Control_RGB_color

1.Learning goals

In this lesson, we mainly learn how to control the color of RGB by micro:bit and Super:bit expansion board, including control of one RGB light separately and control of 4 RGB lights at the same time.

2.Programming method

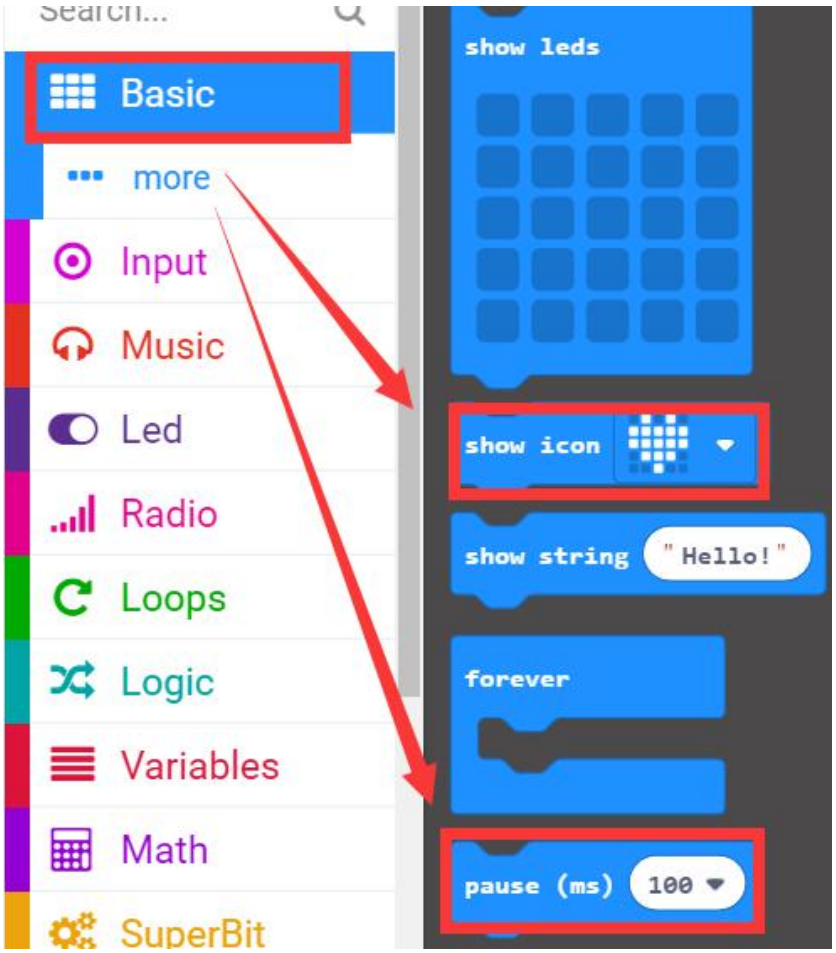
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: **http://microbit.org/** to enter the programming interface. Add the Yahboom package https://github.com/lzty634158/SuperBit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

