RGB_breathing_light

1.Learning goals

In this lesson, we mainly learn how to control the color of RGB by micro:bit and Super:bit expansion board and achieve the effect of breathing lights.

2.Programming method

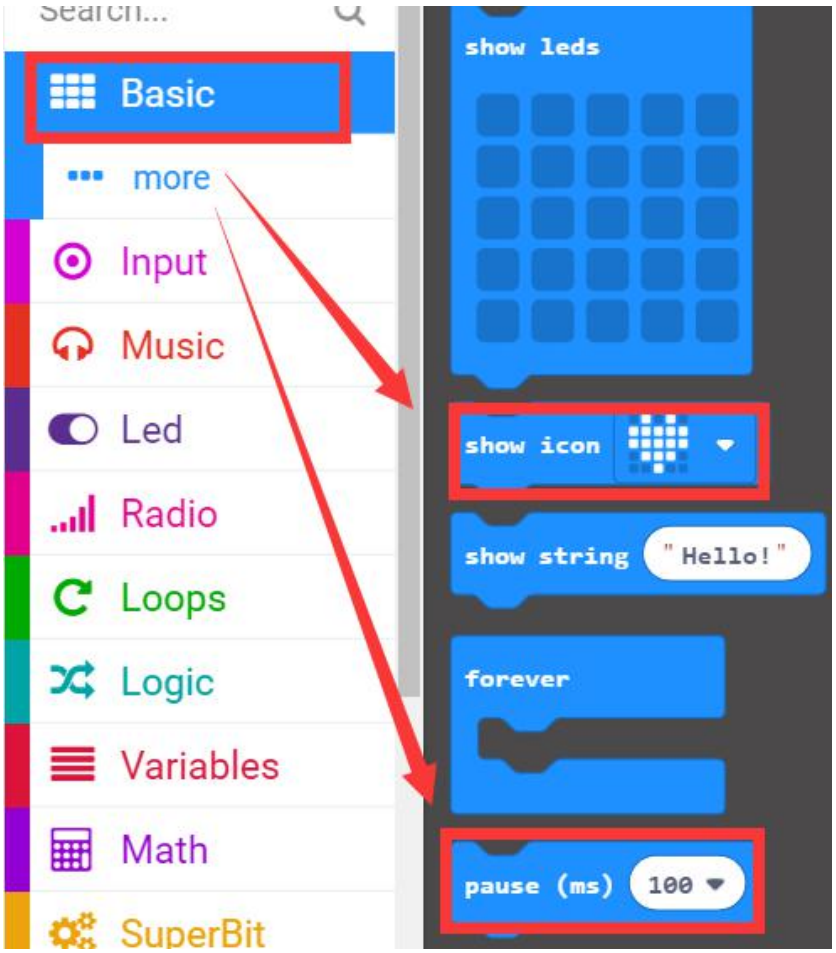
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: **http://microbit.org/** to enter the programming interface. Add the Yahboom package https://github.com/lzty634158/SuperBit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

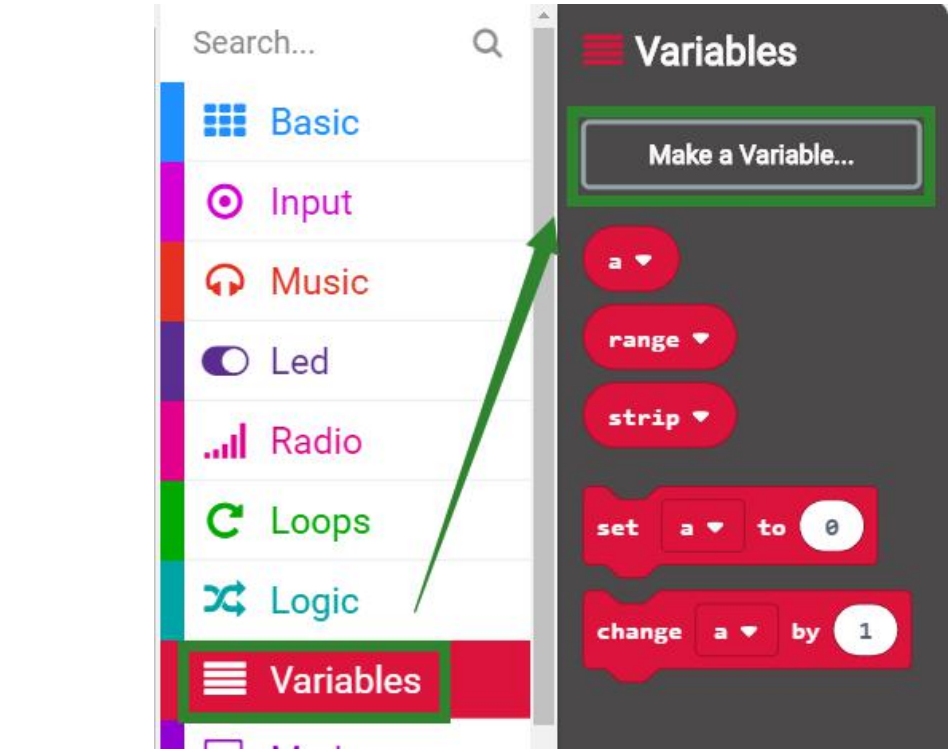
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: https://github.com/lzty634158/SuperBit, you can program.

