

Courses7 --- Car Headlights

Learning goal:

This lesson learns how to drive car headlights by Python programming.

Code:

```
1 # -*- coding: utf-8-*# Encoding cookie added by Mu Editor
2 from microbit import display, Image, sleep
3 import tinybit
4
5 display.show(Image.HAPPY)
6
7 while True:
8     tinybit.car_HeadRGB(255, 0, 0)
9     sleep(500)
10    tinybit.car_HeadRGB(0, 255, 0)
11    sleep(500)
12    tinybit.car_HeadRGB(0, 0, 255)
13    sleep(500)
14    tinybit.car_HeadRGB(255, 255, 255)
15    sleep(500)
16    tinybit.car_HeadRGB(0, 0, 0)
17    sleep(500)
18
```

- 1) Import the libraries needed for this routine: display is used to display the dot matrix, Image is used to display the built-in pattern, sleep delay time, and tinybit is used to drive the car.
- 2) **display.show (Image.HAPPY)** Make the micro:bit display a smiling face;
- 3) **buildingbit.car_HeadRGB (255, 0, 0)** Makes the front searchlight display. The first parameter is a red value with a range of 0 to 255. The second parameter is a green value with a range of 0 to 255. The third parameter is the blue value, which ranges from 0 to 255.
- 4) **sleep (500)** is a delay of 500 milliseconds. You can modify the corresponding value as needed. The smaller the value, the faster the color of the lamp can be switched.

Programming and downloading:

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, and the last line must be a space.

```

1 # -*- coding: utf-8-*# Encoding cookie added by Mu Editor
2 from microbit import display, Image
3 import tinybit
4
5 display.show(Image.ARROW_S)
6 tinybit.car_run(150)
7

```

2. You can 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.

```

1 # -*- coding: utf-8-*# Encoding cookie added by Mu Editor
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3 import tinybit
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5 display.show(Image.ARROW_S)
6 tinybit.car_run(150)
7

```

3. Click “REPL” button, check whether the tinybit library has been downloaded. If not, please refer to the [preparation before class]---> [Python programming]

```

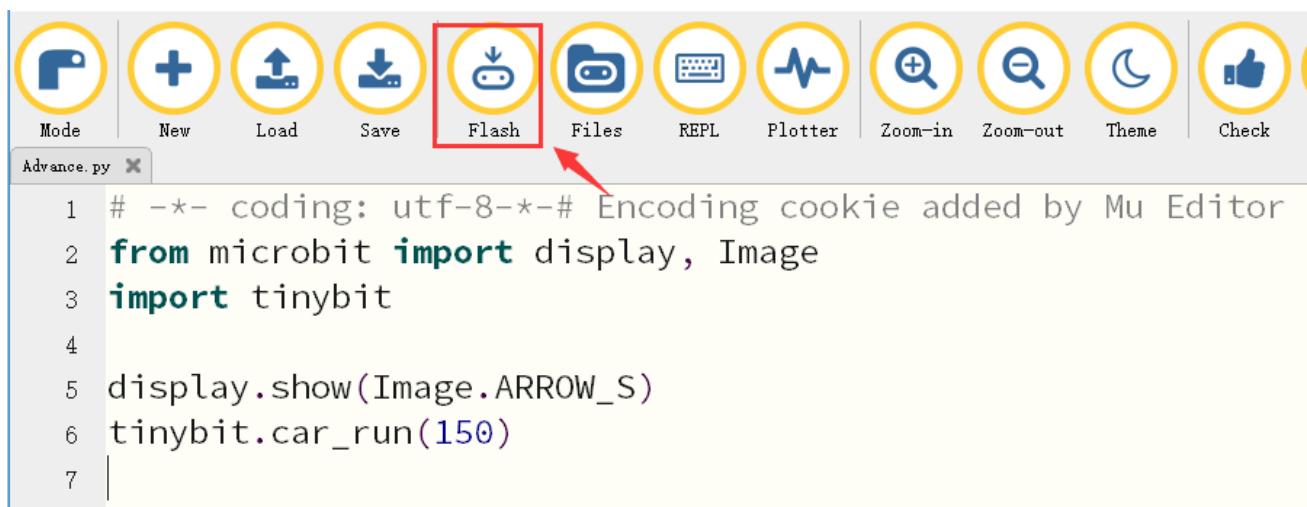
1 # Write your code here :-)
2

```

BBC micro:bit REPL

MicroPython for Tinybit V1.1 Modified by Yahboom Team
Type "help()" for more information.
>>>
>>> |

4.Click the “Flash” button to download the program to micro:bit board.



```
1 # -*- coding: utf-8-*# Encoding cookie added by Mu Editor
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3 import tinybit
4
5 display.show(Image.ARROW_S)
6 tinybit.car_run(150)
7 |
```

If the program is wrong or the experimental phenomenon is wrong after downloading, please confirm whether you have downloaded the Buildingbit libraryhex file we provided to the micro: bit board.

For the specific method of adding library files, please refer to [【1.Preparation before class】](#) --- [【Python programming】](#)

Experimental phenomena

After download is complete, open the power switch. A smile face appears on the micro:bit dot matrix. The headlight on the front of the car lights become red --> green --> blue --> white, time interval. Keep the loop in this state.