There are multiple ways for RDK-X3 to start up automatically, and one of them is chosen as an example here.

1.Add a startup auto start feature

1. Open the desktop self startup script

```
vi .config/autostart/oled.desktop
```

Enter the following content.

Open, save, and exit the fifth line comment.

vi editor operation: After opening the file, enter i to start editing. After editing is complete, press ESC, and then enter wq to save and exit the file

2.Reboot RDK X3

Enter the following command on the terminal to restart X3, and the temp_control program will automatically start after re-start.

Fans, RGB lights, and OLED screens will all have corresponding responses.
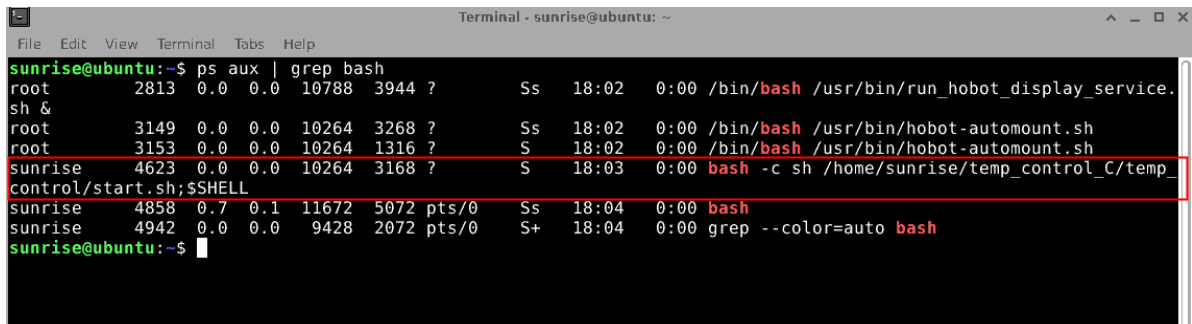
```
sudo reboot
```

3. Exit the program

Due to the fact that the self starting program runs in the background, we are unable to exit the program directly from the open terminal.

If we need to modify the program, but the background process interferes with our debugging results? Of course, it is necessary to check the process ID (PID) of the background program and then end the process.

1.Enter a command on the terminal to open the process list.

```
ps aux | grep bash
```


Sometimes it may be necessary to wait for a while, as the system will prioritize processes that consume high CPU resources.
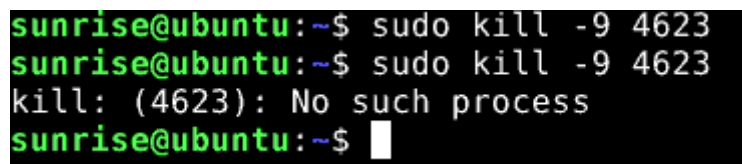
From the picture, we can see the program temp_control that starts automatically upon startup, with PID 4623. Therefore, if we kill this process ID, the temp_control program will no longer run in the background.

2.End process

```
sudo kill -9 4623
```

For example, in the above situation, we can run the command sudo kill -9 4623 to terminate the temp_comtrol process running in the background.

If run again, it will prompt that the process does not exist.

3.Restart the backend operation

If we have already ended a process running in the background but do not want to restart the background program, please use the following steps

We will still run the temp_control program in the background.

First enter the target folder (determined based on the location of personal saved files)

```
cd ~/temp_control_C/temp_control
```

Add the&symbol at the end of the command to indicate background operation

```
sudo ./temp_control &
```

```
pi@raspberrypi:~ $ cd ~/temp_control/
pi@raspberrypi:~/temp_control $ ls
a     fan.c     fan_temp.c  oled.c       rgb    rgb_effect    ssd1306_i2c.c  start.desktop  temp_control
fan   fan_temp  oled        oled_fonts.h  rgb.c  rgb_effect.c  ssd1306_i2c.h  start.sh       temp_control.c
pi@raspberrypi:~/temp_control $ ./temp_control &
[1] 1015
pi@raspberrypi:~/temp_control $ init ok!
```