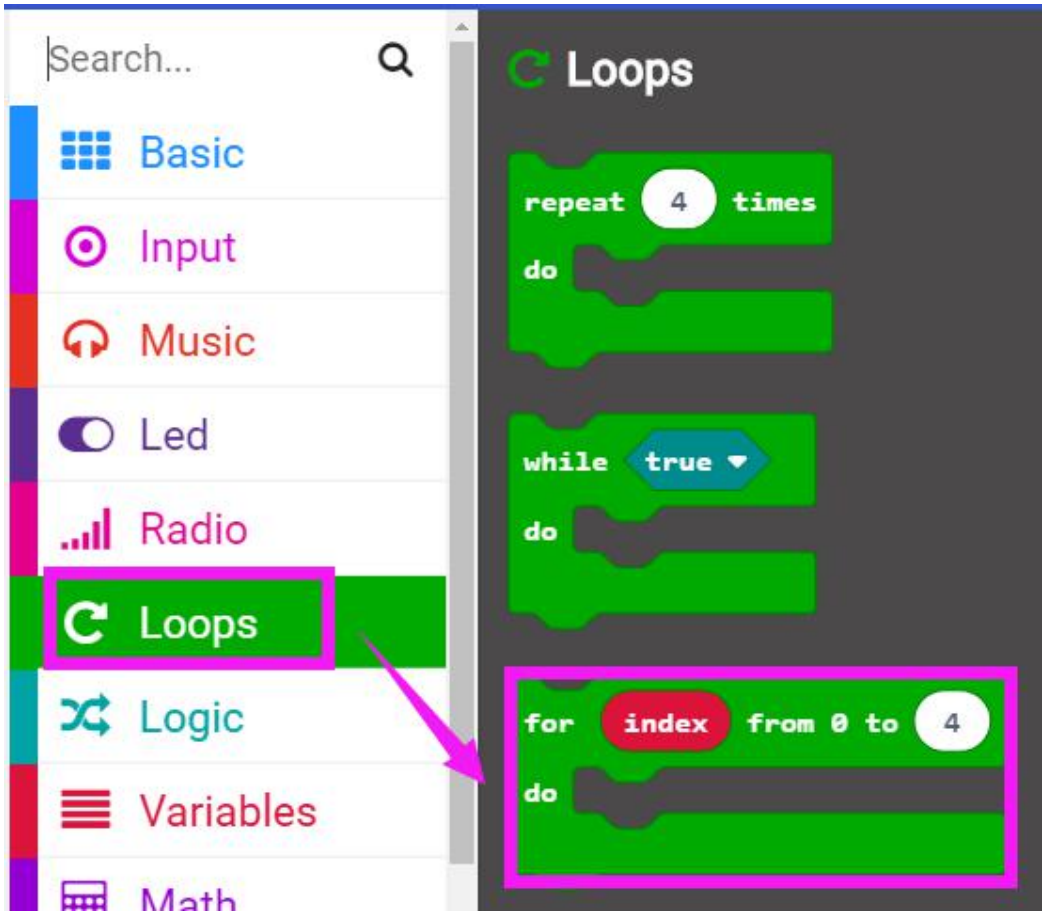
3.Looking for blocks

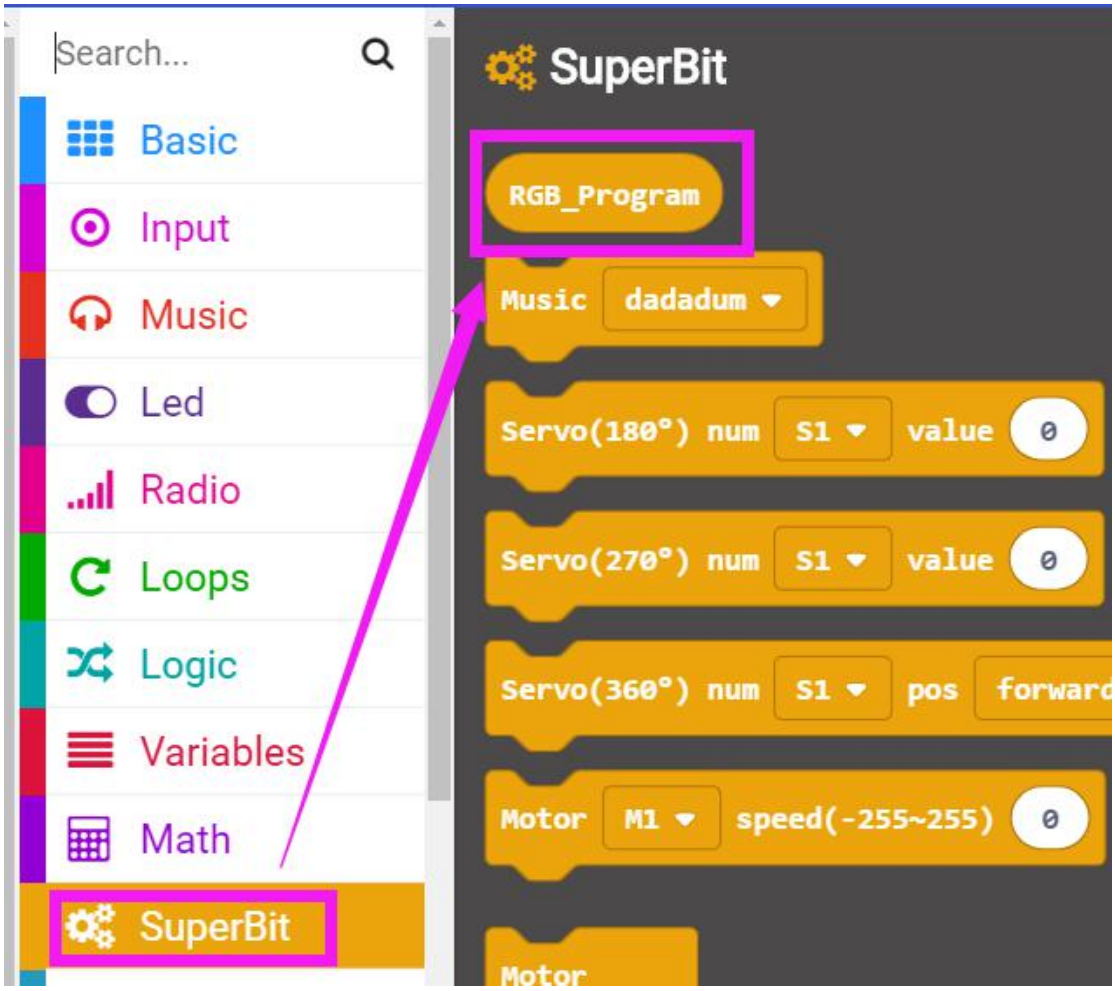
The following is the location of