Adjustable RGB light

Adjustable RGB light
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1. Learning objectives

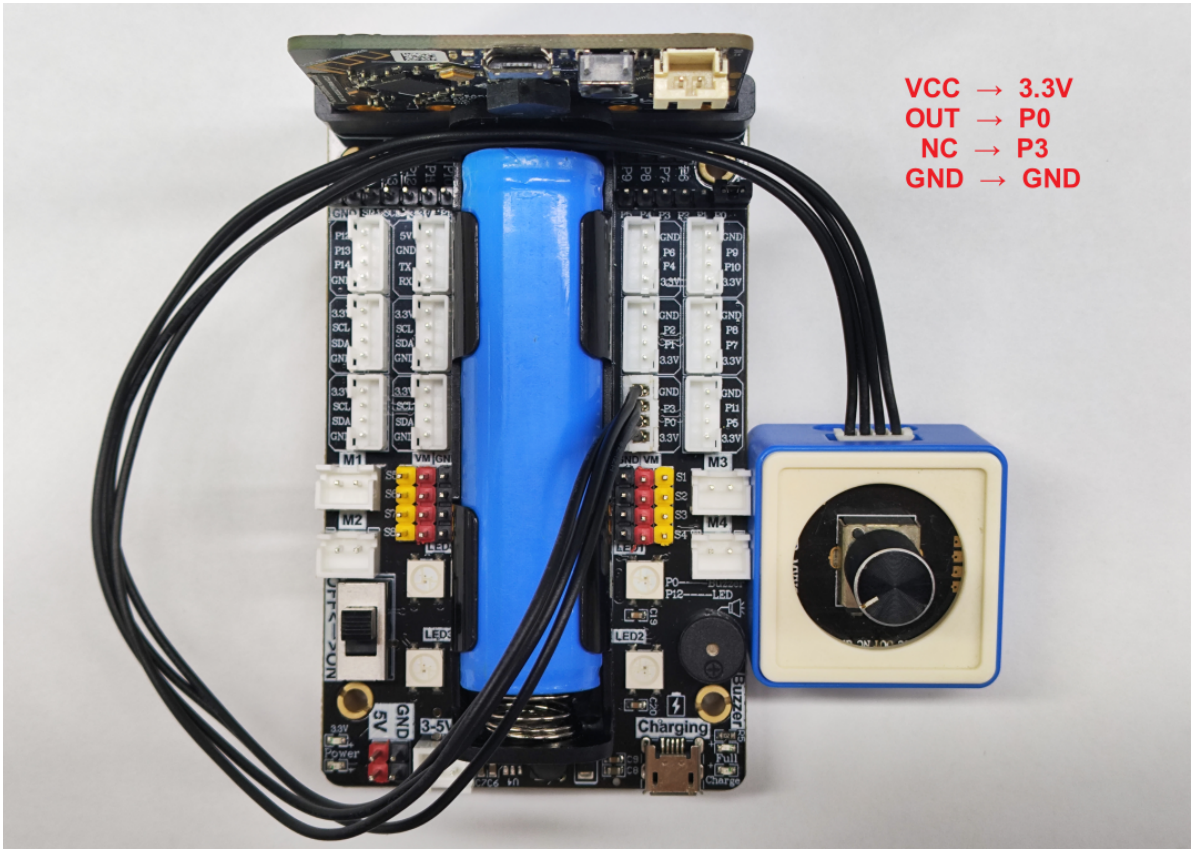
In this course, we mainly learn how to adjust the brightness of RGB lights through MakeCode graphical programming.

2. Building blocks

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

3. Sensor wiring

The potentiometer is connected to the P0P3 pin.



