2.RGB light change color

1. Learning goals

In this lesson, we will learn to how to control RGB light on wrist:bit change different color.

2.Code and analysis

```
from microbit import *
import neopixel
import microbit

Red = (255, 0, 0)
Orange = (255, 165, 0)
Yellow = (255, 255, 0)
Green = (0, 255, 0)
Blue = (0, 0, 255)
Violet = (148, 0, 211)
White = (255, 255, 255)
Black = (0, 0, 0)
color_lib = {'Red': Red, 'Orange': Orange, 'Yellow': Yellow, 'Green': Green,
             'Blue': Blue, 'Violet': Violet, 'White': White, 'Black': Black}


def RGBLight_more_show(first, num, color):
    global np
    np.clear()
    for i in range(first, first + num):
        np[i] = color_lib[color]
    np.show()

display.show(Image.HAPPY)
np = neopixel.NeoPixel(pin1, 1)
while True:
    RGBLight_more_show(0, 1, 'Red')
    microbit.sleep(1000)
    RGBLight_more_show(0, 1, 'Green')
    microbit.sleep(1000)
    RGBLight_more_show(0, 1, 'Blue')
    microbit.sleep(1000)
    RGBLight_more_show(0, 1, 'White')
    microbit.sleep(1000)
```

from microbit import *

This code is to import everything from the microbit library, and any program need to uses import this library.

Define different RGB light colors.

display.show(Image.HAPPY): Display the smile pattern on the micro:bit matrix;

np = neopixel.NeoPixel (pin1, 1): RGB light initialization settings, a total of 1 RGB light, connected to the P1 pin of the micro:bit board.

In the loop, call the **RGBLight_more_show()** function to set one RGB light to a different color. And use the **microbit.sleep()** function to achieve the delay change effect.

Note:

1 - The capital letter/lowercase letters must be distinguished !

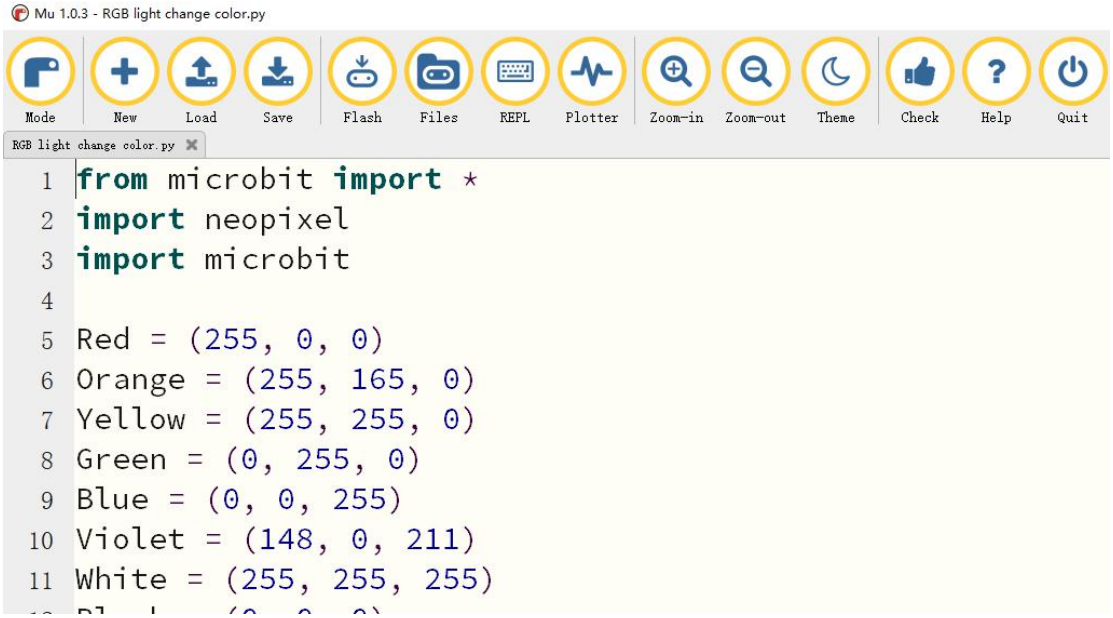
2 - Correct spelling!

3 - Keywords such as # need a space between the content.
4 - You can only use the Tab key (tabulation key) for indentation.