the building blocks required for this programming.

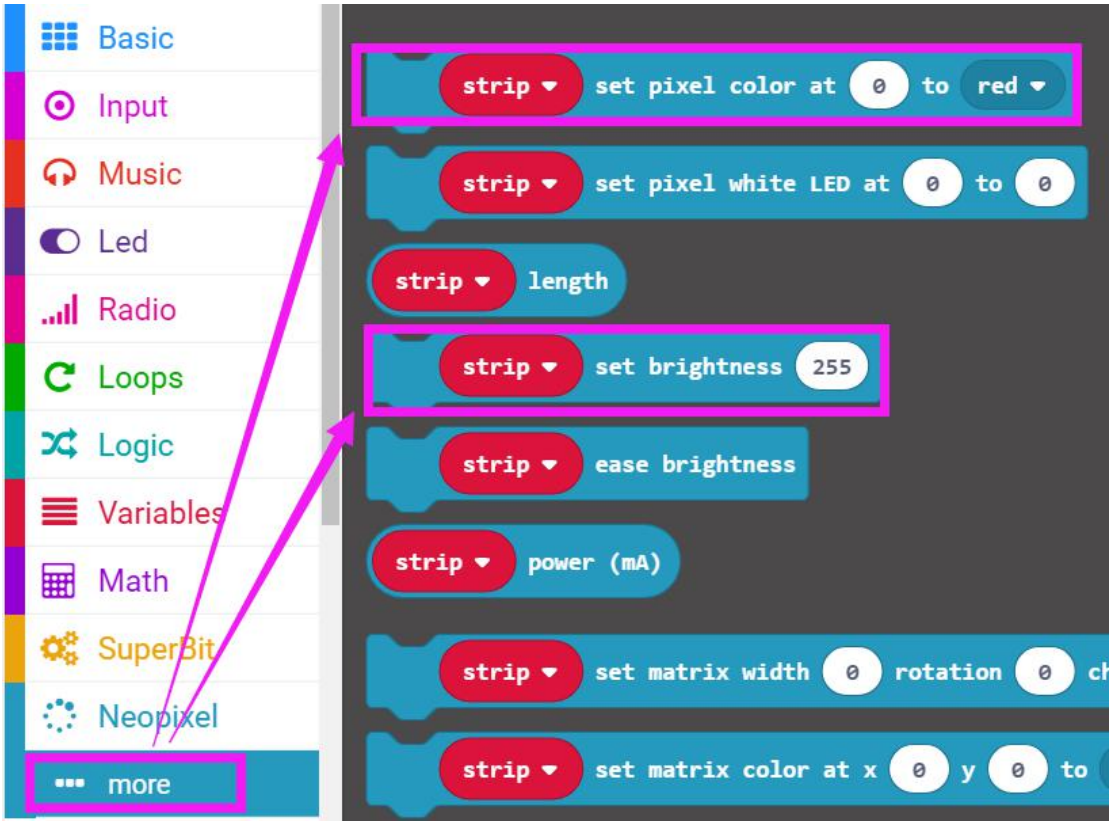
Control of one breathing light separately:

