

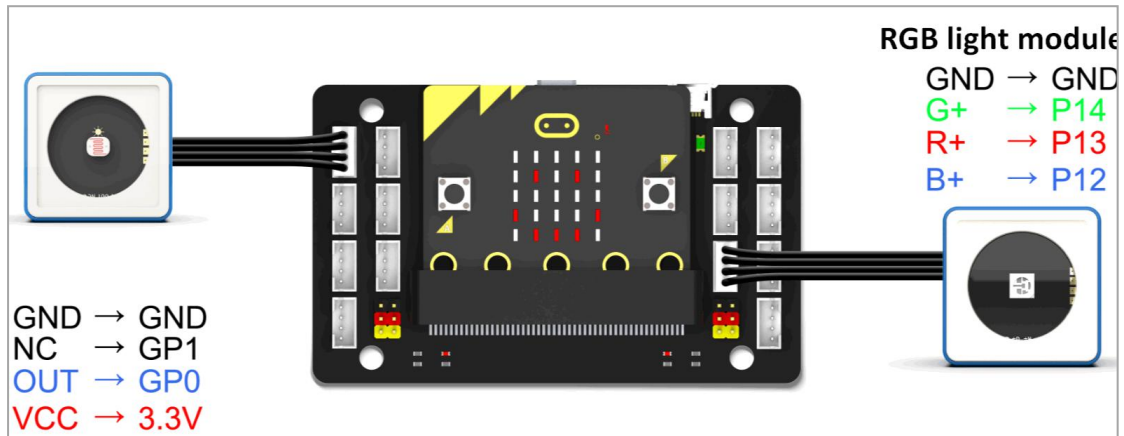
Emergency light

1. Learning target

In this course, we will learn how to use Micro:bit, RGB light module and photosensitive module to make a emergency light.

2. Preparation

Connect the module to Micro:bit board by expansion board, as shown below.



3. About code

```
# -*- coding: utf-8 -*- # Encoding cookie added by Mu Editor
from microbit import *
import WOM_Sensor_Kit

display.off()

while True:
    if WOM_Sensor_Kit.WOM_light(pin0) > 800:
        WOM_Sensor_Kit.WOM_rgb(1023, 1023, 1023)
    if WOM_Sensor_Kit.WOM_light(pin0) < 800:
        WOM_Sensor_Kit.WOM_rgb(0, 0, 0)
```

The range of the analog value returned by the photosensitive module is 0-1023, the stronger the light, the smaller the value.

If the returned analog value is greater than 800, it means the environment is dark, and the RGB lights are bright white at this time;

If the returned analog value is less than 800, it means the environment is bright, and the RGB lights are off at this time.

