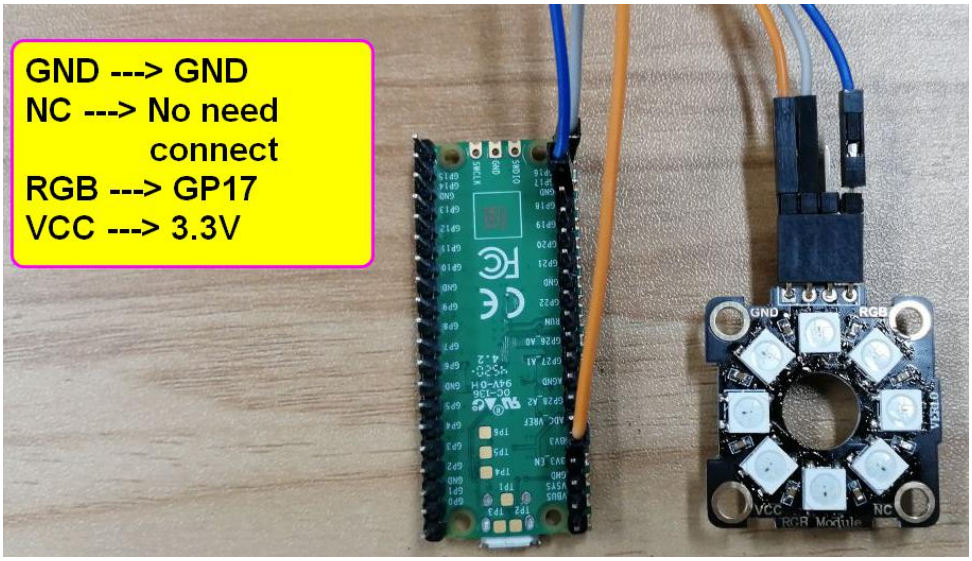
Marquee

1. Learning target

In this course, we will learn how to use Raspberry Pi Pico and RGB halo module to achieve light up a RGB.

2. Preparation

Connect the module to Raspberry Pi Pico board by expansion board, as shown below.



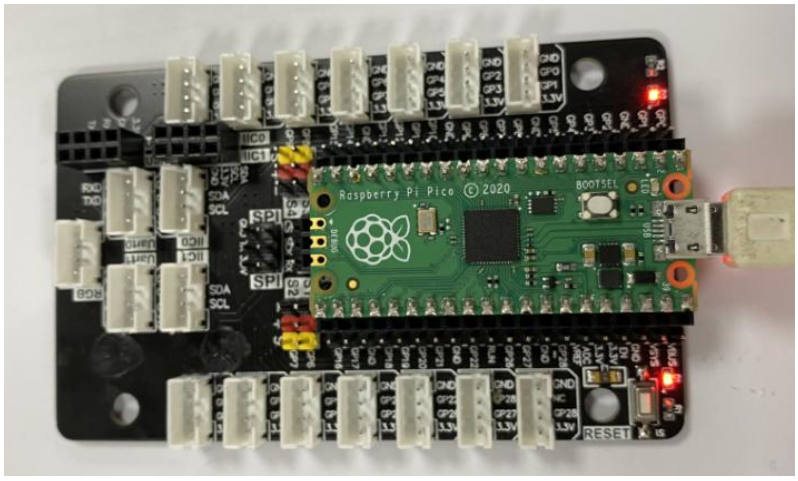
3. About code

Marquee_Random.py

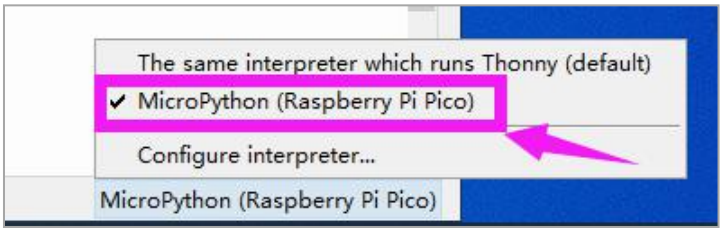
```python
import time
from ws2812b import ws2812b

num_leds = 8  # Number of NeoPixels
# Pin where NeoPixels are connected
pixels = ws2812b(num_leds, 0,17)

pixels.fill(10,10,10)
pixels.show()

while True:
    for i in range(num_leds):
        for j in range(num_leds):
            #pixel_num, red, green, blue
            pixels.set_pixel(j,abs(i+j)%10,abs(i-(j+3))%10,abs(i-(j+6))%10)
        pixels.show()
        time.sleep(0.05)
```