4. Programming

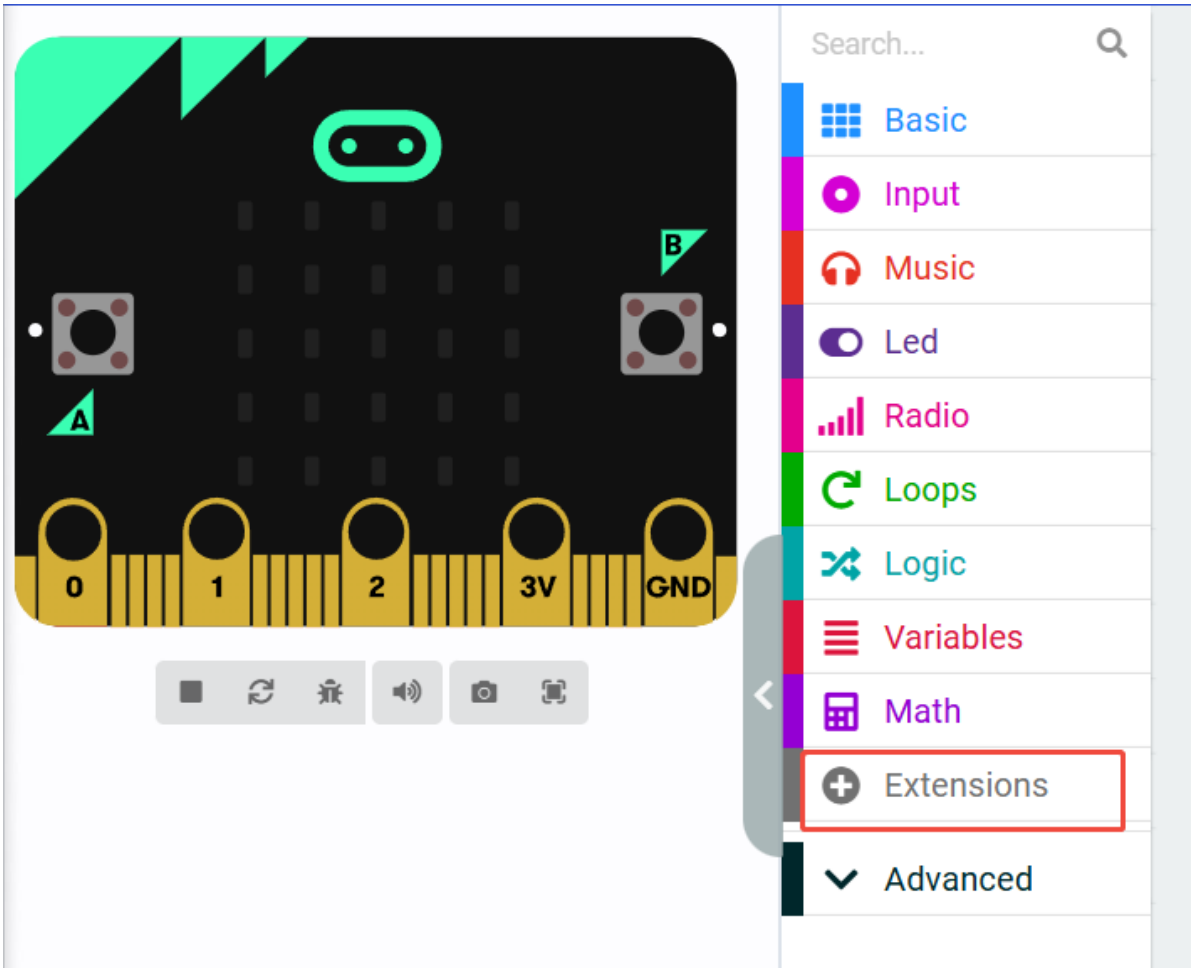
Method 1 Online programming:

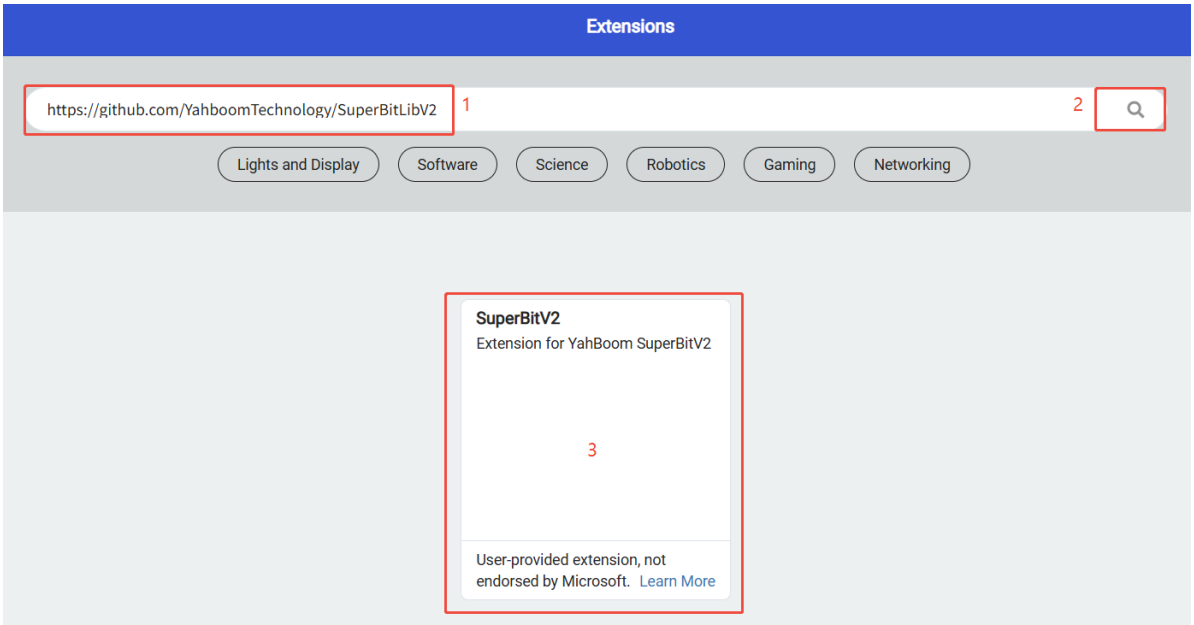
First, connect micro:bit to the computer via a USB cable, a USB flash drive will pop up on the computer, click the URL in the USB flash drive: https://makecode.microbit.org/ to enter the programming interface. Then, add the Yahboom software package **https://github.com/YahboomTechnology/SuperBitLibV2** 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.

