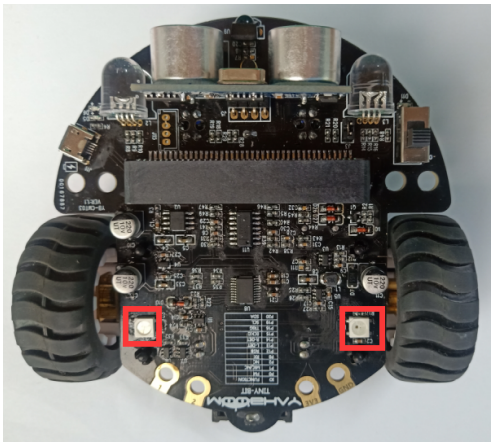
1.Light up a LED

Learning goal：

This lesson we will learn to control a LED light on the Tiny-bit.

Preparation：

1.The position of the LED lights in the robot car,as shown below.



2. The micro:bit pins connected to the two LED lights.

From the hardware interface manual, we can know that two LED lights are directly driven by P12 of micro:bit .

Category	Function	Number	Drive	The number of Drive pin	The number of connected to the controller	micro:bit
Buzzer	Buzzer	FM	Micro:bit drive directly		FM	P0
Voice sensor	Voice sensor	MIC			MIC	P1
LED light	Water light	LED-RGB			LED-RGB	P12
Tracking sensor	Left tracking	L-DET			L-DET	P13
	Right tracking	R-DET			R-DET	P14
Ultrasonic module	Echo pin	ECHO			ECHO	P15
	Trigger pin	TRIG			TRIG	P16
Infrared receiver	Infrared remote control	RX			RX	P8
I2C interface	I2C interface	SCL			SCL	P19
		SDA			SDA	P20
Motor	Left motor Forward	L-INA	STM8S	PC6/TIM1_CH1	SCL, SDA	P19, P20
	Left motor Reverse	L-INB		PC7/TIM1_CH2		
	Right motor Forward	R-INA		PC3/TIM1_CH3		
	Right motor Reverse	R-INB		PC4/TIM1_CH4		
RGB Searching light	Red	LED-R		PC5/TIM2_CH1		
	Green	LED-G		PD3/TIM2_CH2		
	Blue	LED-B		PD2/TIM2_CH3		

Code:

```
from microbit import *
import neopixel
np = neopixel.NeoPixel(pin12, 2)   # RGB light connects to micro:bit's P12 pin
while True:
    for pixel_id in range(0, len(np)):
        np[0] = (255, 0, 0)     # red
        np.show()   # Show
        sleep(200)
```

Programming and downloading：

1.You should open the Mu software, and enter the code in the edit window, , as shown in Figure 1-1.

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

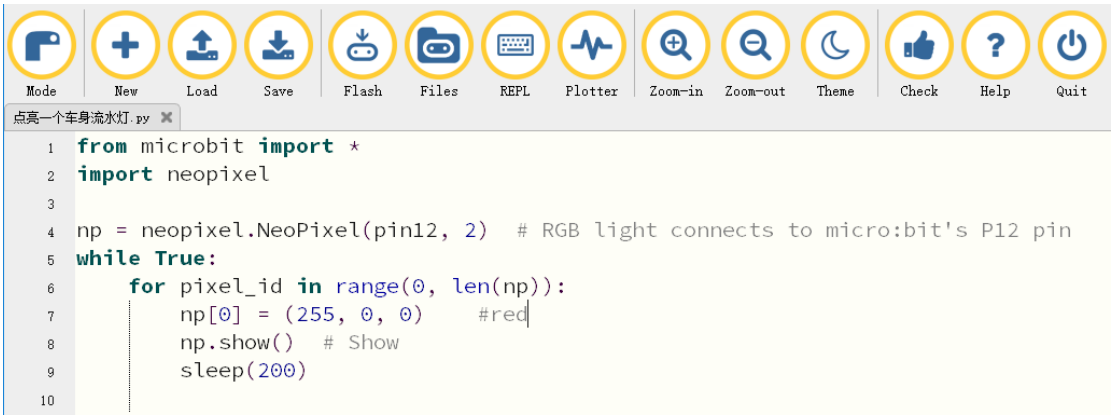


Figure 1-1

2.As shown in Figure 1-2, 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.

