

02. Car turning motion

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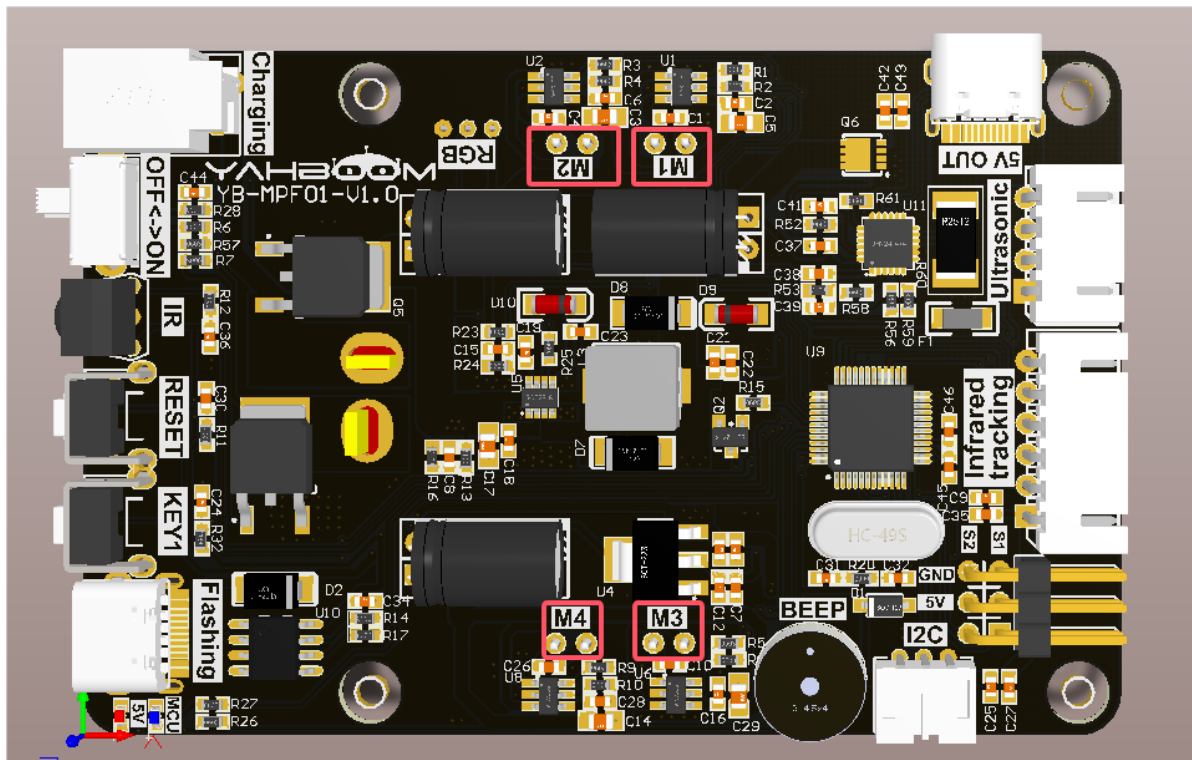
1. Learning objectives
2. Experimental preparation
3. Core code analysis
4. Experimental phenomenon

1. Learning objectives

Control the car to turn left and right.

2. Experimental preparation

As shown in the figure below, the motor needs to be connected to the expansion board.



3. Core code analysis

Ordinary_wheel_motion library function required to control the car's motion:

```
turn_right(speed)
```

Parameter explanation: Control the car to turn right

speed: [0,255], the larger the value, the faster the right turn

Return value: None.

```
turn_left(speed)
```

Parameter explanation: Control the car to turn left

speed: [0,255], the larger the value, the faster the left turn

Return value: None.

