09. oled prints the status of the Raspberry Pi

1. Learning objectives

Use the 12832oled screen to display the status of the Raspberry Pi.

2. Experimental preparation

1. As shown in the figure below, the expansion board needs to be connected to the Raspberry Pi first, and the oled needs to be connected and then turned on.
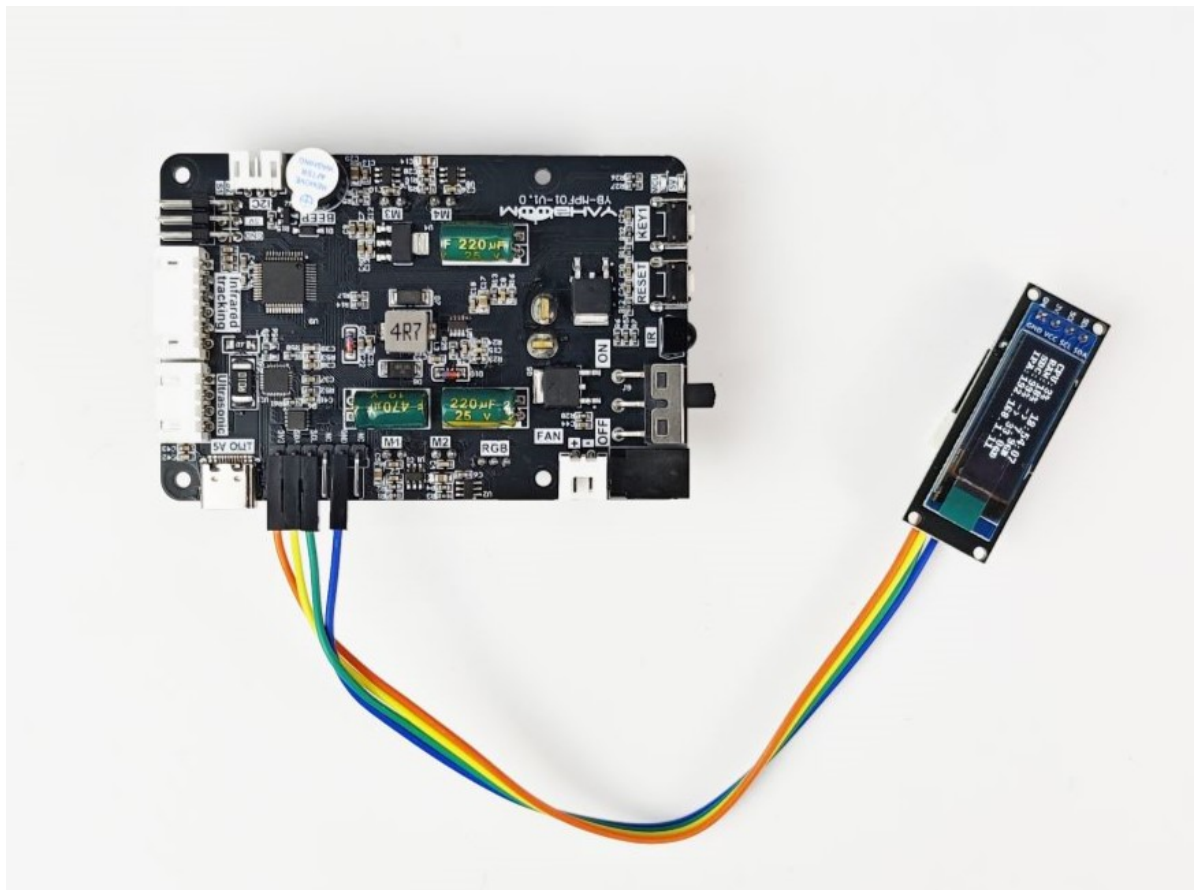
2. After the Raspberry Pi is turned on, put the software directory in the home directory of the Raspberry Pi pi user

03.Basic_car_course	2024/9/2 11:14	文件夹
04.Car_motion_control	2024/8/28 19:29	文件夹
04_1.Ordinary wheel motion	2024/8/28 19:29	文件夹
05.Comprehensive_gameplay	2024/8/28 19:29	文件夹
lib	2024/8/28 19:29	文件夹
software	2024/9/2 11:19	文件夹

3. Core code analysis

```
begin()
```

Function explanation: Initialize OLED, return True if successful, return False if failed

```
clear()
```

Function explanation: Clear the display. refresh=True refreshes immediately, refresh=False does not refresh.

```
getCPULoadRate()
```