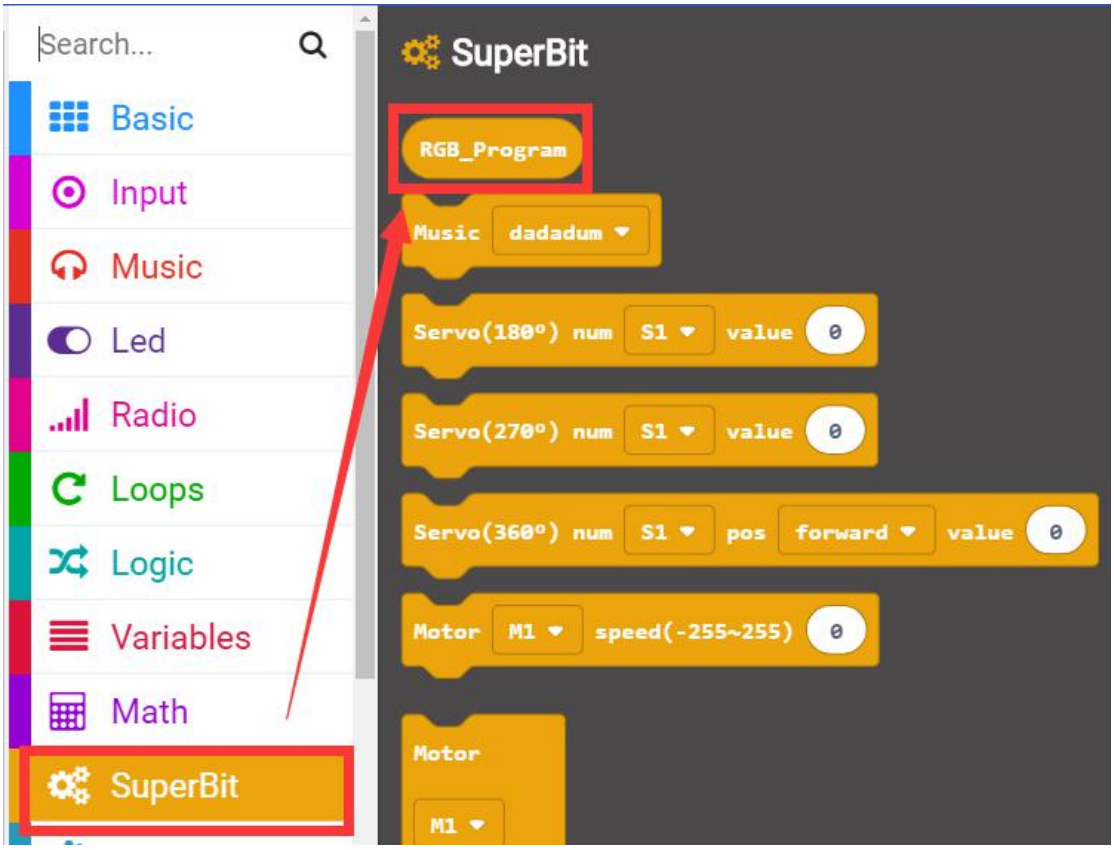
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: https://github.com/lzty634158/SuperBit, you can program.

