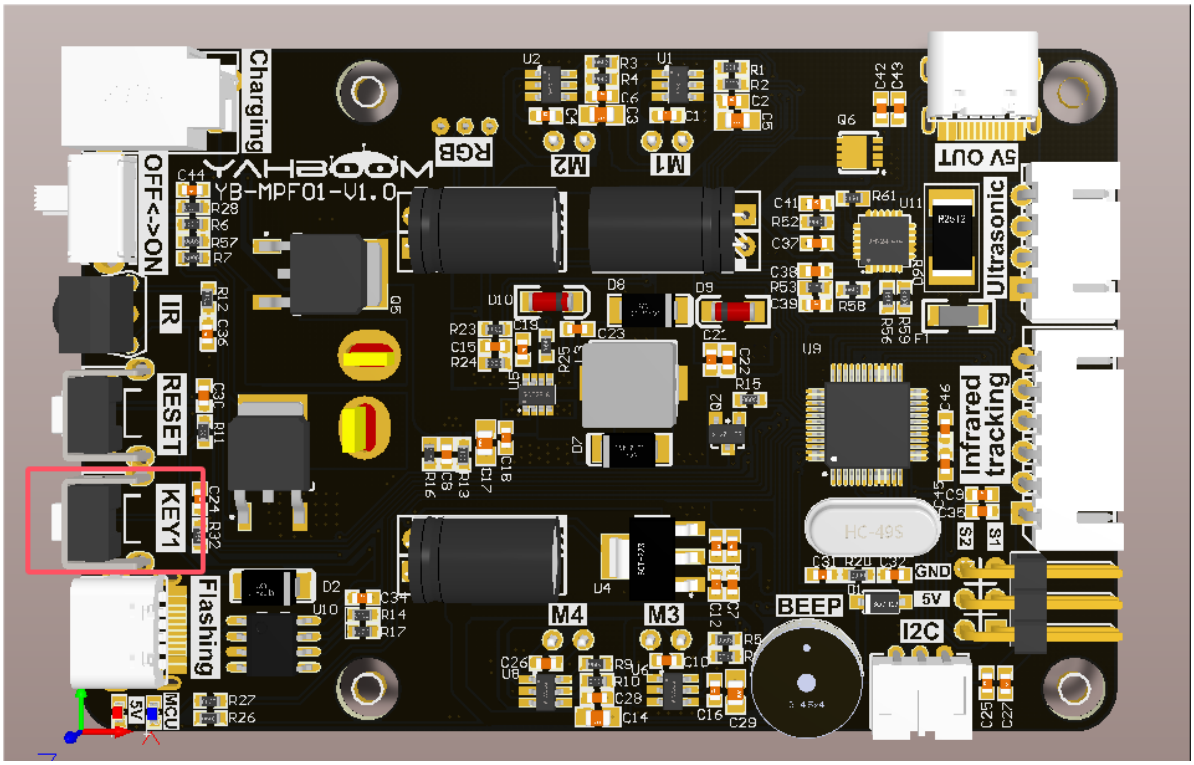
02. Key reading

1. Learning objectives

Read the pressed state of key KEY1.

2. Experimental preparation

As shown in the figure below, key KEY1 is an onboard component, so no external devices are required.



3. Core code analysis

To read the pressed state of a key, we judge by reading the data at address 0x0d:

```
read_data_array(0x0d, 1)
```

Parameter explanation: Read the status data of a key

0x0d: the address of the key, 1: read 1 byte.

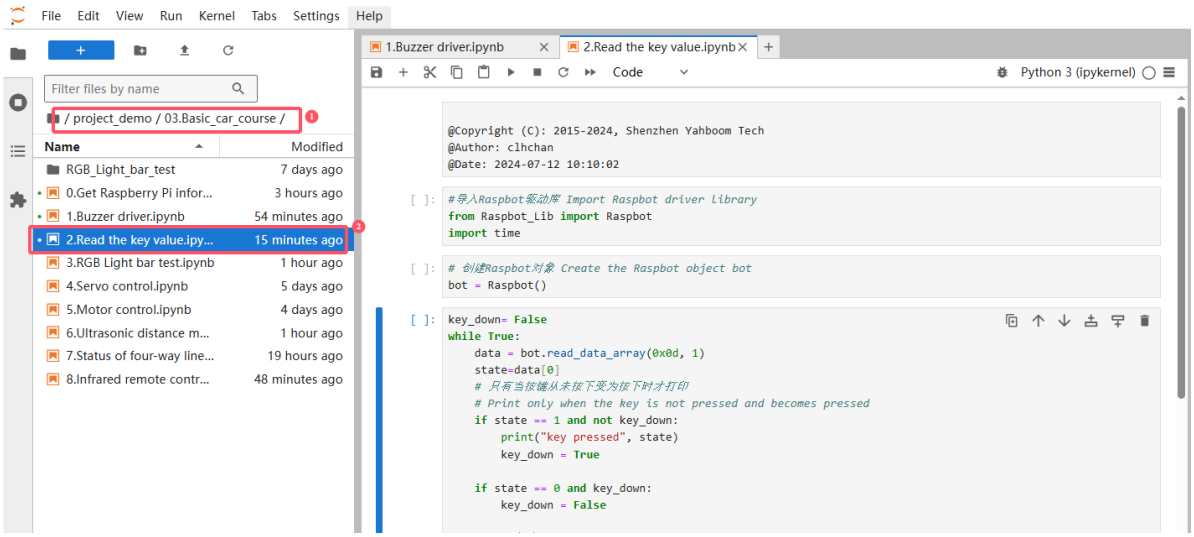
Return value: 0: means the key is not pressed, 1: means the key is pressed.