Function explanation: read CPU usage

```
getSystemTime()
```

Function explanation: read system time

```
getUsagedRAM()
```

Function explanation: read memory usage and total memory

```
getUsagedDisk()
```

Function explanation: read TF card space usage / TF card total space

```
getLocalIP()
```

Function explanation: get local IP

```
add_text(start_x, start_y, text, refresh=False)
```

Function explanation: add characters. start_x start_y indicates the starting point. text is the character to be added. refresh=True refreshes immediately, refresh=False does not refresh.

```
add_line(text, line=1, refresh=False)
```

Function explanation: Write a line of text. refresh=True refresh immediately, refresh=False do not refresh. line=[1, 4]
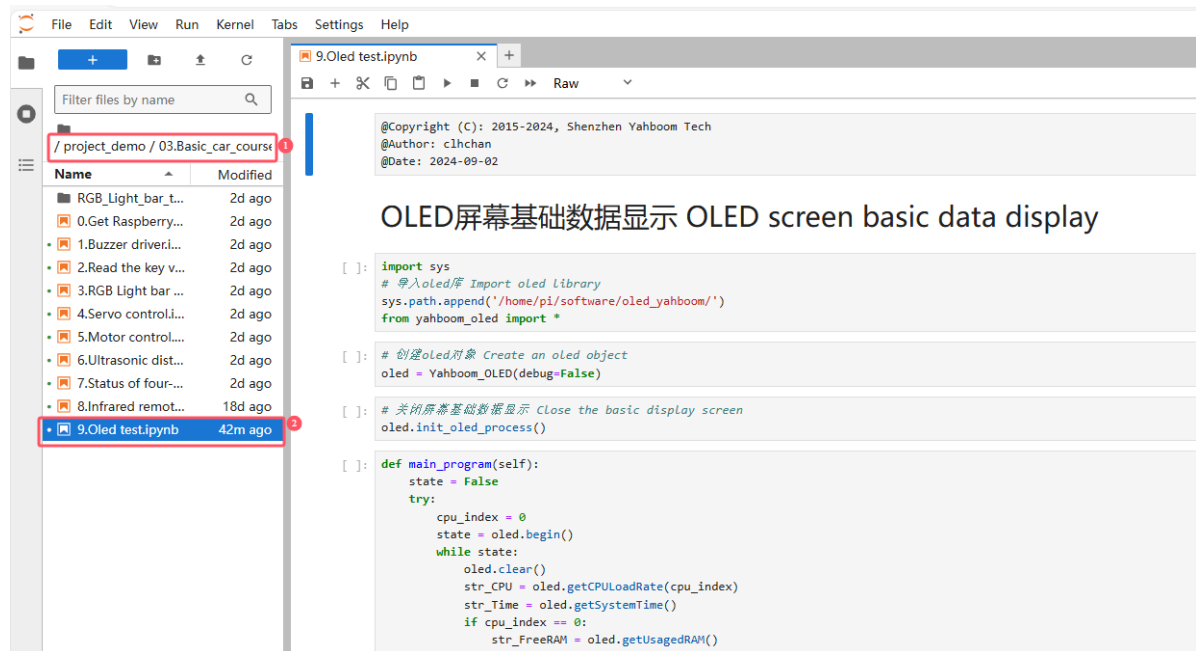
```
refresh()
```

