Lesson 11 LED Flashing

1. Project Overview

The LED light on ESP32 controller will light up when receiving a high level, and turn off when receiving a low level.

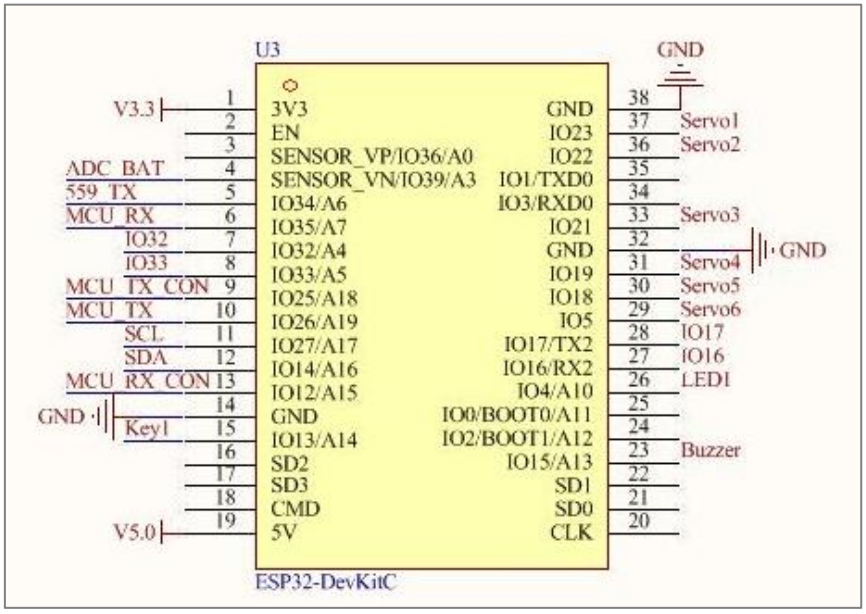
2. Working Principle

The path to the source code of the program is 5. Hardware Basic Learning/ Python Development/Program Files/LED/main.py

```
1  from machine import Pin
2  import time
3  # The LED light on expansion board is connected to IO2, so we need to set the pin
   of IO2 as the output mode
4  led = Pin(2,Pin.OUT)
5  # The on function is called to cahnge IO2 to high level.  At this time, LED is on
6  led.on()
7  time.sleep(3) # The delay of 3s
8  led.off()  # LED Turn off LED
```

By defining the pin information of LED, led.on() function is called to make IO2 output a high level to light up LED. Then led.off() function is called tp make IO2 output a low level to turn off LED, which LED can flash.

According to the following circuit diagram, you can learn about the pin information of buttons on ESP32 expansion board.



3. Preparation

3.1 Hardware

MaxArm robotic arm, power adapter, USB cable.

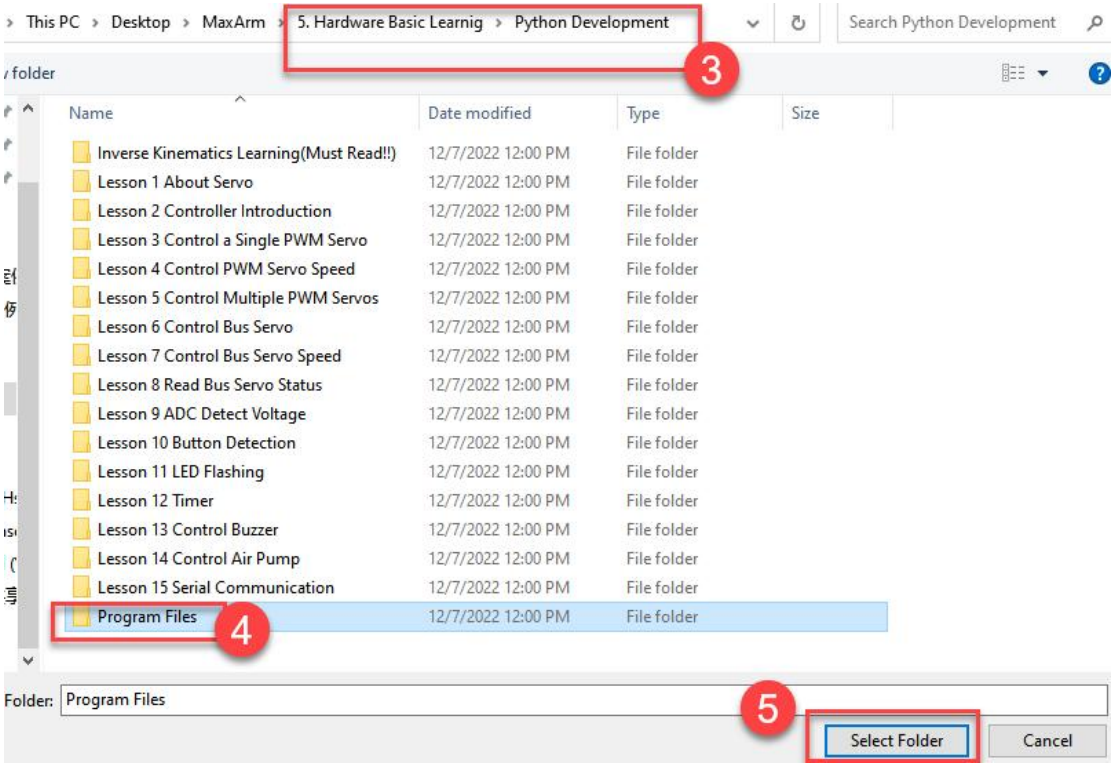
3.2 Software

Please refer to the material in folder “4.Underlying Program Learning/Python Development/Lesson 1 Set Development Environment” to connect ESP32 controller to Python Editor.