Source code path: project_demo/03.Basic_car_course

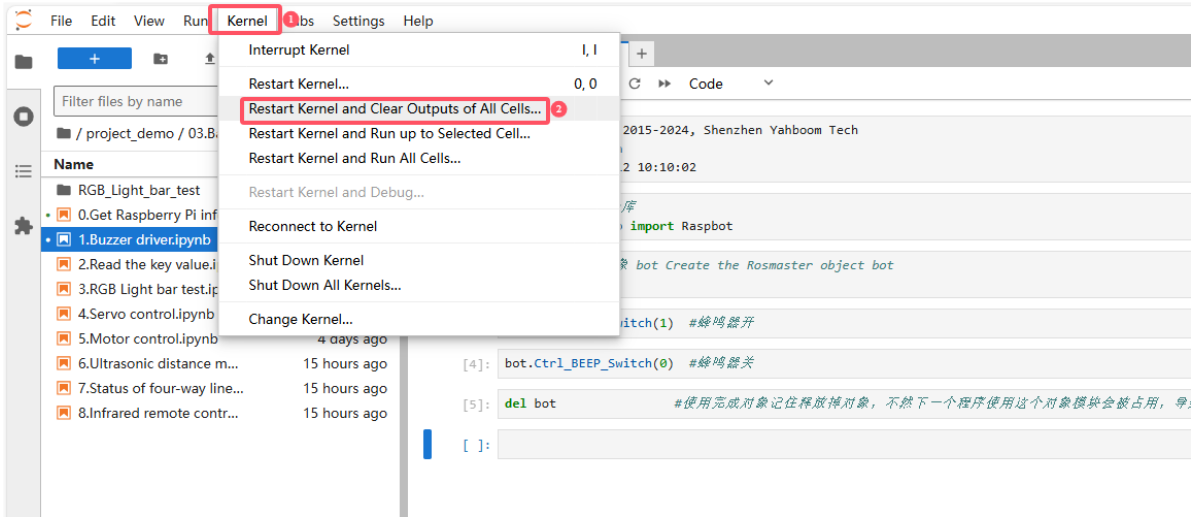
4. Experimental phenomenon

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

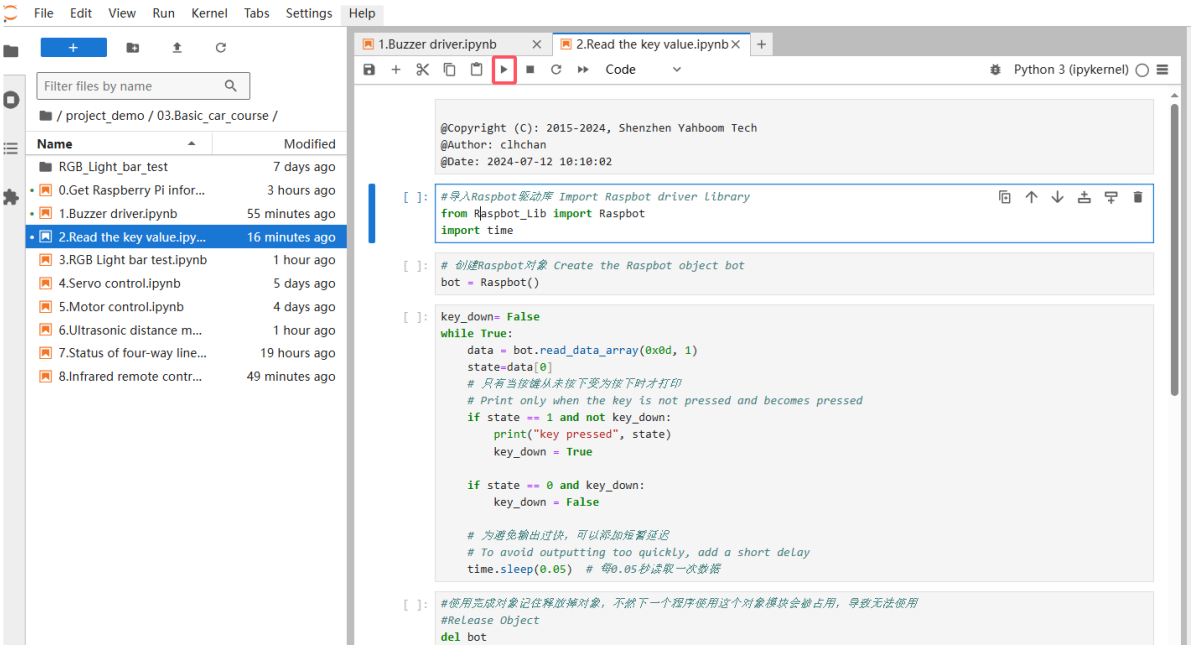
Enter the source code path, double-click the code to be run