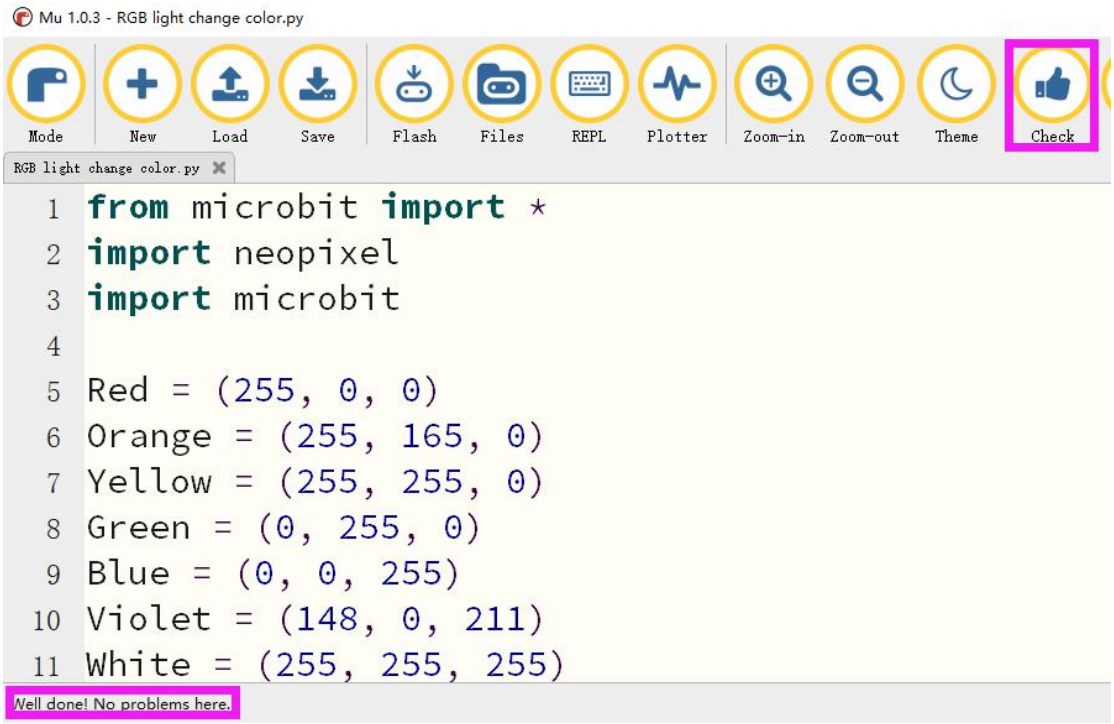
3. Programming and downloading

3.1 You should open the Mu software, and enter the code in the edit window, , as shown in Figure .

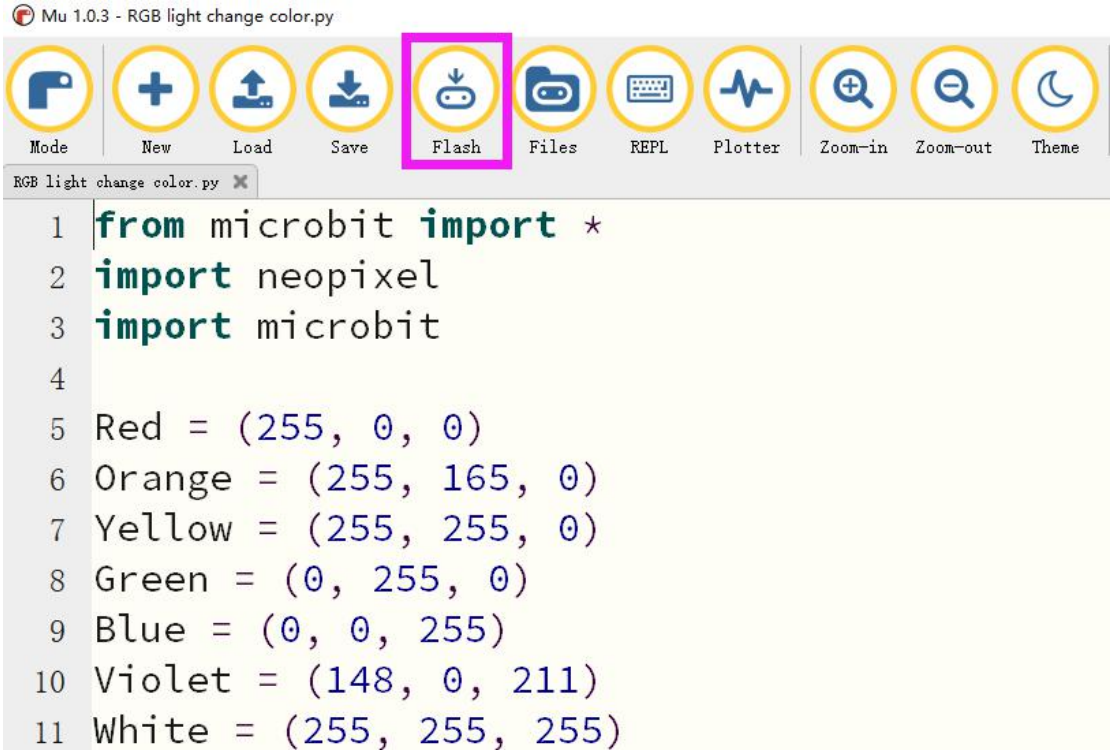
Note! All English and symbols should be entered in English, and the last line must be a space.



3.2 As shown in Figure, you need to click the Check button to check if our code has an error. If a line appears with a cursor or an underscore, the program indicating this line is wrong.



3.3You need to connect the micro data cable to micro:bit and the computer, then click the Flash button to download the program to micro:bit。



4. Experimental phenomena

After the program is successfully downloaded, the micro: bit dot matrix will display butterfly pattern. RGB lights will become red-> green->blue->white, the time interval is 1s.