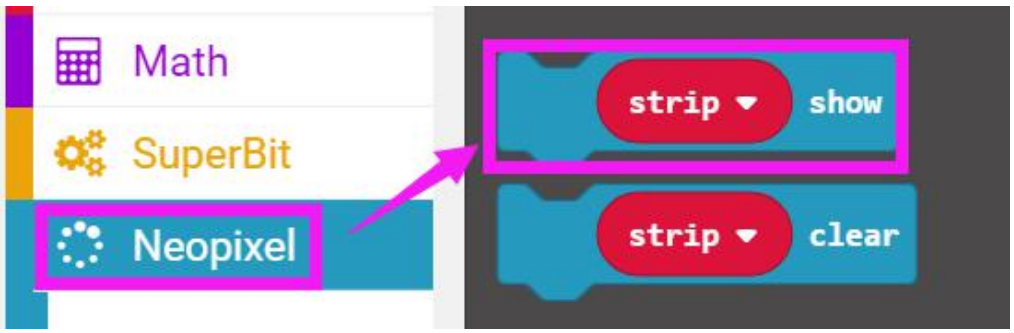


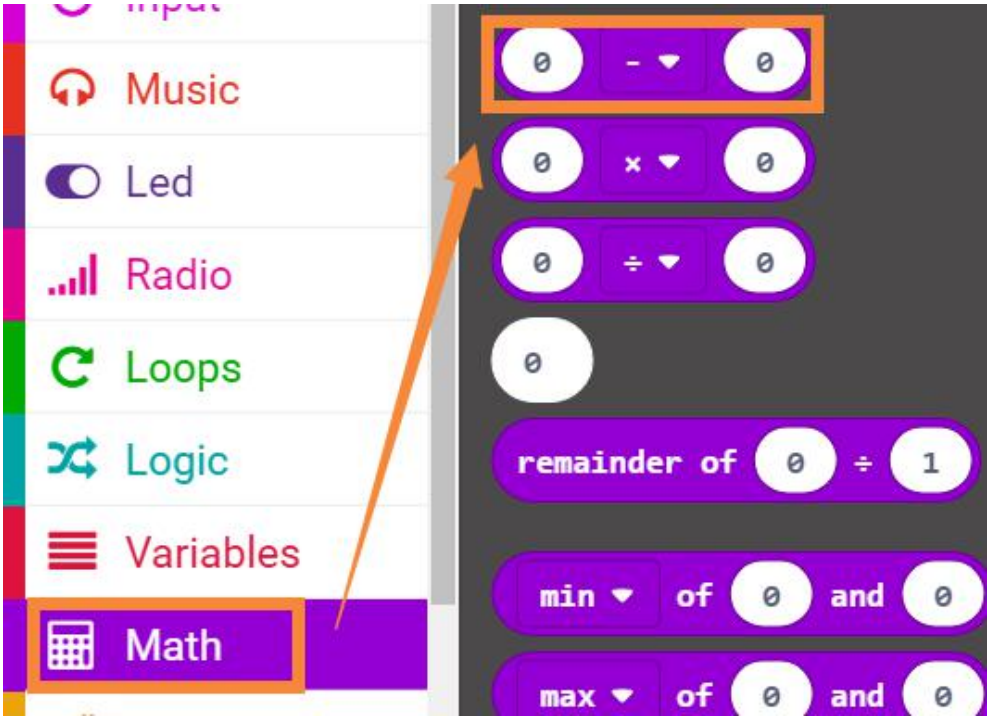

Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Variables
Make a Variable...
a
range
strip
set a to 0
change a by 1


Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
Loops
repeat 4 times
do
while true
do
for index from 0 to 4
do

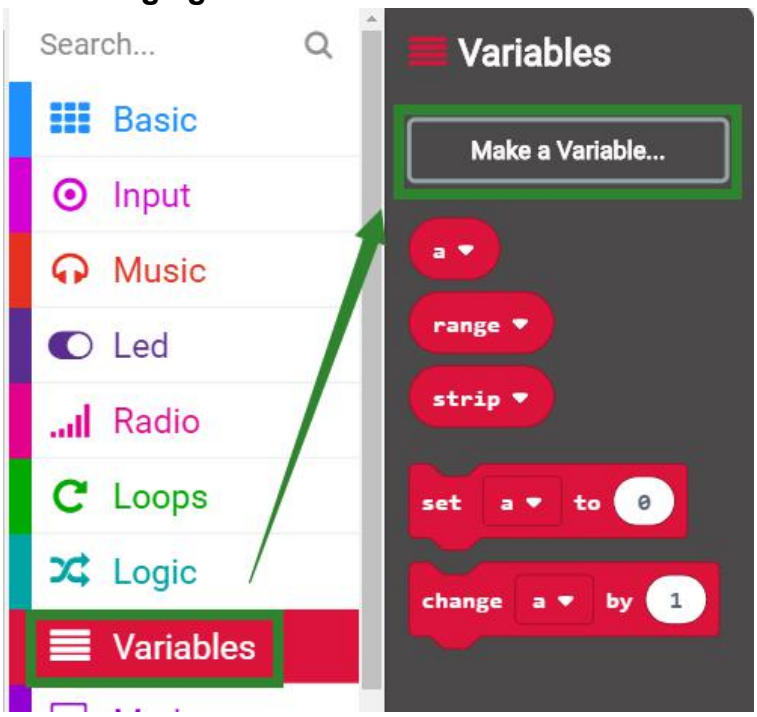

Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
SuperBit
RGB_Program
Music dadadum
Servo(180°) num S1 value 0
Servo(270°) num S1 value 0
Servo(360°) num S1 pos forwar
Motor M1 speed(-255~255) 0
Motor

