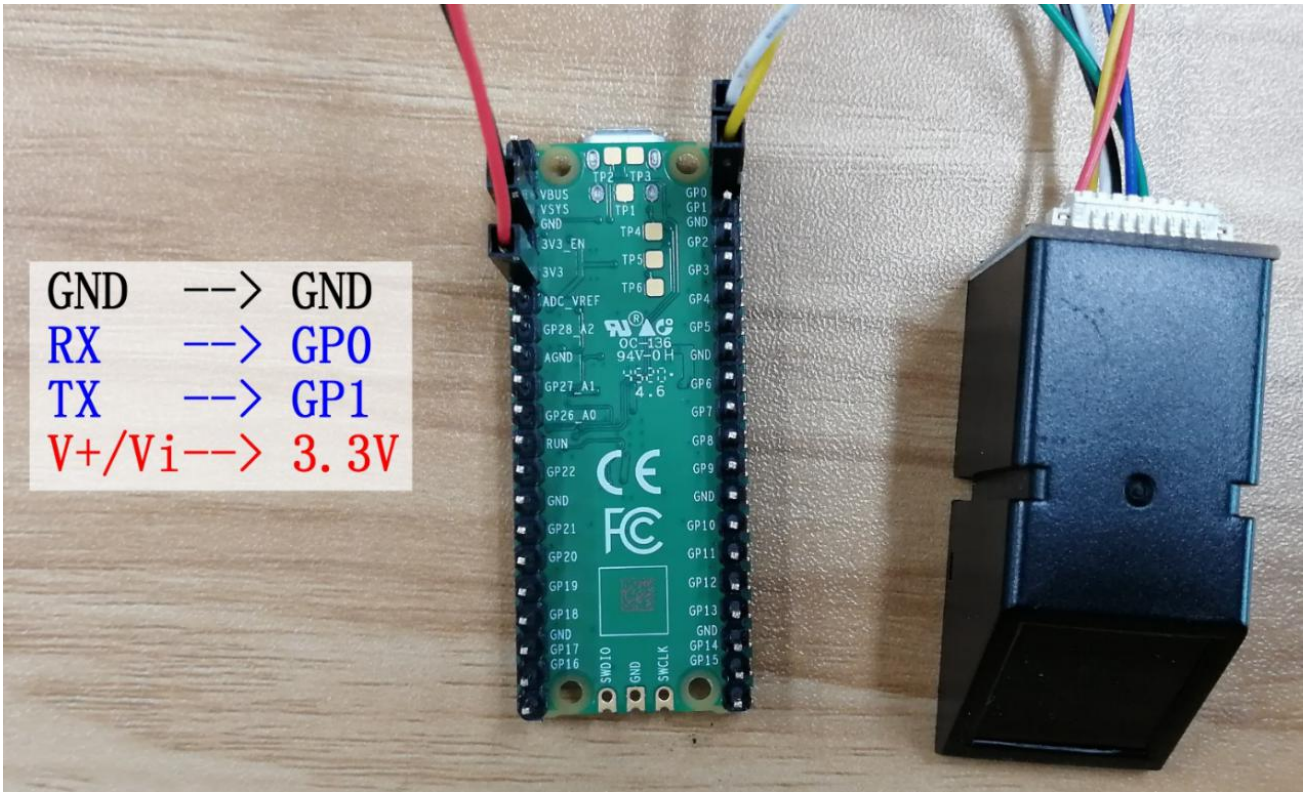
Fingerprint recognition

1. Learning target

In this course, we will learn how to use Pico and fingerprint recognition module to achieve fingerprint recognition function.

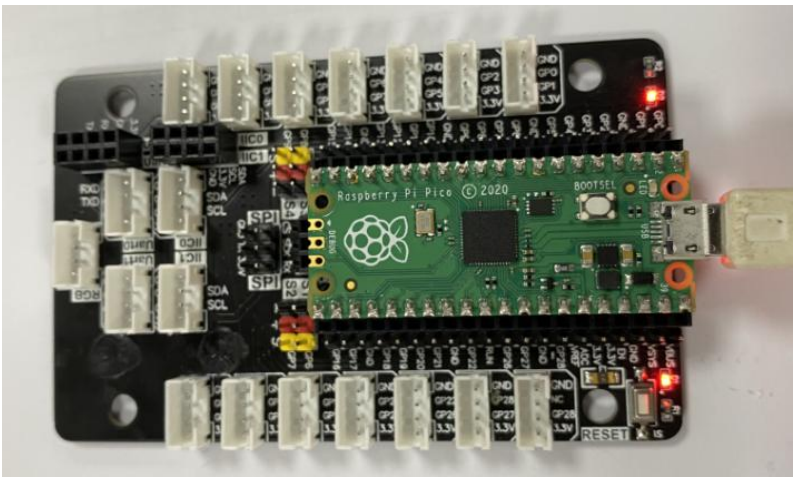
2. Preparation

The fingerprint recognition module uses UART communication, and the program uses a virtual serial port. Connect the TX and RX of the module to the D2 and D3 pins of the Pico board. V+/Vi and GND are connected to 3.3V and GND of Pico respectively.