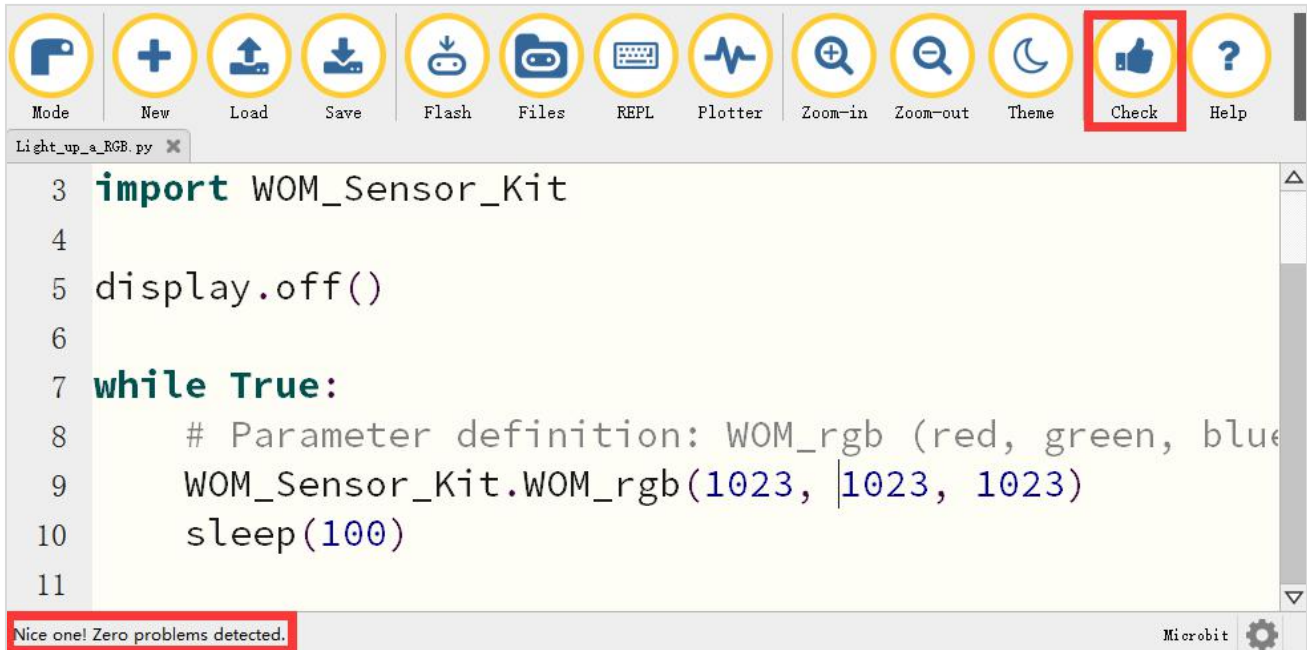
4. Writing and download code

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

Note! All English and symbols should be entered in English, use the Tab key (tab key) to indent and the last line must be a space.

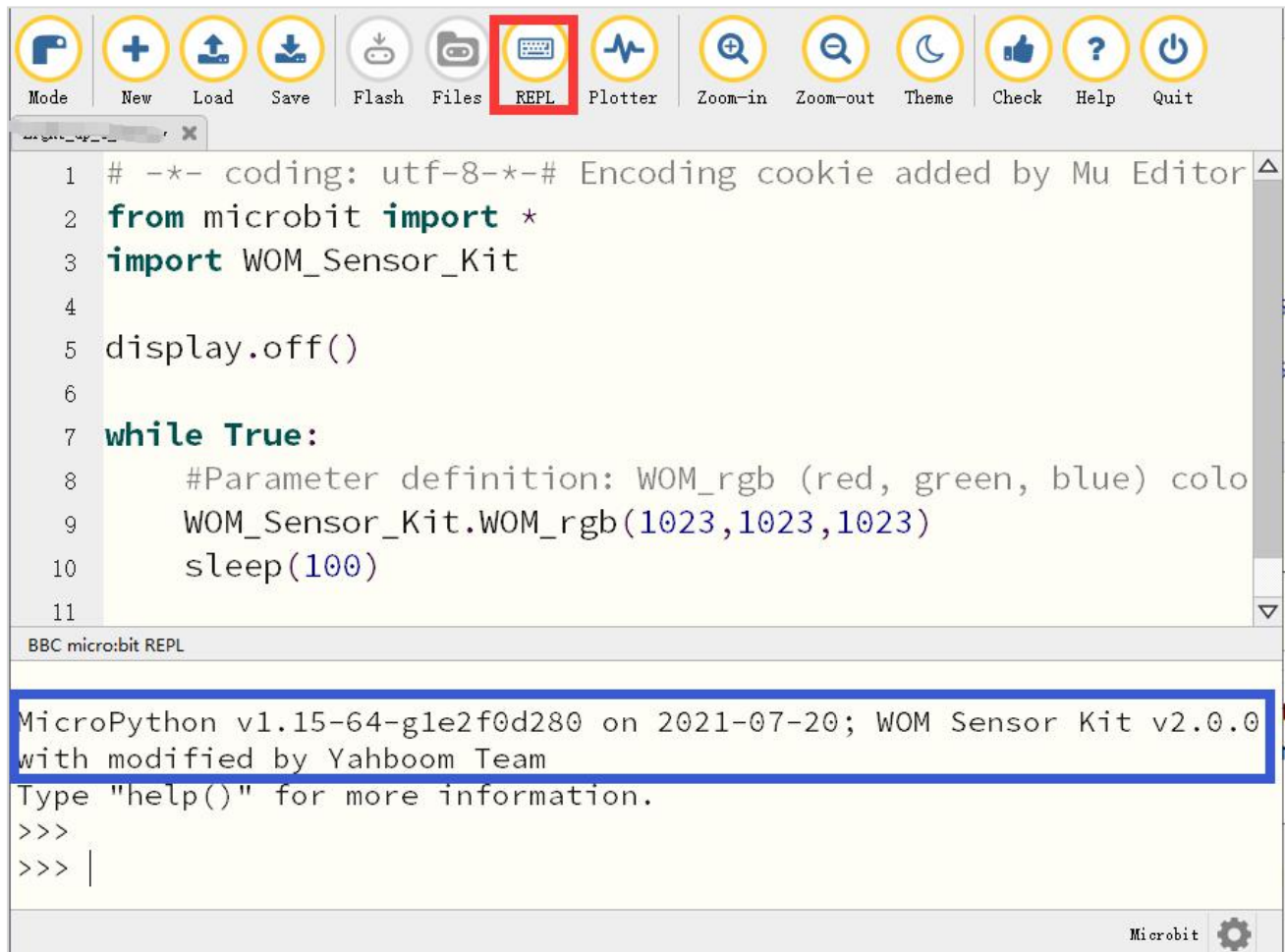
4.2 You can click the “Check” button to check if our code has an error.