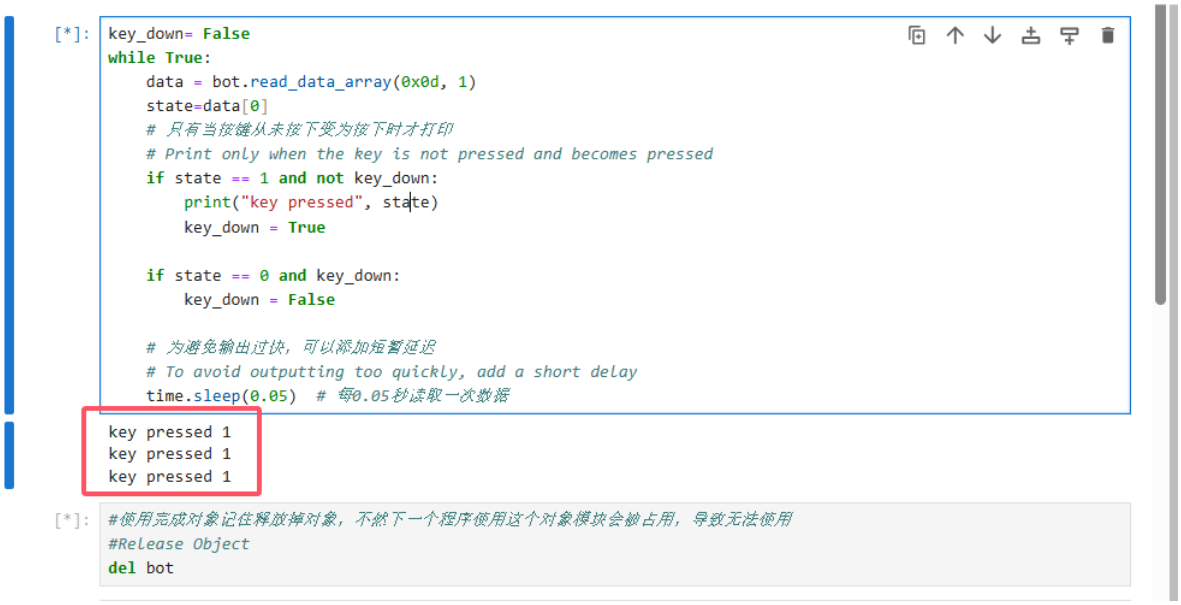
Restart the kernel and clear all outputs



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



After the program runs, as the code block runs, we press the KEY1 button on the car, and a prompt will appear on the jupyter lab as shown below



```
[*]: key_down= False
while True:
    data = bot.read_data_array(0x0d, 1)
    state=data[0]
    # 只有当按键从未按下变为按下时才打印
    # Print only when the key is not pressed and becomes pressed
    if state == 1 and not key_down:
        print("key pressed", state)
        key_down = True

    if state == 0 and key_down:
        key_down = False

    # 为避免输出过快，可以添加短暂延迟
    # To avoid outputting too quickly, add a short delay
    time.sleep(0.05)  # 每0.05秒读取一次数据
```

```
key pressed 1
key pressed 1
key pressed 1
```

```
[*]: #使用完成对象记住释放掉对象，不然下一个程序使用这个对象模块会被占用，导致无法使用
#Release Object
del bot
```