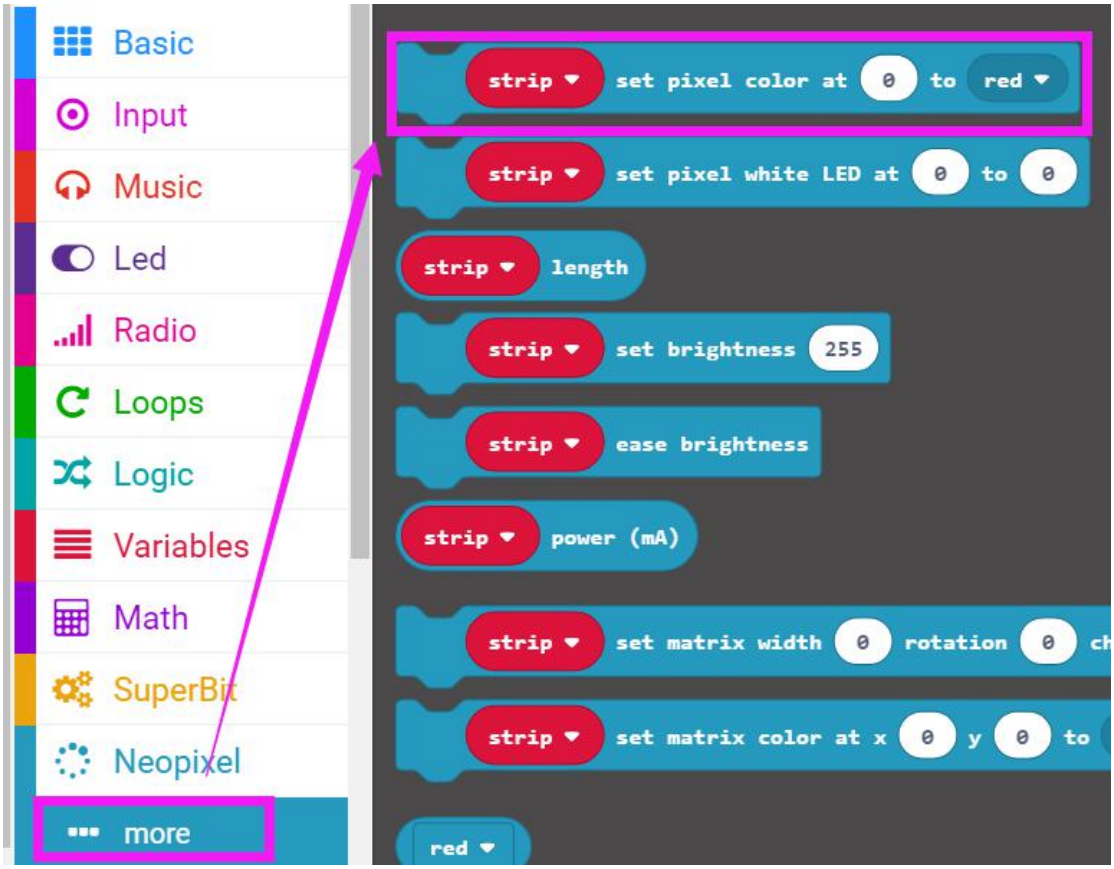
3.Looking for blocks

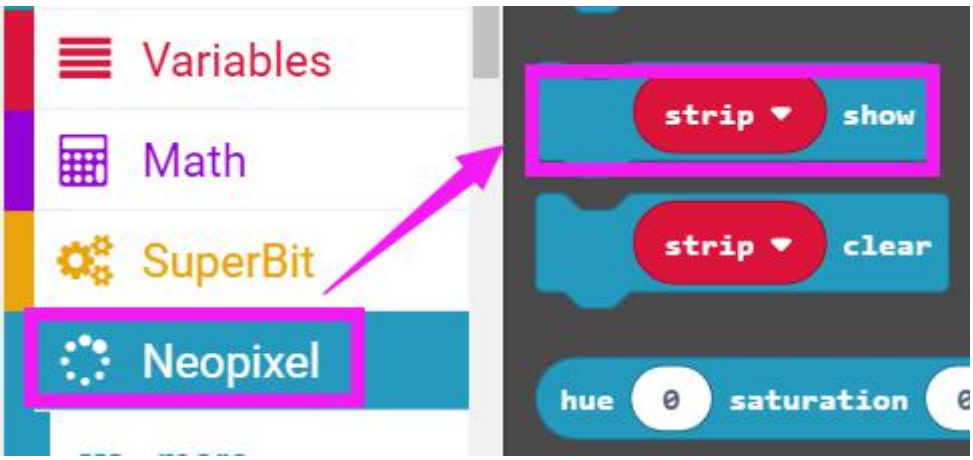
The following is the location of the building blocks required for this programming.

Control of one RGB light separately:

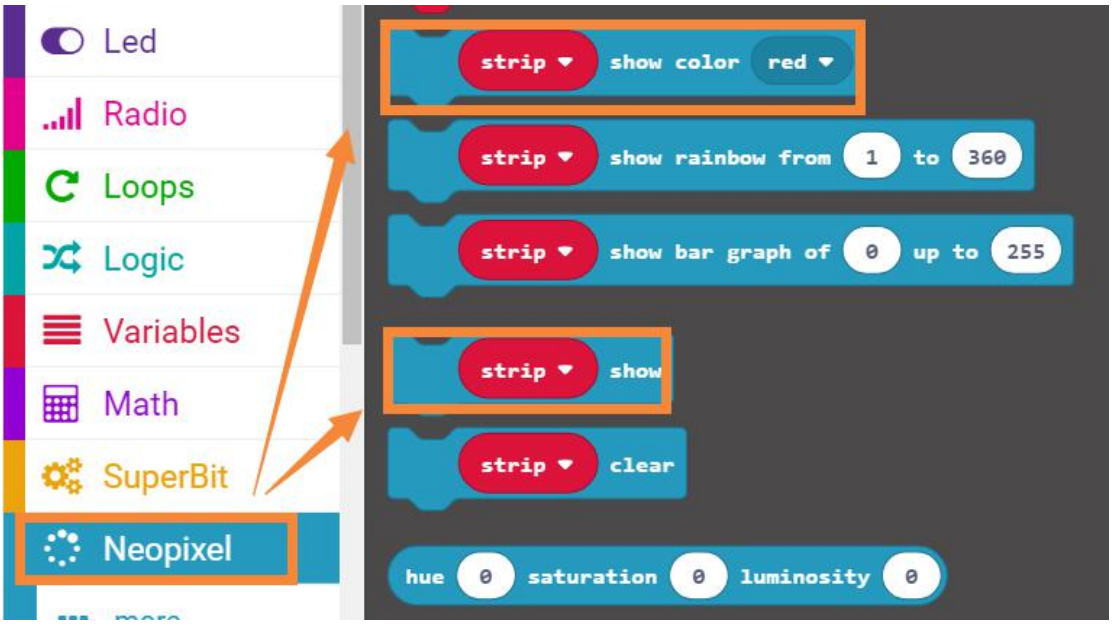


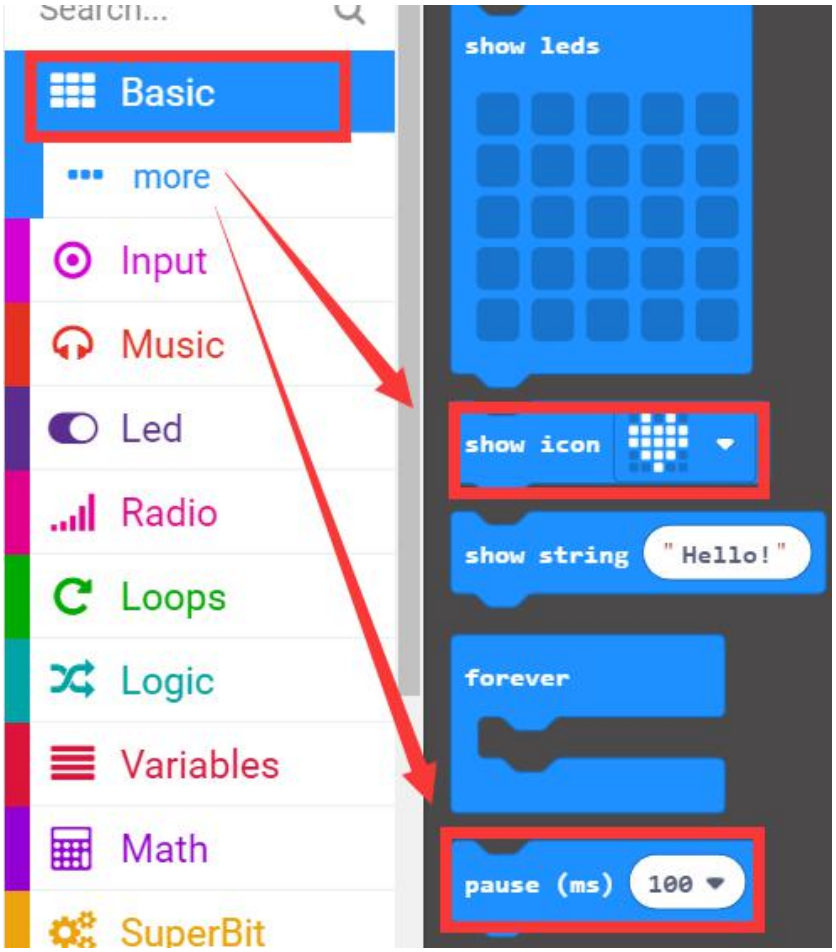

Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
SuperBit
RGB_Program
Music dadadum
Servo(180°) num S1 value 0
Servo(270°) num S1 value 0
Servo(360°) num S1 pos forward value 0
Motor M1 speed(-255~255) 0
Motor
M1