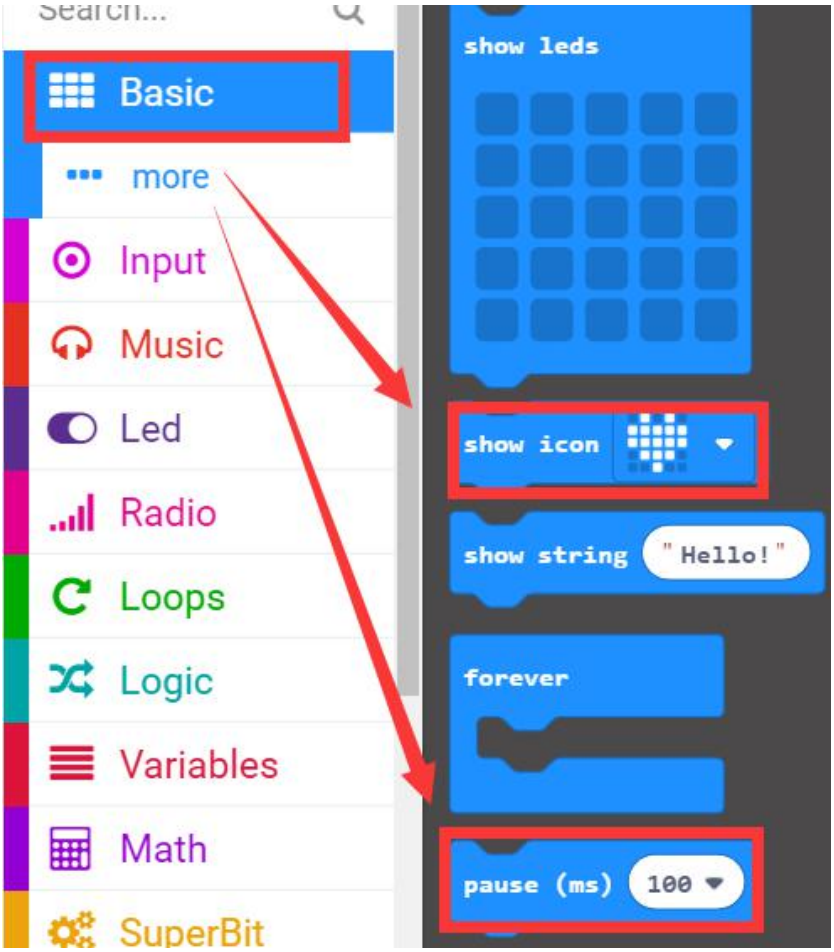

Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
Neopixel
more
strip set pixel color at 0 to red
strip set pixel white LED at 0 to 0
strip length
strip set brightness 255
strip ease brightness
strip power (mA)
strip set matrix width 0 rotation 0
strip set matrix color at x 0 y 0 to