4. Import library file

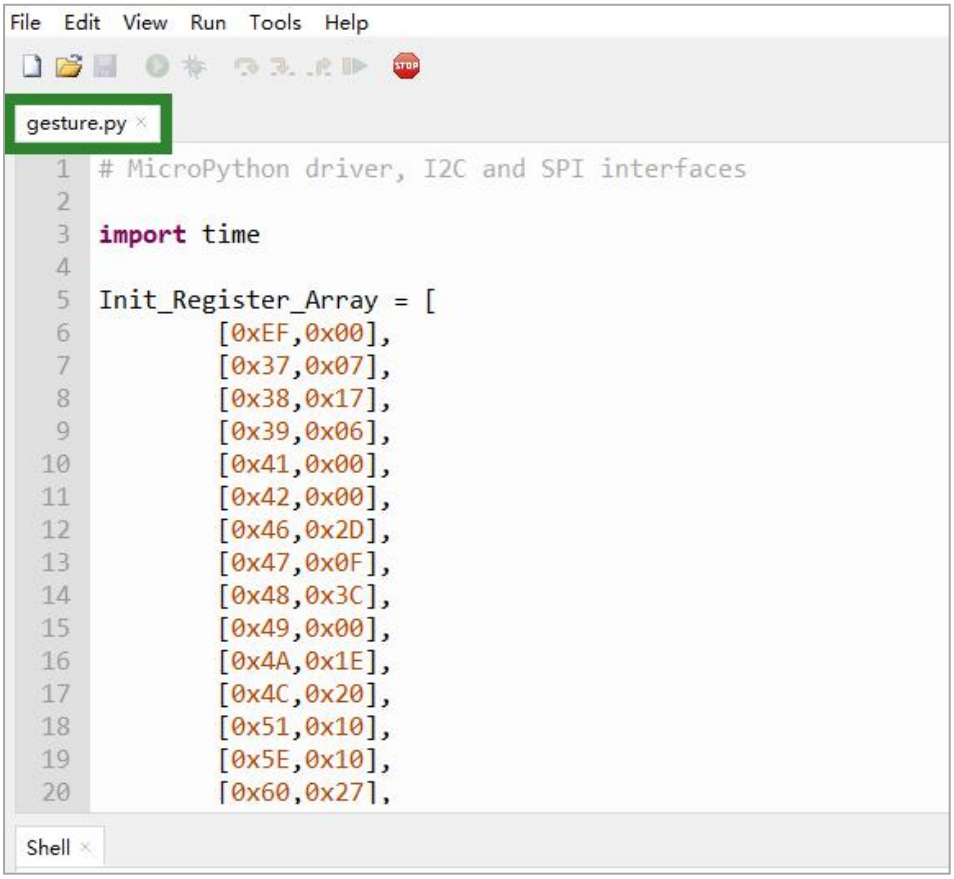
4.1 Connect Pico to your computer, as shown below.



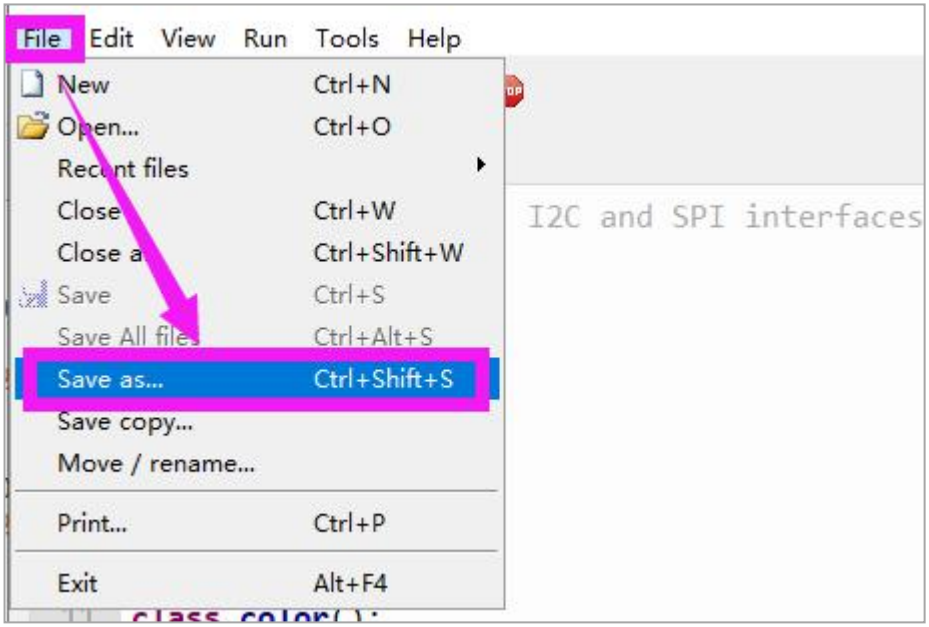
4.2 Open the Thonny software, click the lower right corner to connect the Pico board.