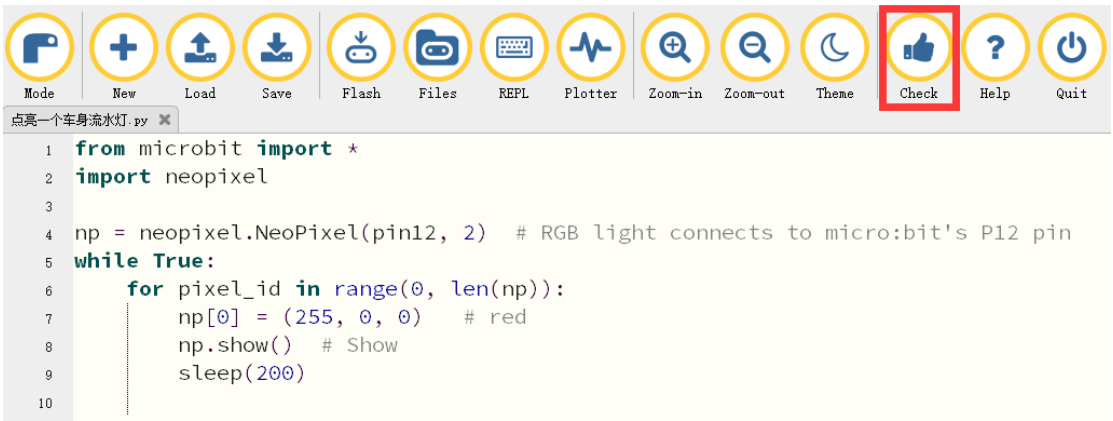


Figure 1-2

3.You 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 as shown in Figure 1-3.

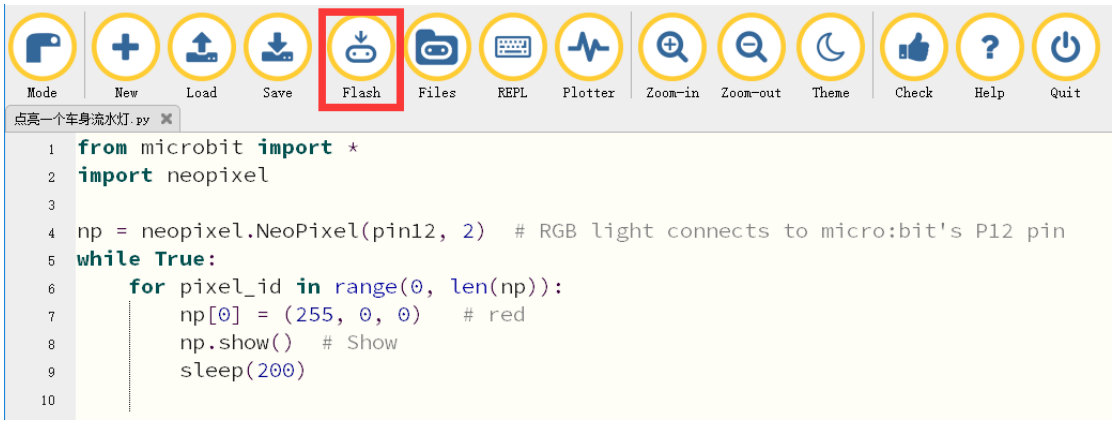


Figure 1-3

4.After the download is successful, you can see that a LED light will be lit red, as shown in Figure 1-4.

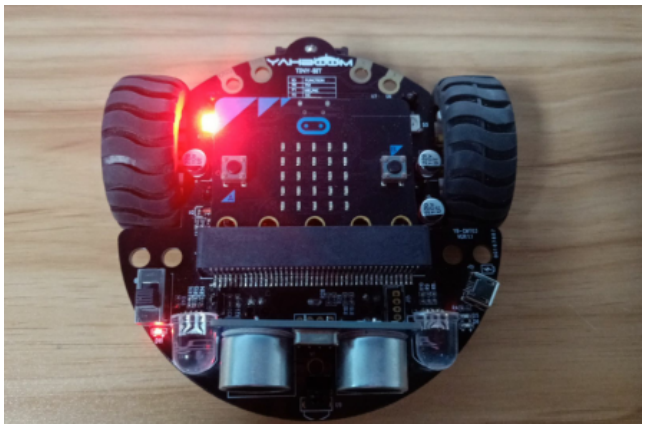


Figure 1-4