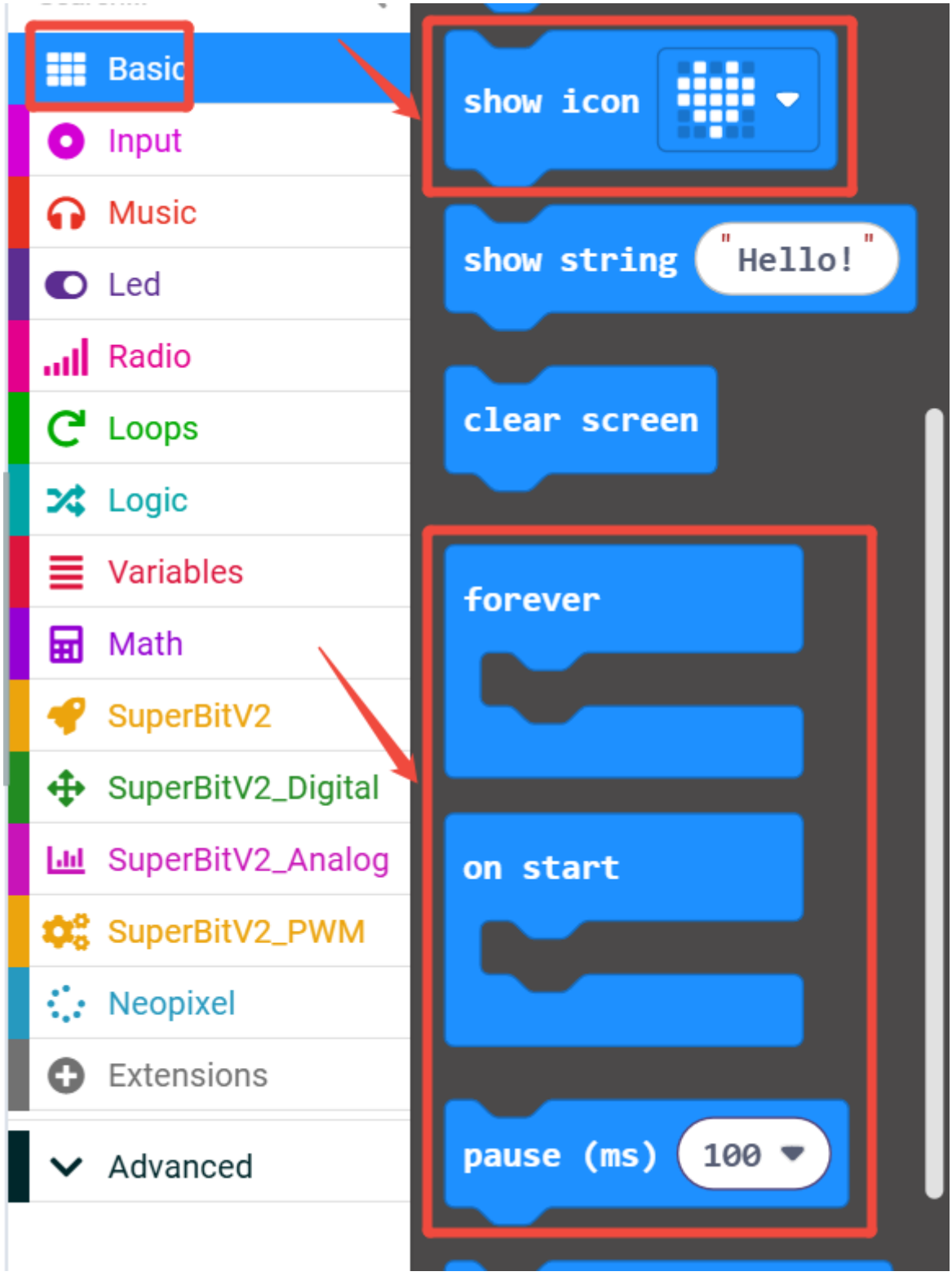
4.1 Adding extension packages



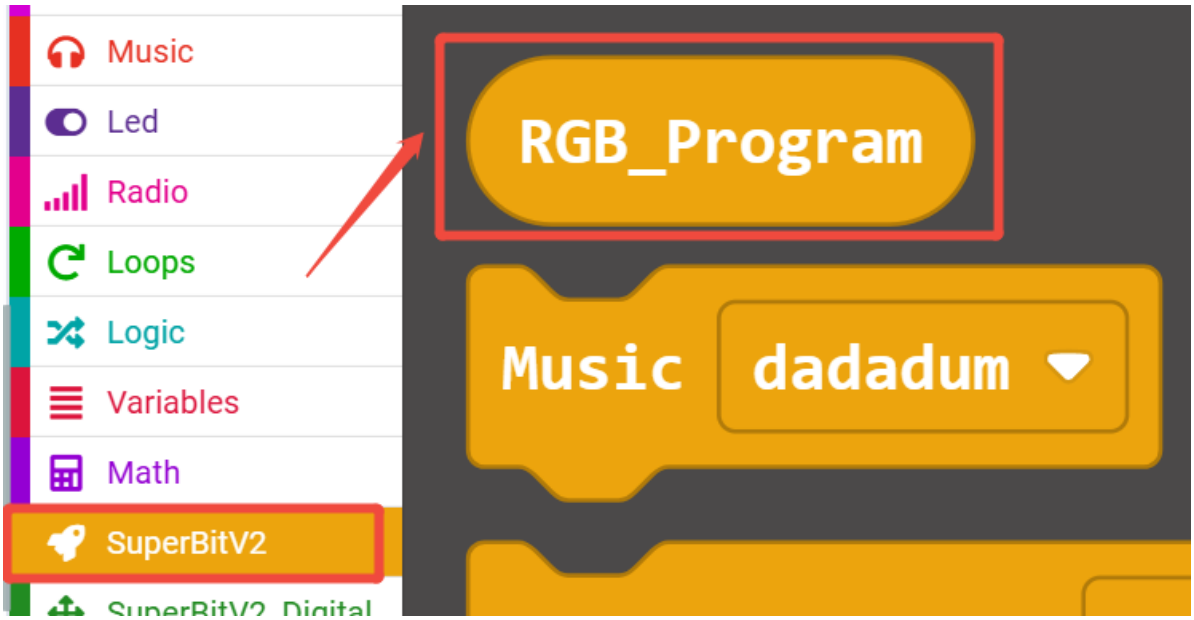


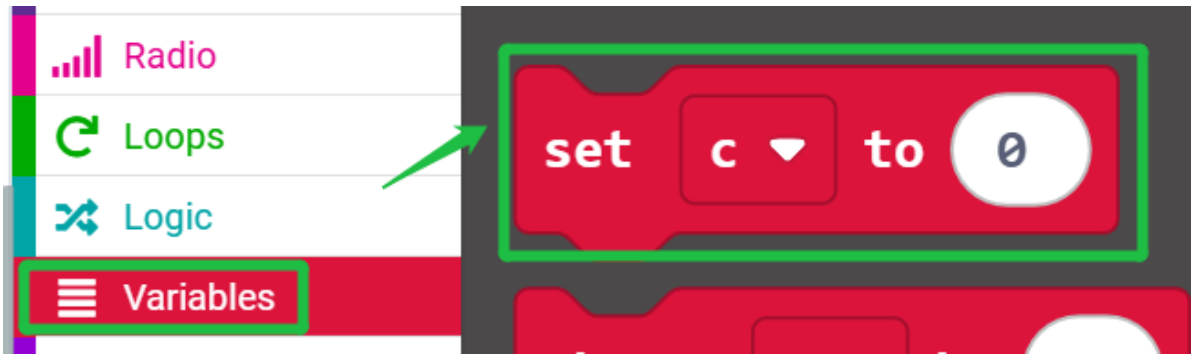
4.2 Bricks used

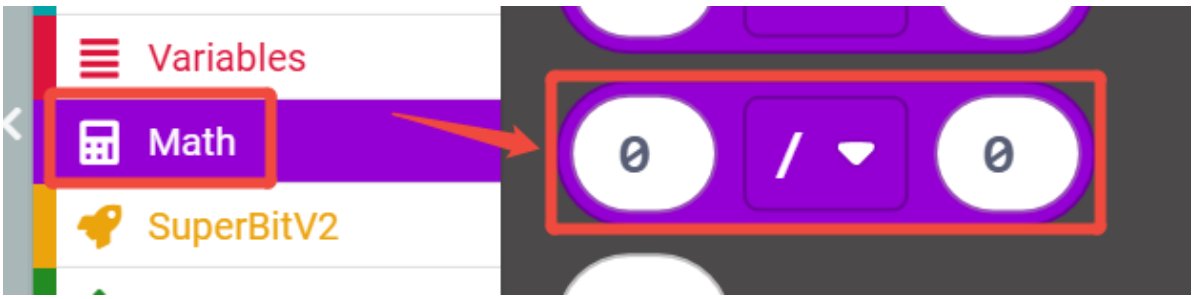
The locations of the building blocks required for this programming are shown in the figure below.