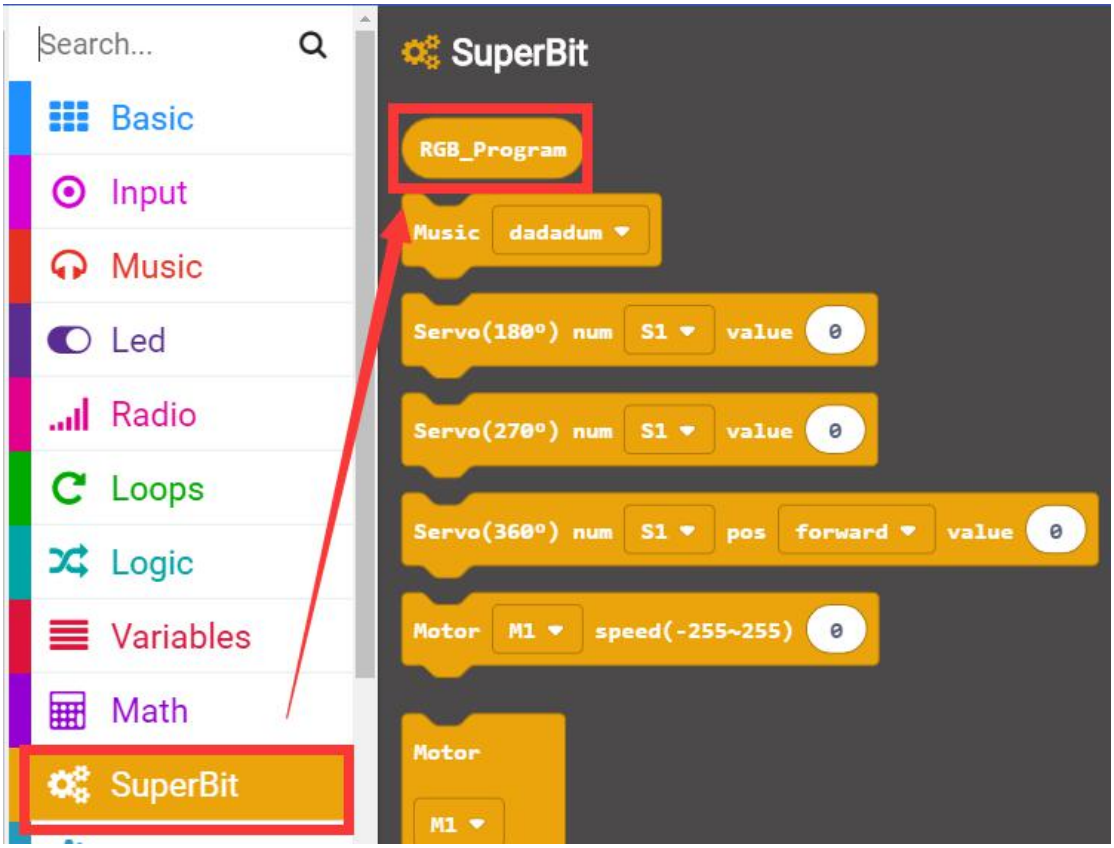

Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
Neopixel
more
strip set pixel color at 0 to red
strip set pixel white LED at 0 to 0
strip length
strip set brightness 255
strip ease brightness
strip power (mA)
strip set matrix width 0 rotation 0
strip set matrix color at x 0 y 0 to
red



Control of 4 RGB lights:



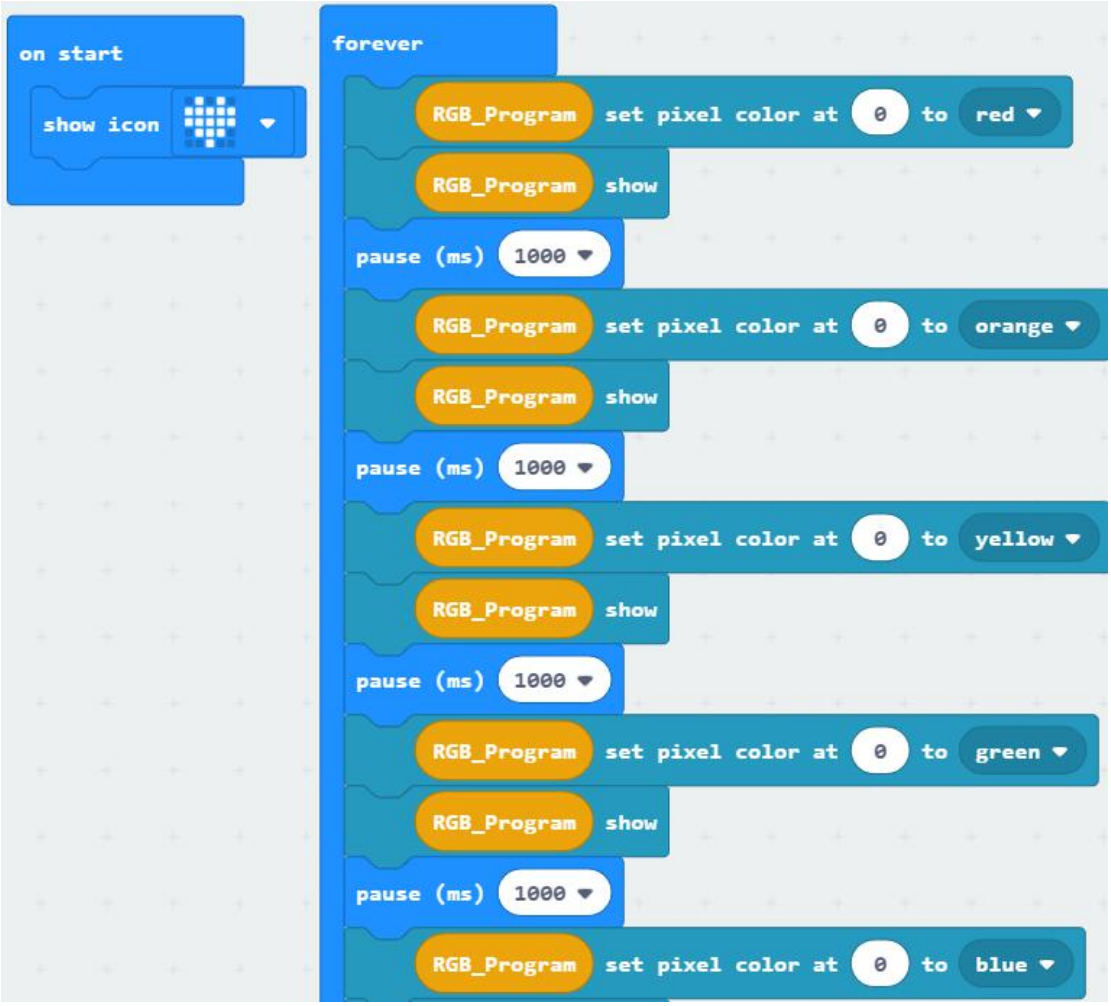

Search...
Basic
more
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
show leds
show icon
show string
" Hello! "
forever
pause (ms)
100