Function explanation: Refresh OLED, display content

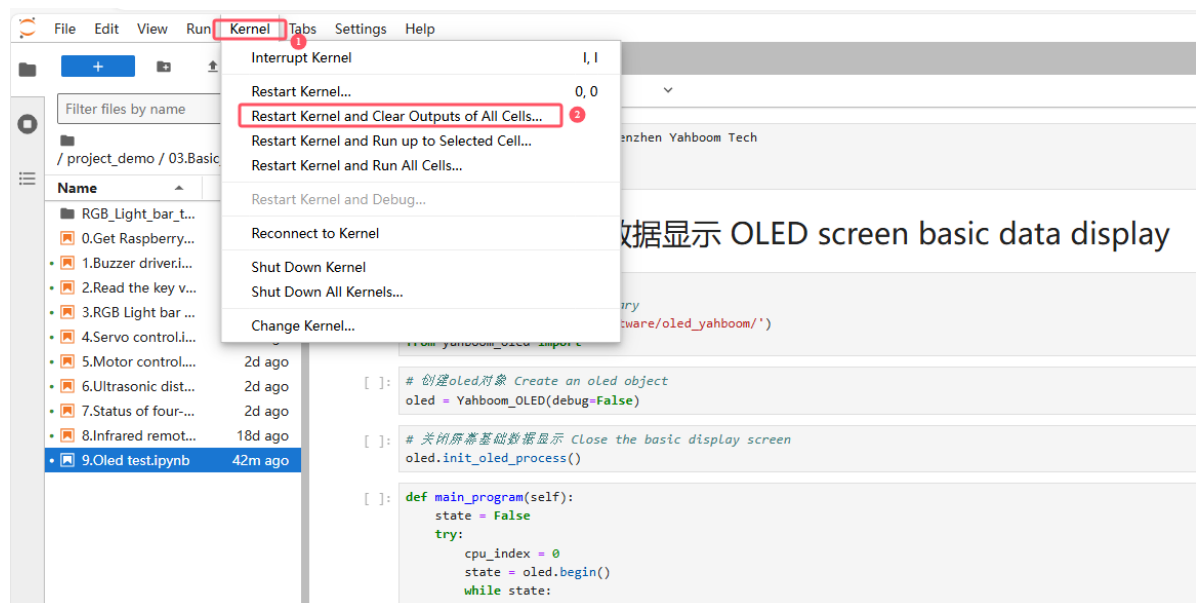Source code path: project_demo/03.Basic_car_course

4. Experimental phenomenon

Turn on the robot, open the computer browser to enter the Jupyter lab editor
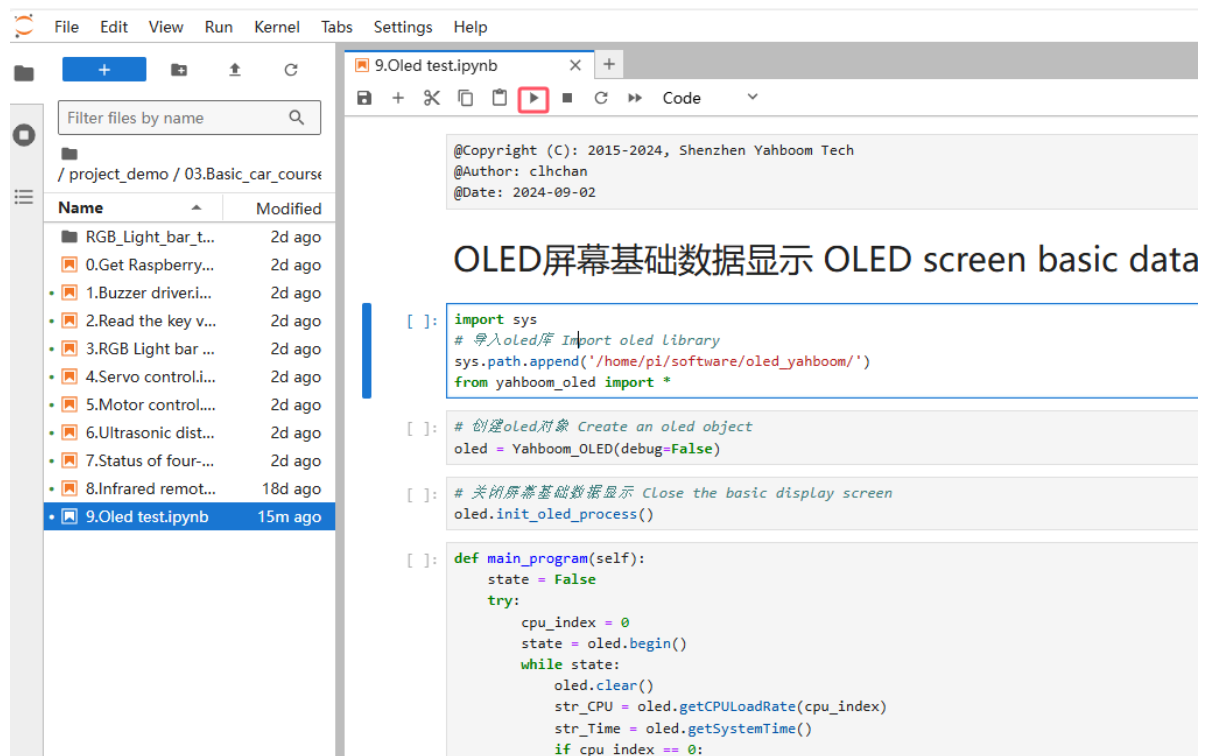
Enter the source code path, double-click the code to be run

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 blocks run, the oled screen will display the status information of the Raspberry Pi.