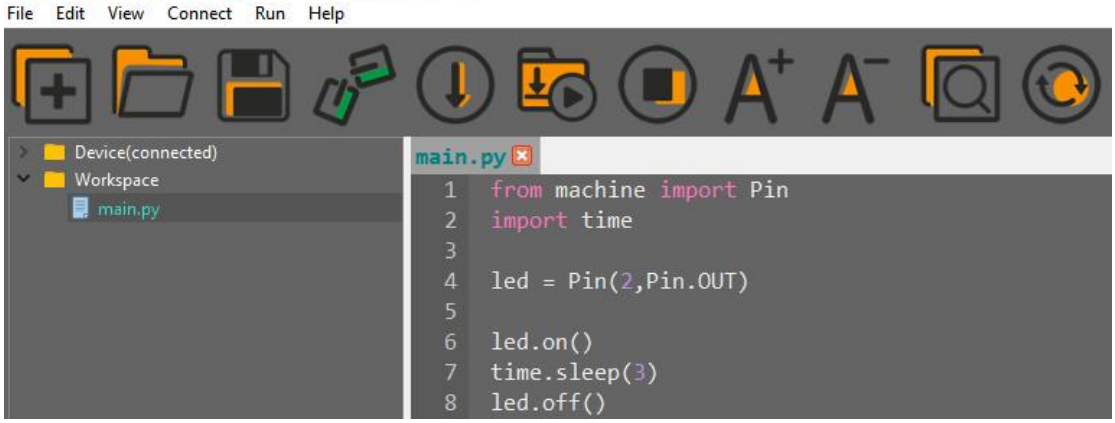
4. Program Download

1) Please connect MaxArm to Python editor according to the tutorial in folder “4. Underlying Program Learning/Python Development/Lesson 1 Set Development Environment”.

2) After connecting, change the path of Workspace to “5.Hardware Basic Learning/Python Development” and select “Program Files”.



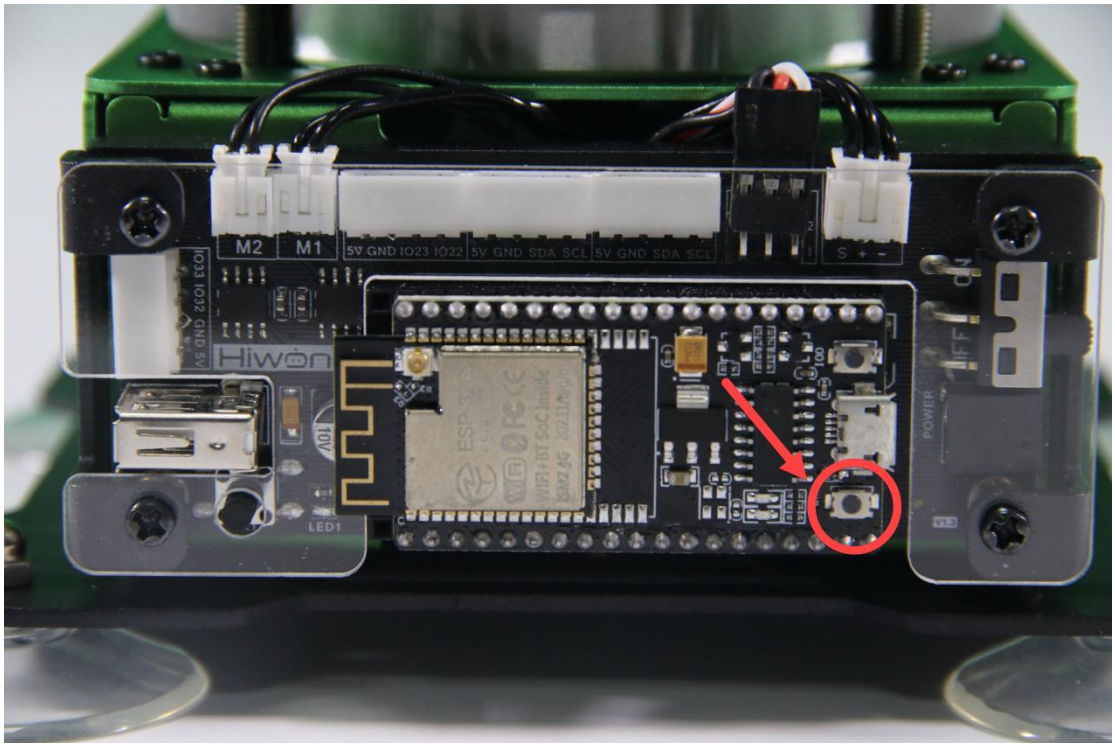
3) Double click the folder “LED”, and then double click “main.py” to open program.



4) Click on the download icon to download program to ESP32 controller.

5) When the terminal prints the prompt, as shown in the image below, it means download completed.

6) After downloading, click on the reset icon or press the reset button on ESP32 controller to run program.



5. Project Outcome

The LED on ESP32 main chip flashes.