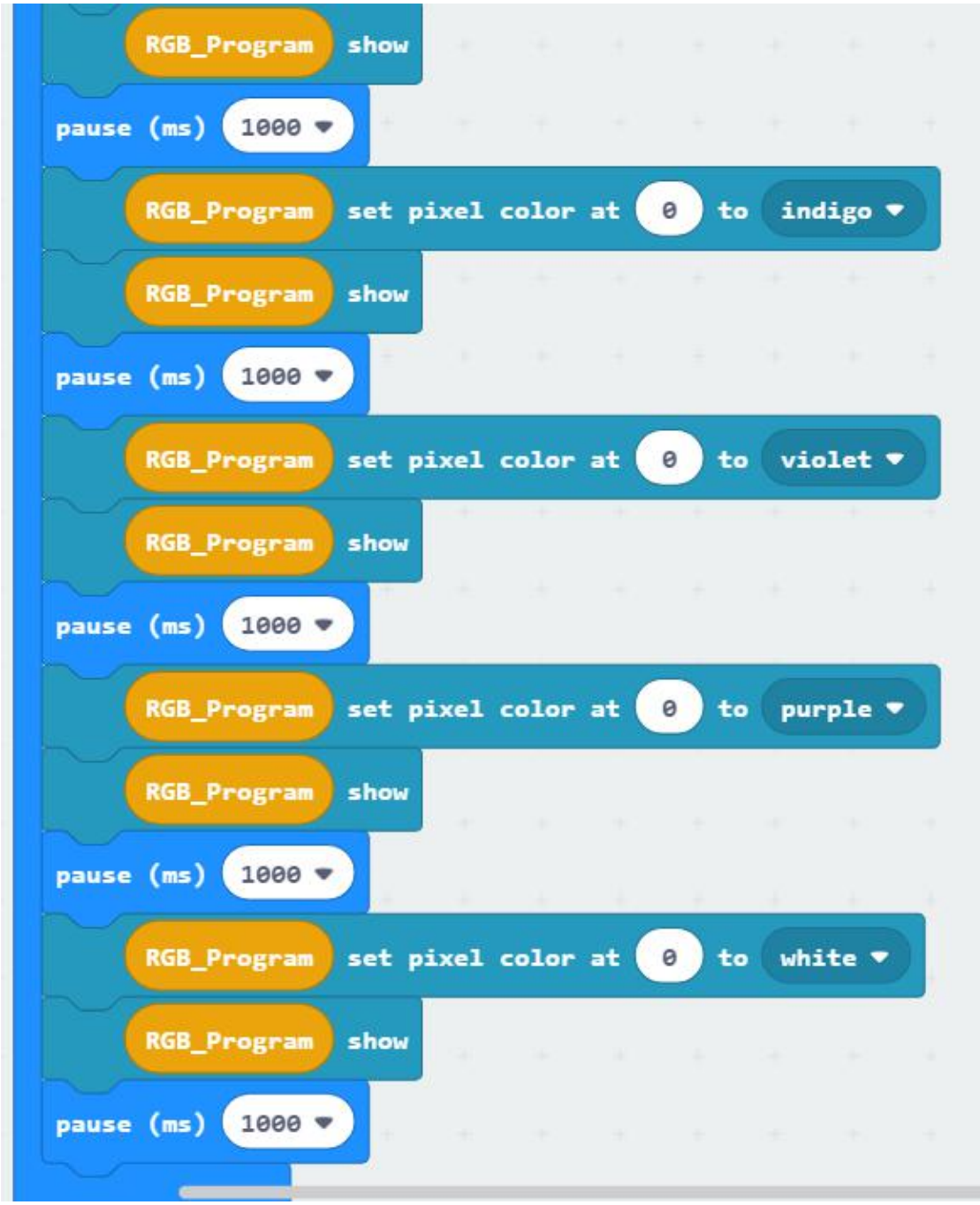

Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
SuperBit
RGB_Program
Music
dadadum
Servo(180°) num
S1
value
0
Servo(270°) num
S1
value
0
Servo(360°) num
S1
pos
forward
value
0
Motor
M1
speed(-255~255)
0
Motor
M1