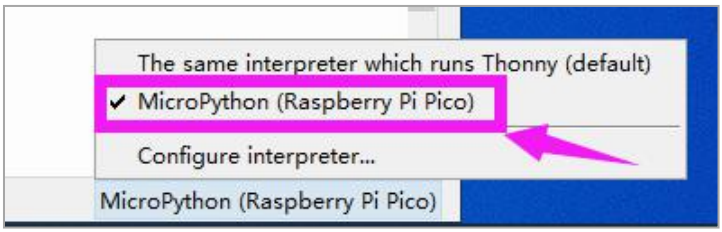


3. Import library file

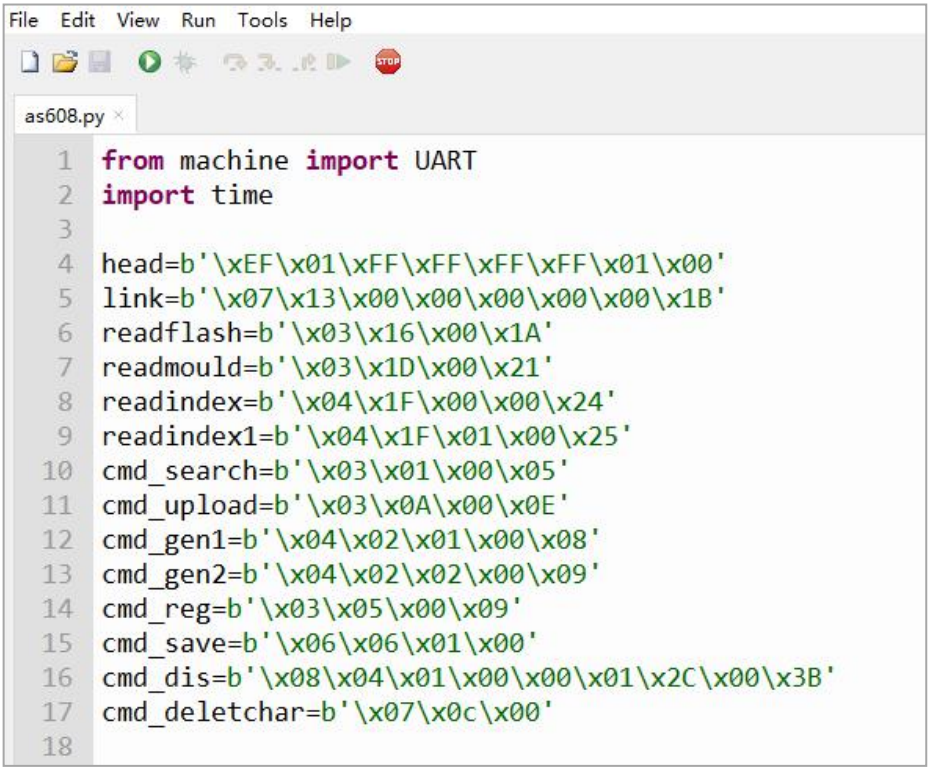
3.1 Connect Pico to your computer, as shown below.