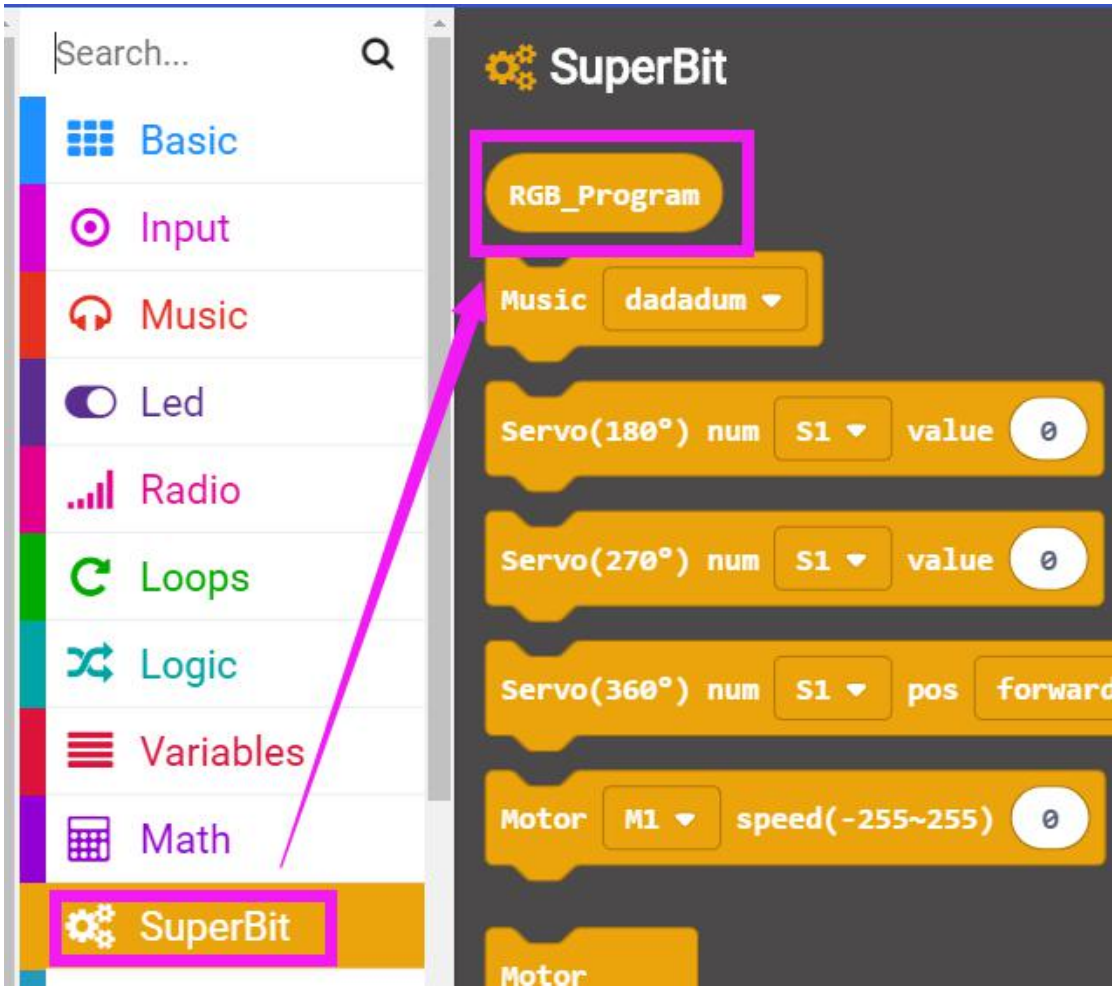


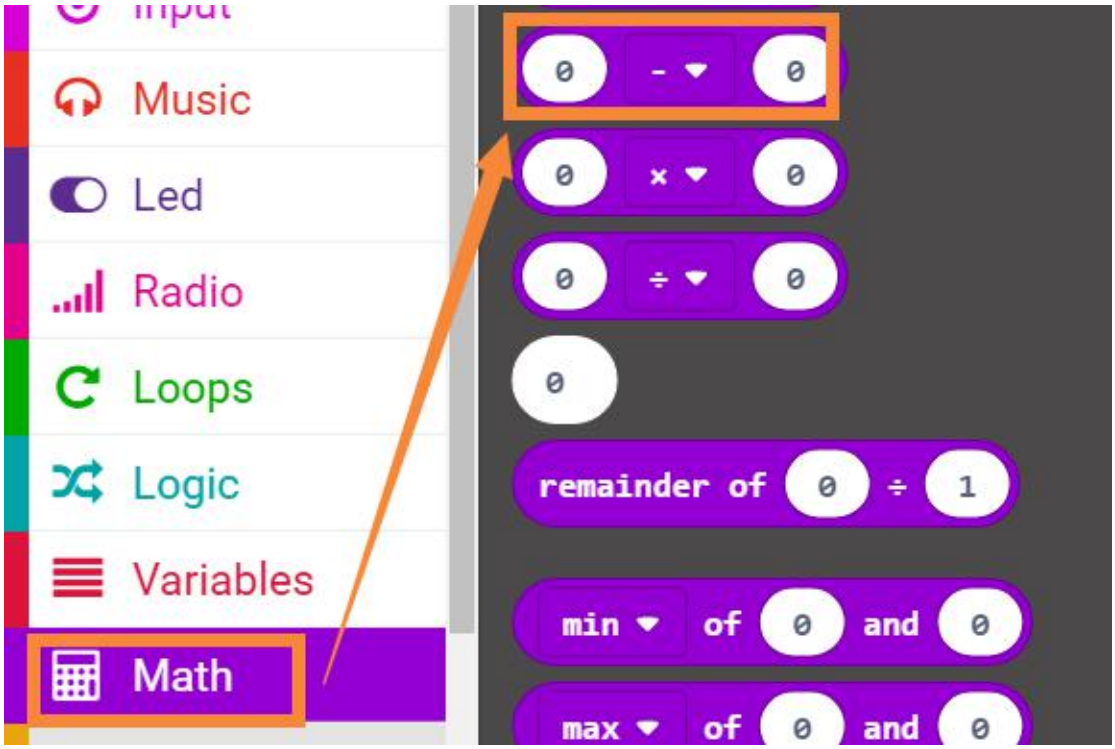
Control of 4 breathing lights:

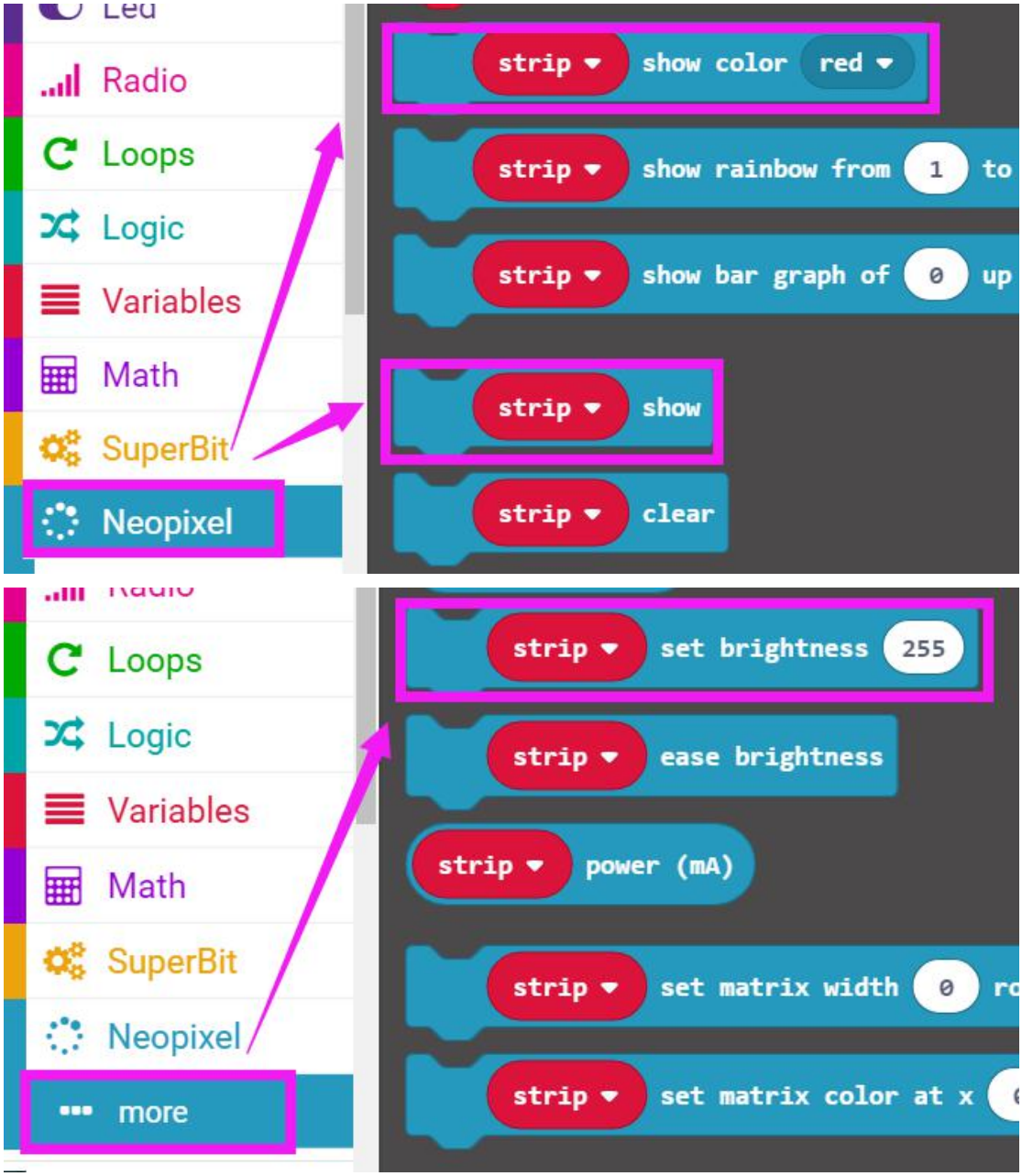



Search...
Basic
more
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
show leds
show icon
show string
" Hello! "
forever
pause (ms)
100


Radio
Loops
Logic
Variables
do
for
index
from 0 to
4
do


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
Motor M1 speed(-255~255) 0
Motor