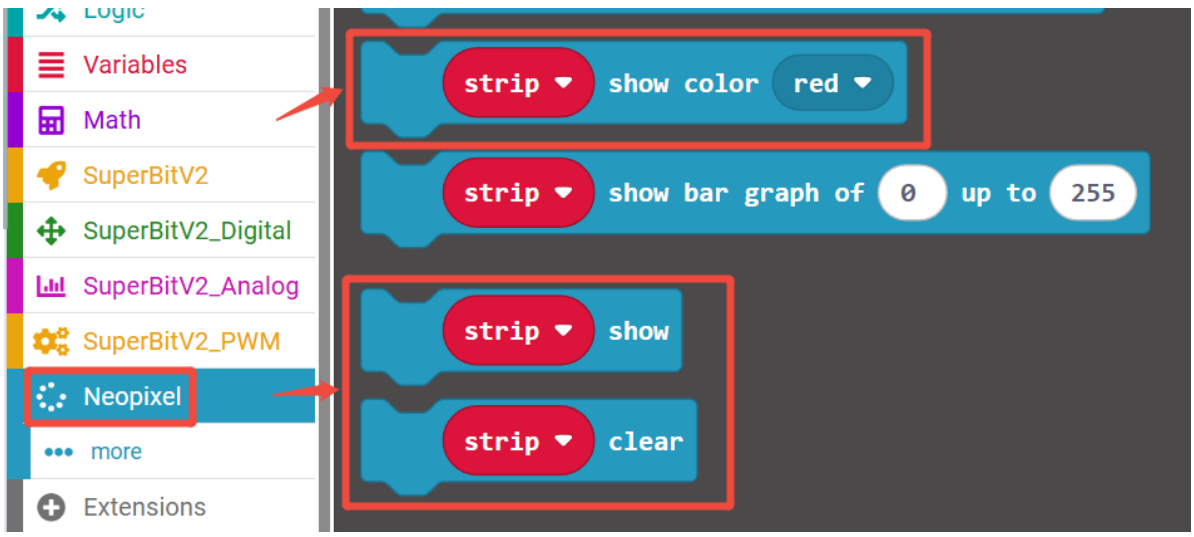

Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
SuperBitV2_PWM
Neopixel
Extensions
Advanced
show icon
show string "Hello!"
clear screen
forever
on start
pause (ms) 100

SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
SuperBitV2_PWM
Potentiometer pin P4P6


Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
RGB_Program
Music
dadadum

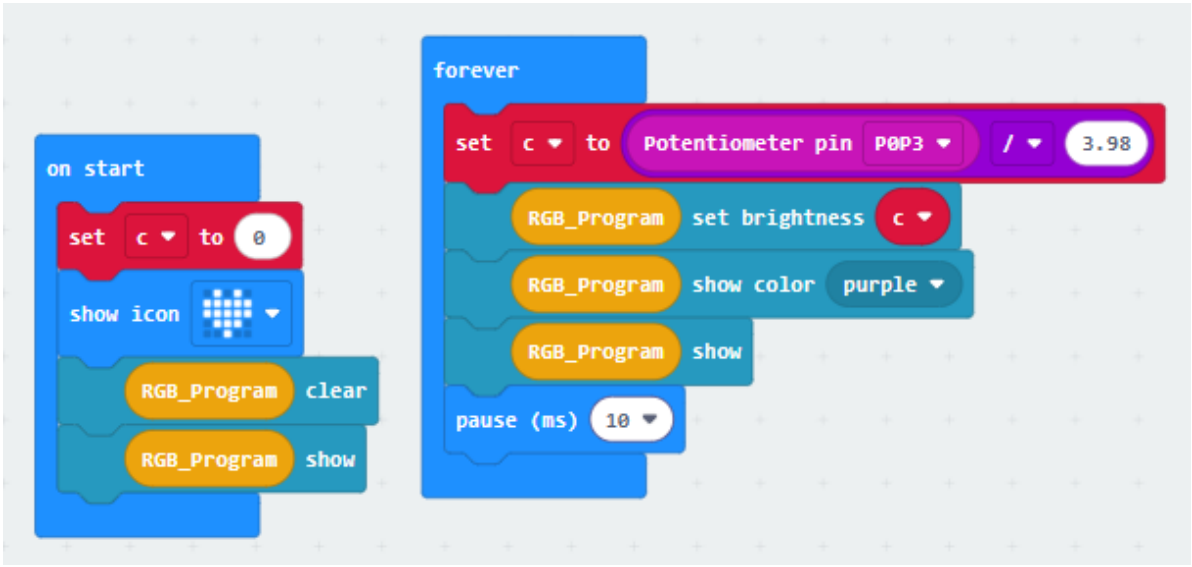

Radio
Loops
Logic
Variables
set
c
to
0


Variables
Math
SuperBitV2
0
/
0


Variables
Math
SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
SuperBitV2_PWM
Neopixel
more
Extensions
strip
show color
red
strip
show bar graph of
0
up to
255
strip
show
strip
clear

4.3 Combining blocks

The summary procedure is shown in the figure below.



You can also directly open the **Adjustable-RGB-light.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, turn the potentiometer and the brightness of the RGB light on the expansion board will change accordingly.