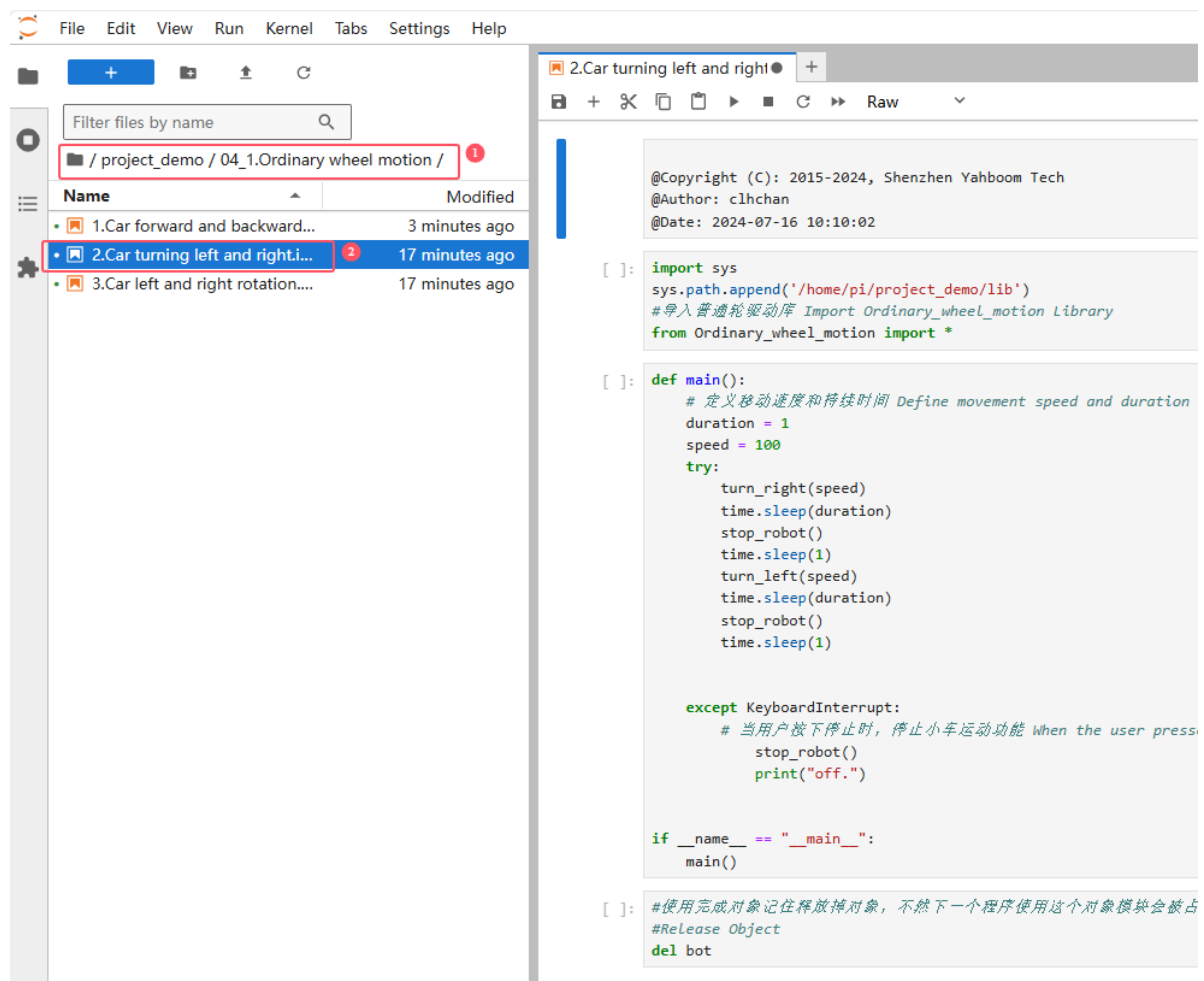
Source code path: project_demo/04_1.Ordinary wheel motion