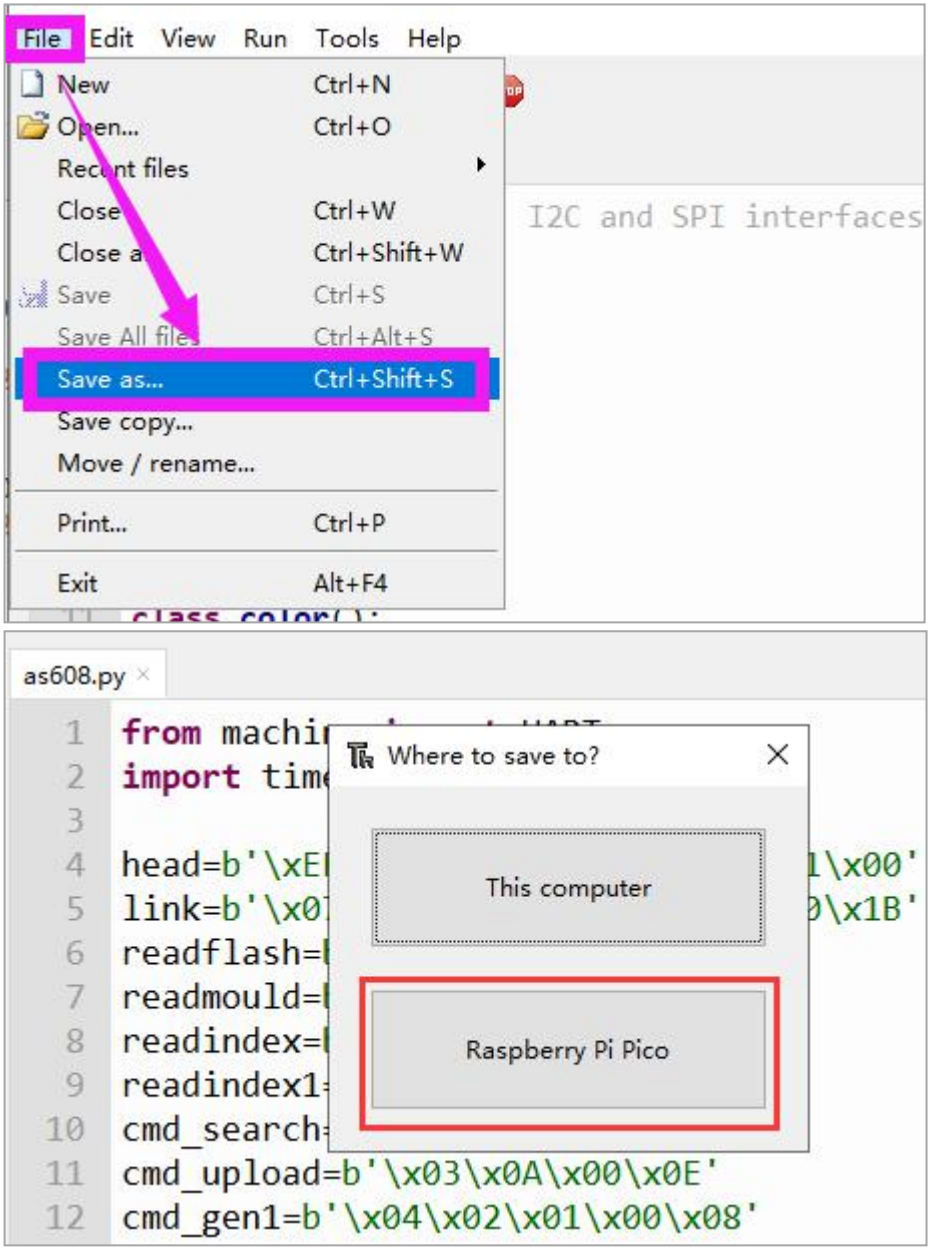
3.2 Open the Thonny software, click the lower right corner to connect the Pico board.



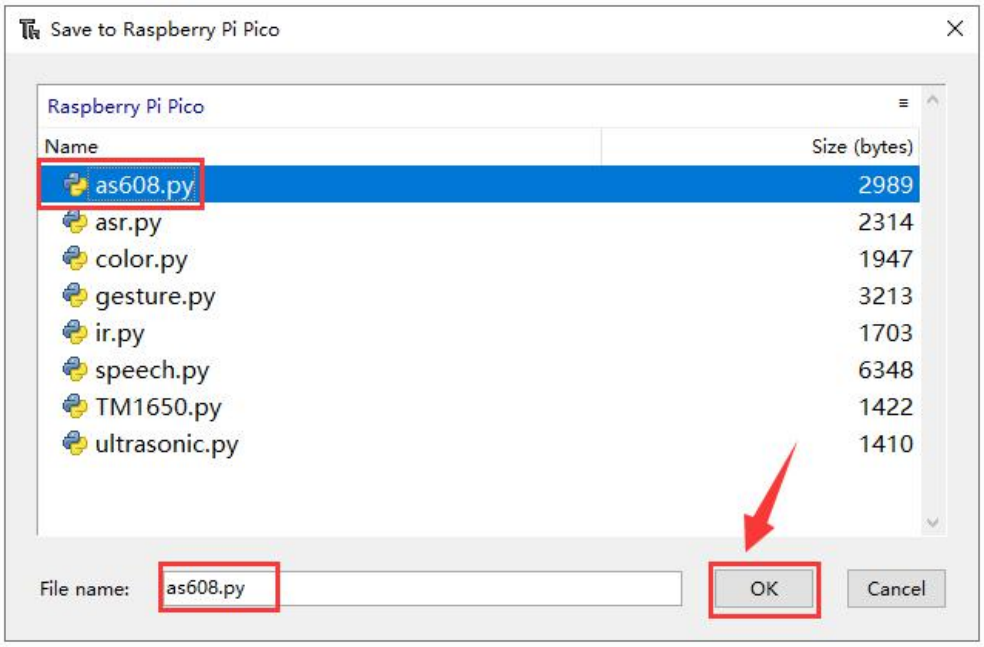
3.3 Open the as608.py in library folder by Thonny software.