If a cursor or underline appears on a line, it indicates a syntax error, please check and modify. If there is no error in the program, the bottom left of the interface will prompt that there is no problem in detection.

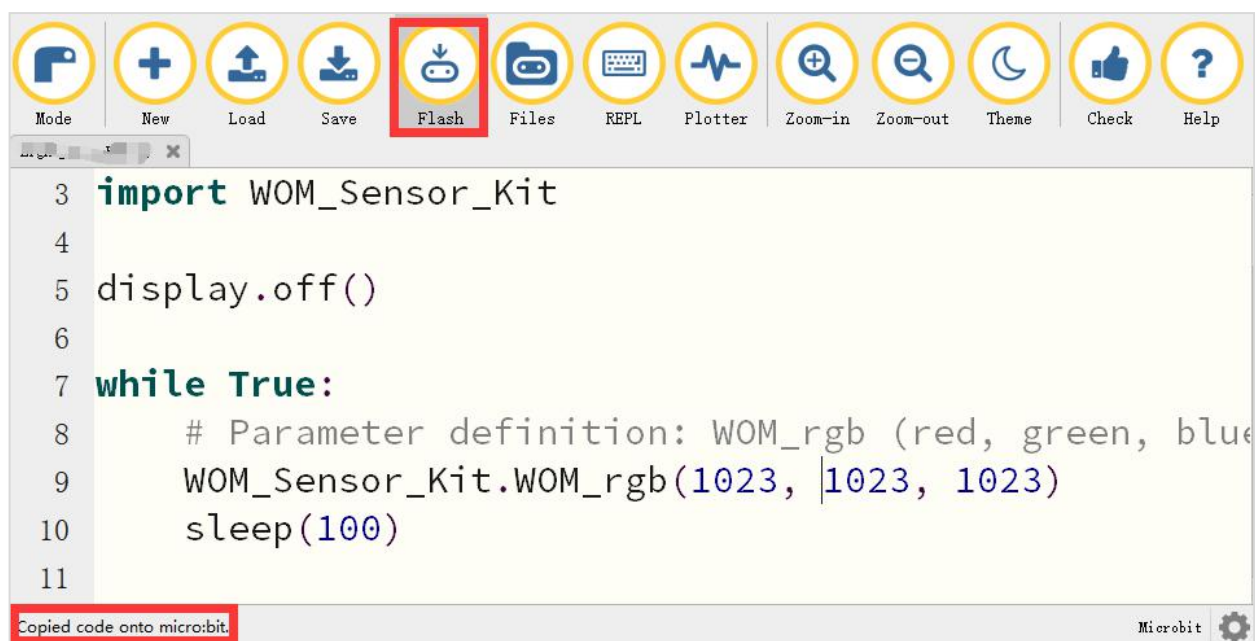


4.3 Click the 'REPL' button to check whether the WOM_Sensor_Kit Python library has been downloaded.

If not, please refer to [Preparation before class] --> [Python Programming Guide] .



4.4 After the program is written, use a micro USB cable to connect the computer and the micro:bit board. Please click the 'Flash' button to download the program to the micro:bit motherboard (You need to click the 'REPL' button again to close the function of importing library files before you download the program).



4.5 If the download failed, please confirm whether the micro:bit is connected to the computer through the micro USB data cable, and confirm whether the **WOM_Sensor_Kit Python library** has been imported.

6. Phenomenon

After the program is downloaded successfully. When we block the photosensitive module with our hands, the RGB light is on, otherwise the light is off.