4.Combine building block

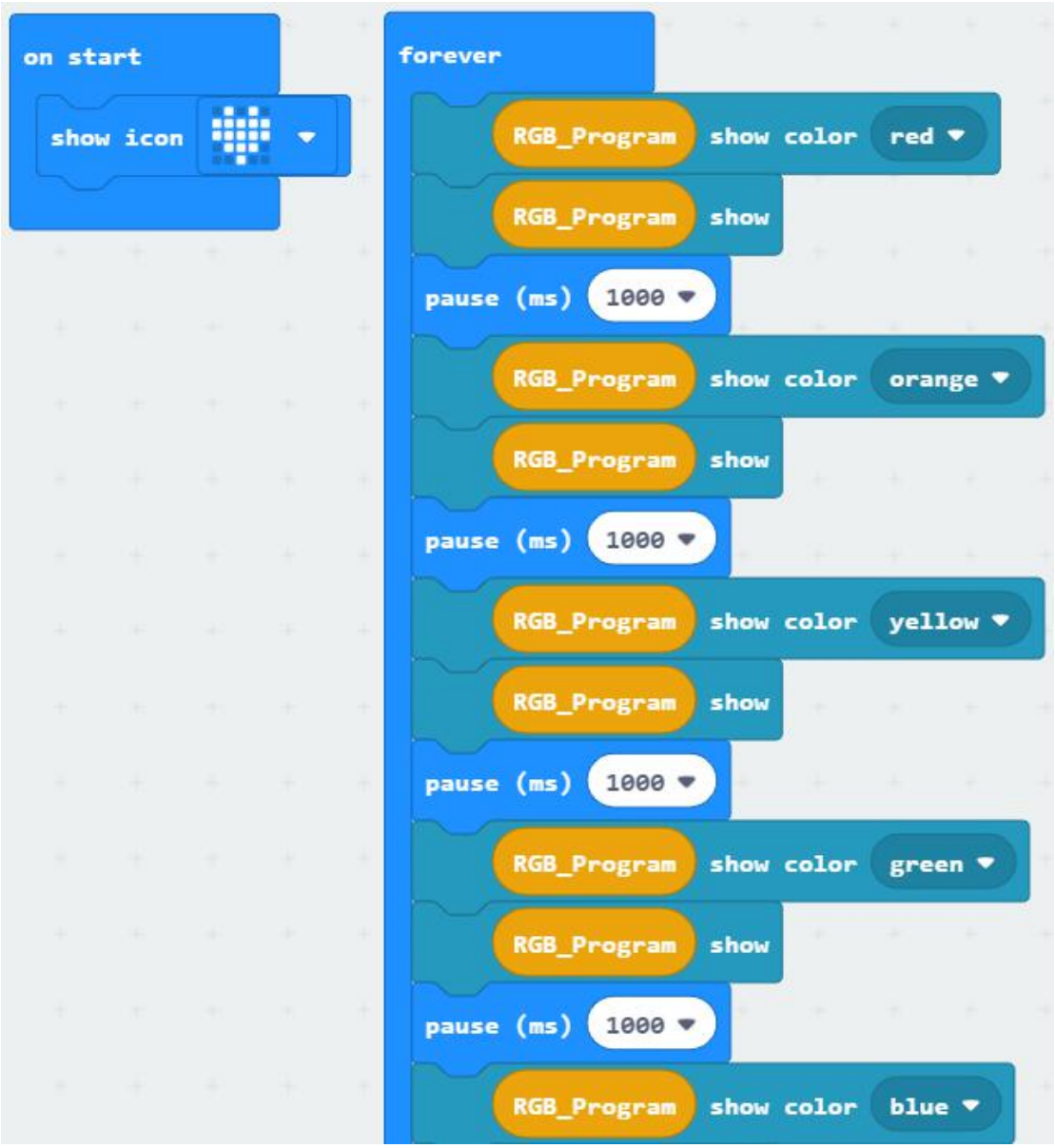
The summary program is shown below:

Control of one RGB light separately:





Control of 4 RGB lights:


on start
show icon
forever
RGB_Program show color red
RGB_Program show
pause (ms) 1000
RGB_Program show color orange
RGB_Program show
pause (ms) 1000
RGB_Program show color yellow
RGB_Program show
pause (ms) 1000
RGB_Program show color green
RGB_Program show
pause (ms) 1000
RGB_Program show color blue

5. Experimental phenomena

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

Control of one RGB light separately:

The color of the 0th RGB lamp is changed every 1 seconds.

Control of 4 RGB lights:

The color of all RGB lamp is changed every 1 seconds.

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