3.4 Save as this .py library file into Pico.



3.5 Enter the same file name as the library file. Then, click “OK”.

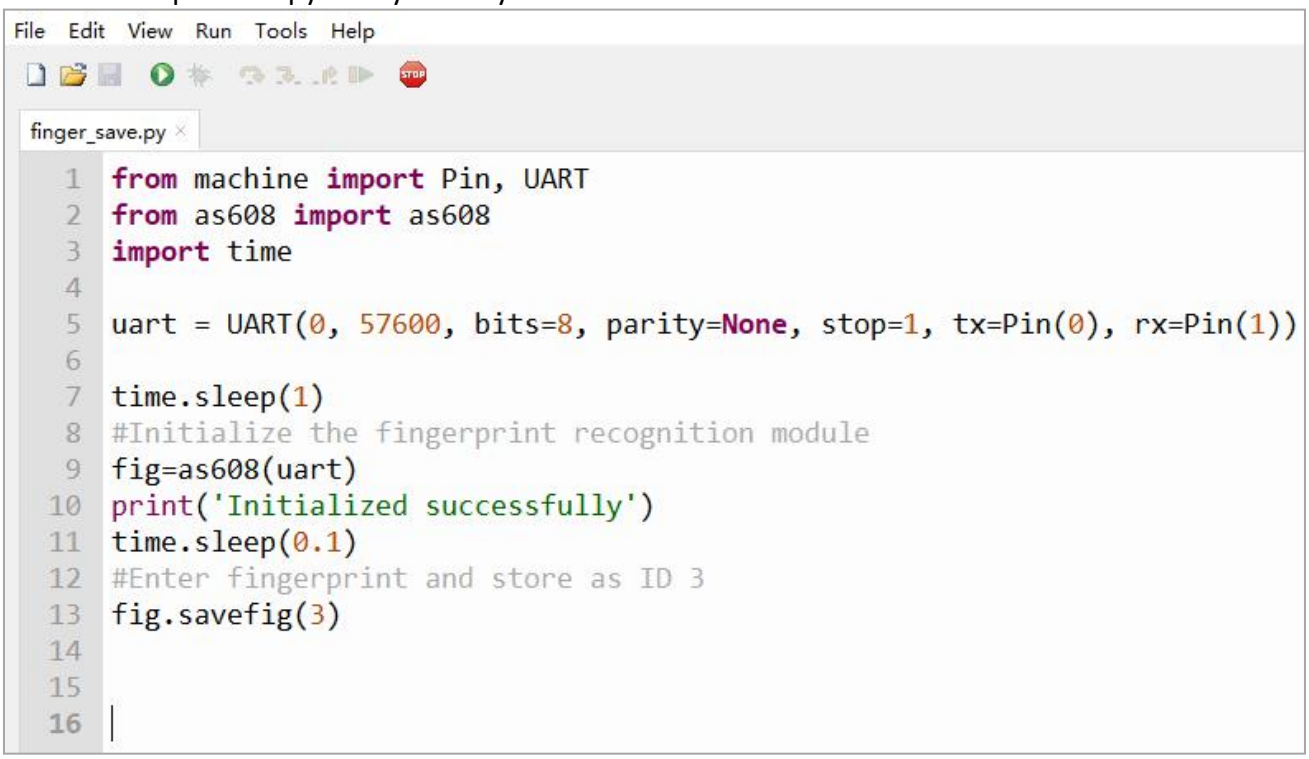


4. About code

Please view **finger_search.py** we provided.

5. Compiling and running code

5.1 We can open the .py file by Thonny software.



5.2 In Thonny menu bar, we need to click run button to run this program.

"%Run -c $EDITOR_CONTENT" will be displayed. As shown below.

```
MicroPython v1.13-290-g556ae7914 on 2021-01-21; Raspberry Pi Pico with RP2040
Type "help()" for more information.
>>> %Run -c $EDITOR_CONTENT
>>>
```

6. Phenomenon

After the program is run successfully. System will start to initialize the fingerprint recognition module.

If the initialize is successfully, it will display "Initialized successfully". Otherwise, please check the baud rate or wiring of the module.

When the Shell window shows "press finger", we need to put our finger on the module. If there is a corresponding fingerprint, the corresponding ID will be displayed. If the corresponding fingerprint is not found, it will display "No matching fingerprint found".