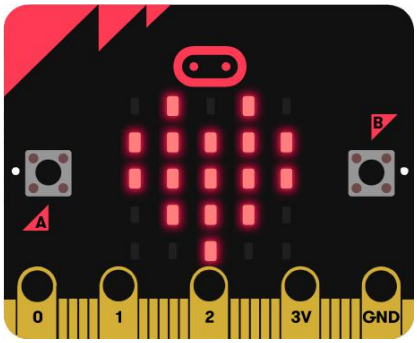

forever
RGB_Program set pixel color at 0 to red
RGB_Program show
pause (ms) 1000
RGB_Program set pixel color at 0 to orange
RGB_Program show
pause (ms) 1000
RGB_Program set pixel color at 0 to yellow
RGB_Program show
pause (ms) 1000
RGB_Program set pixel color at 0 to green
RGB_Program show
pause (ms) 1000
RGB_Program set pixel color at 0 to blue
RGB_Program show
pause (ms) 1000




**5.Experimental phenomena**

After the program is successfully downloaded, the micro: bit dot matrix will display the heart pattern, as shown below.

At the same time, we can see that the first RGB light (the serial number is 0) will switch a color every 1 second, red-> orange-> yellow-> green-> blue-> indigo-> violet -> Purple-> White, and keep circulating in this state.




**If you need to restart, press the reset button on the back of the micro:bit board.**