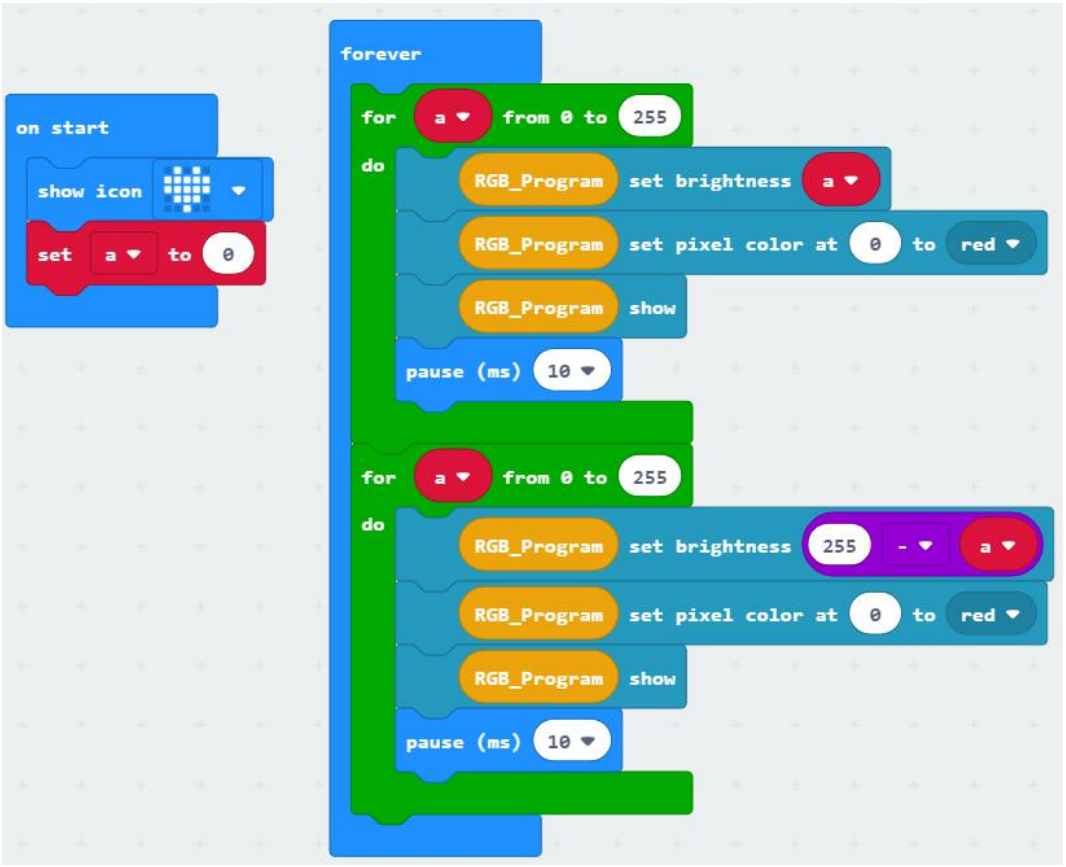

Music
Led
Radio
Loops
Logic
Variables
Math
0 - 0
0 x 0
0 ÷ 0
0
remainder of 0 ÷ 1
min of 0 and 0
max of 0 and 0



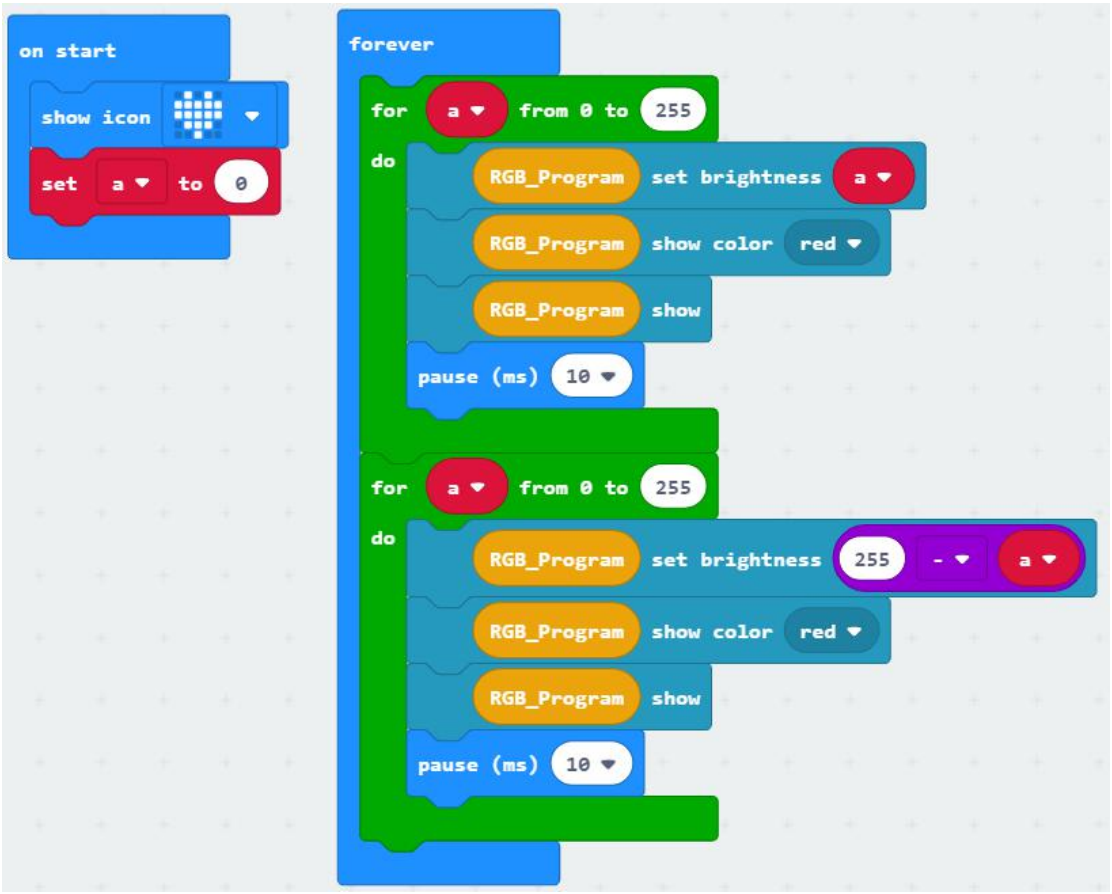
4.Combine building block

The summary program is shown below:

Control of one breathing light separately:



Control of 4 breathing lights:



5. Experimental phenomena

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

Control of one breathing RGB light separately:

The color of the 0th RGB lamp will become breathing light.

Control of 4 breathing RGB lights:

The color of all RGB lamp will become breathing lights.

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