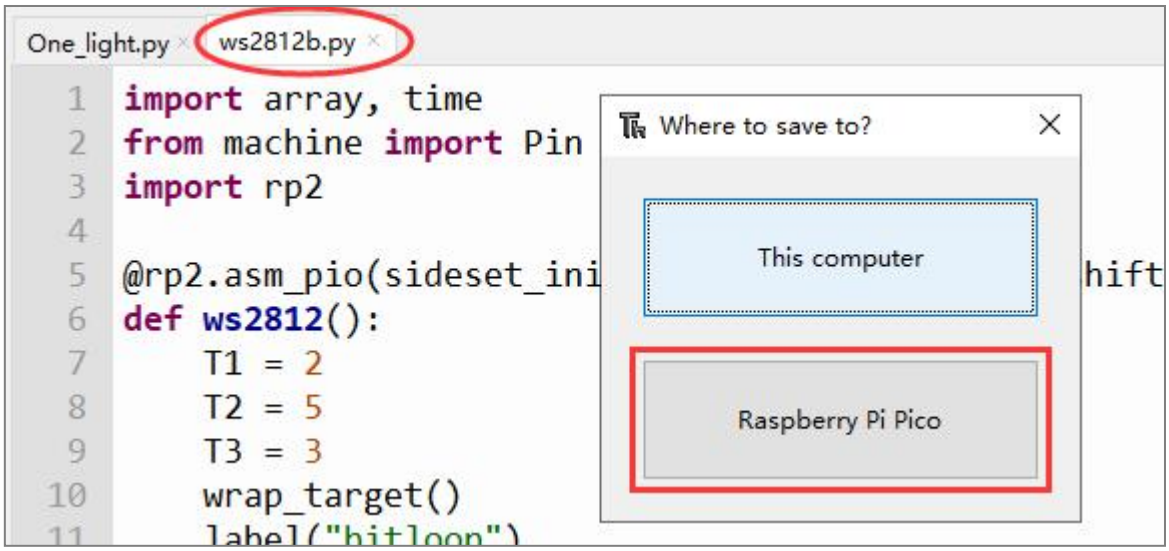


4.3 Open the gesture.py in library folder by Thonny software.

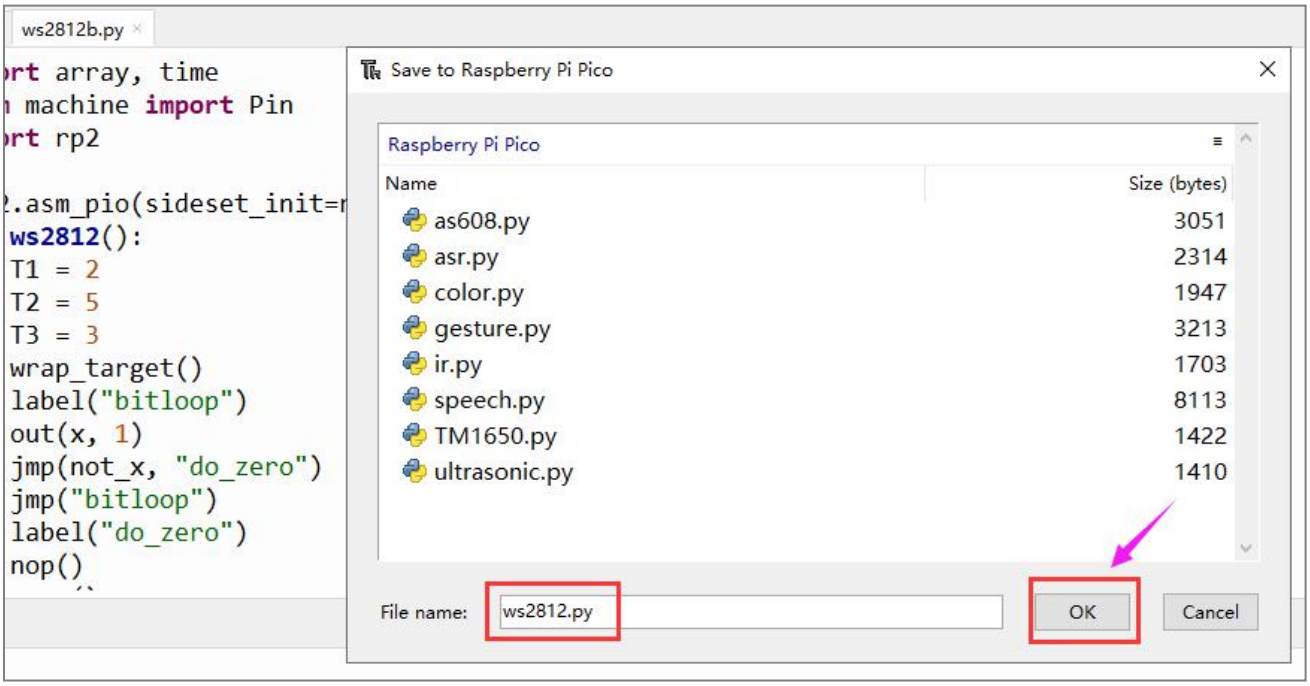


4.4 Save as this .py library file into Pico.



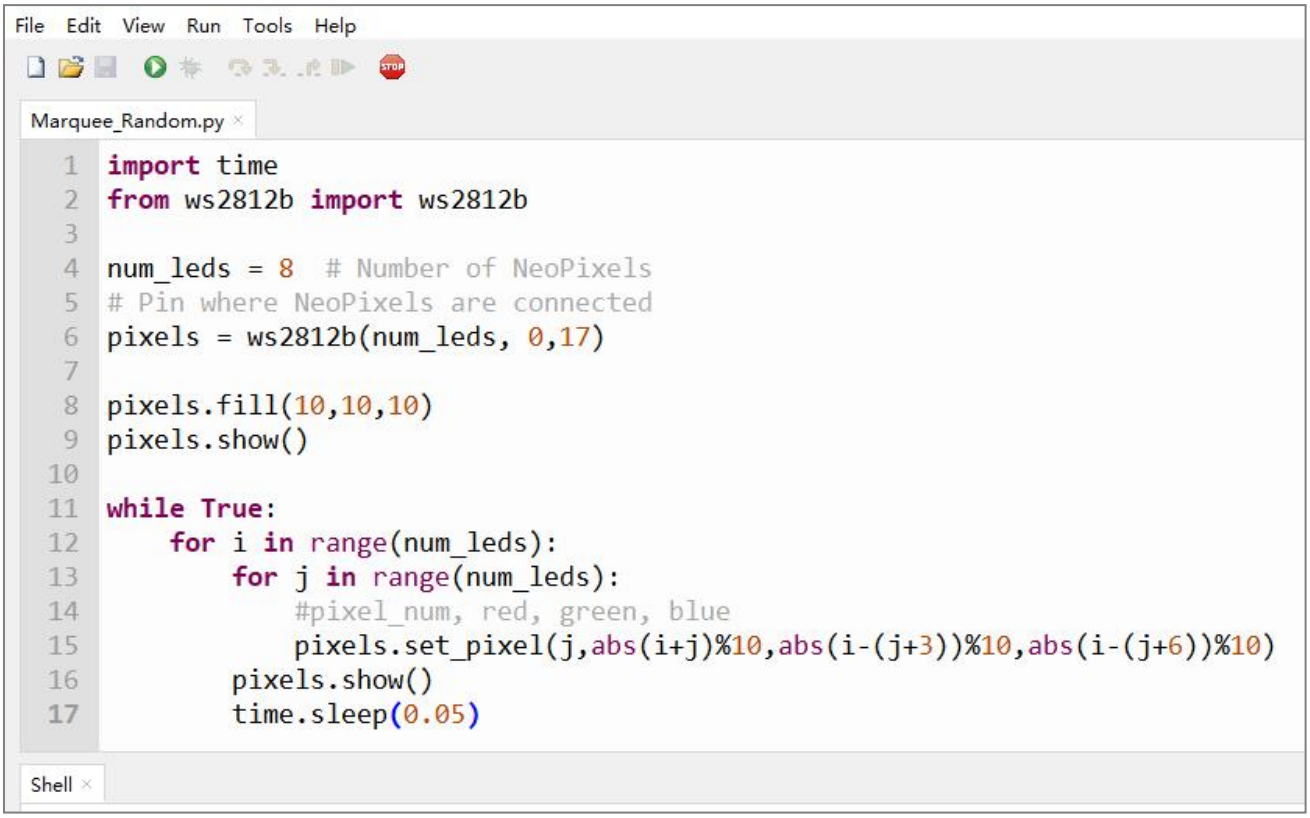


4.5 Enter the same file name as the library file. Then, click “OK”.



5. Compiling and downloading code

5.1 We can open the One_light.py file by Thonny software.



5.2 In Thonny menu bar, we need to click run button to run this program.
"%Run -c $EDITOR_CONTENT" will be displayed. As shown below.

```
MicroPython v1.13-290-g556ae7914 on 2021-01-21; Raspberry Pi Pico with RP2040
Type "help()" for more information.
>>> %Run -c $EDITOR_CONTENT
>>>
```

6. Phenomenon

After the program is run successfully. All the lights on the module display various colors in cycles to achieve the marquee effect.