Library path: project_demo/lib

4. Experimental phenomenon

Turn on the robot, open the computer browser to enter the Jupyter lab editor

Enter the source code path and double-click the code to be run



The screenshot displays the Jupyter Lab environment. On the left, the file explorer shows a directory structure with a search bar and a list of files. The file '2.Car turning left and right...' is selected. On the right, the code editor shows the source code for this file. The code includes a copyright notice, imports, a main function, and a KeyboardInterrupt exception handler.

```
@Copyright (C): 2015-2024, Shenzhen Yahboom Tech
@Author: clhchan
@Date: 2024-07-16 10:10:02

[ ]: import sys
sys.path.append('/home/pi/project_demo/lib')
#导入普通轮驱动库 Import Ordinary_wheel_motion Library
from Ordinary_wheel_motion import *

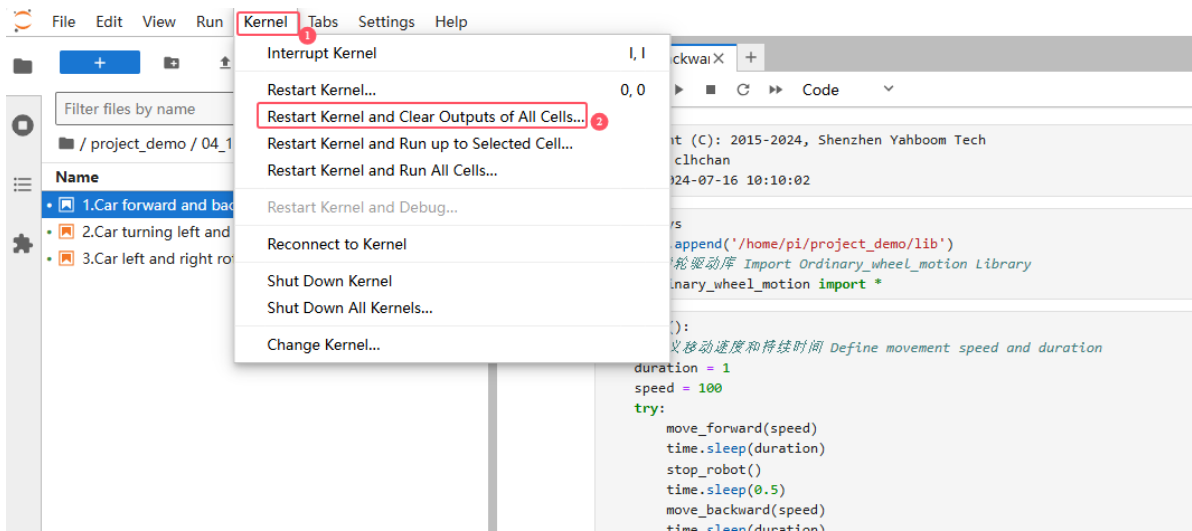
[ ]: def main():
    # 定义移动速度和持续时间 Define movement speed and duration
    duration = 1
    speed = 100
    try:
        turn_right(speed)
        time.sleep(duration)
        stop_robot()
        time.sleep(1)
        turn_left(speed)
        time.sleep(duration)
        stop_robot()
        time.sleep(1)

    except KeyboardInterrupt:
        # 当用户按下停止时, 停止小车运动功能 When the user press
        stop_robot()
        print("off.")

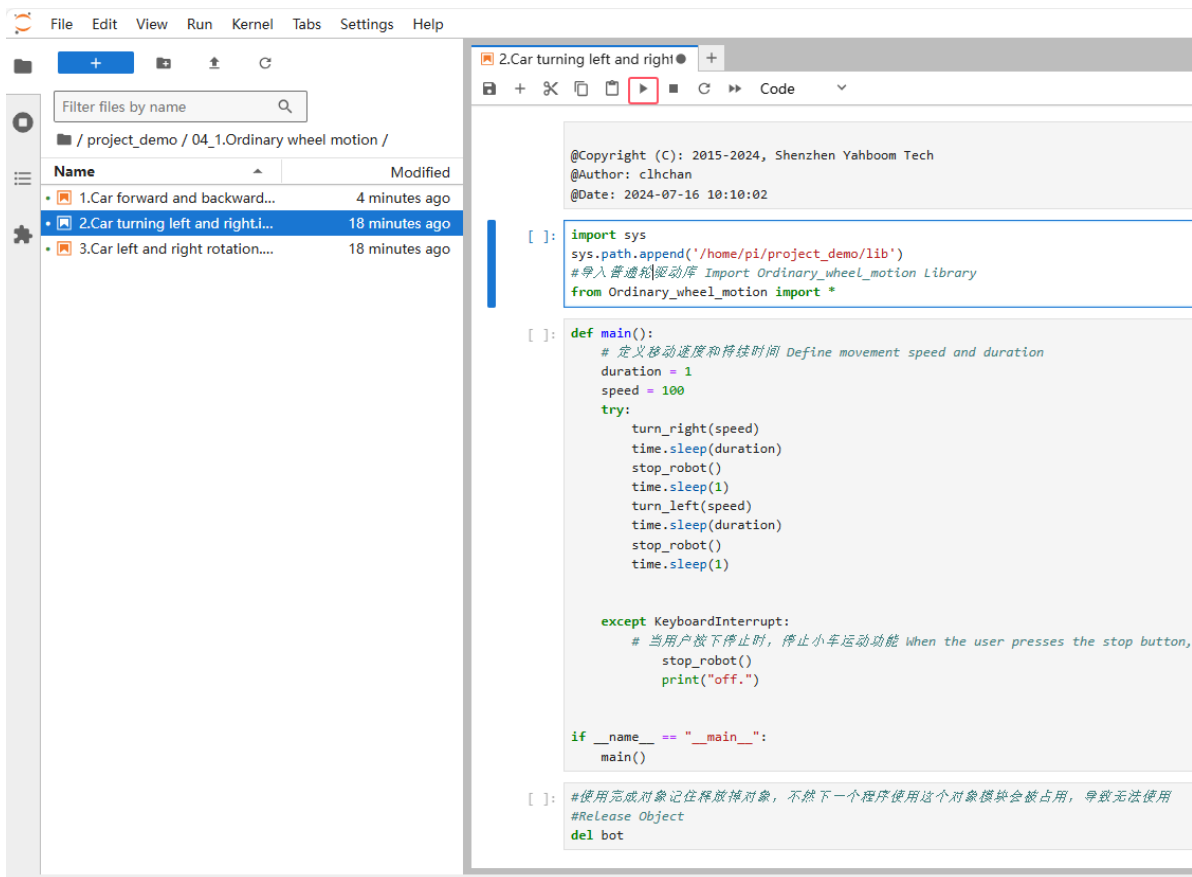
if __name__ == "__main__":
    main()

[ ]: #使用完成对象记得释放掉对象, 不然下一个程序使用这个对象模块会被占
#Release Object
del bot
```

Restart the kernel and clear all outputs



Click the first code block, then click the run button to start running one by one



After the program runs, as the code blocks run, we can see that the car turns right for 1 second, turns left for 1 second, and finally stops.