Human body detection

1. Learning objectives

In this course, we mainly learn how to realize human detection through python programming.

2. Sensor wiring

The human infrared sensing module is connected to the P1P2 interface.
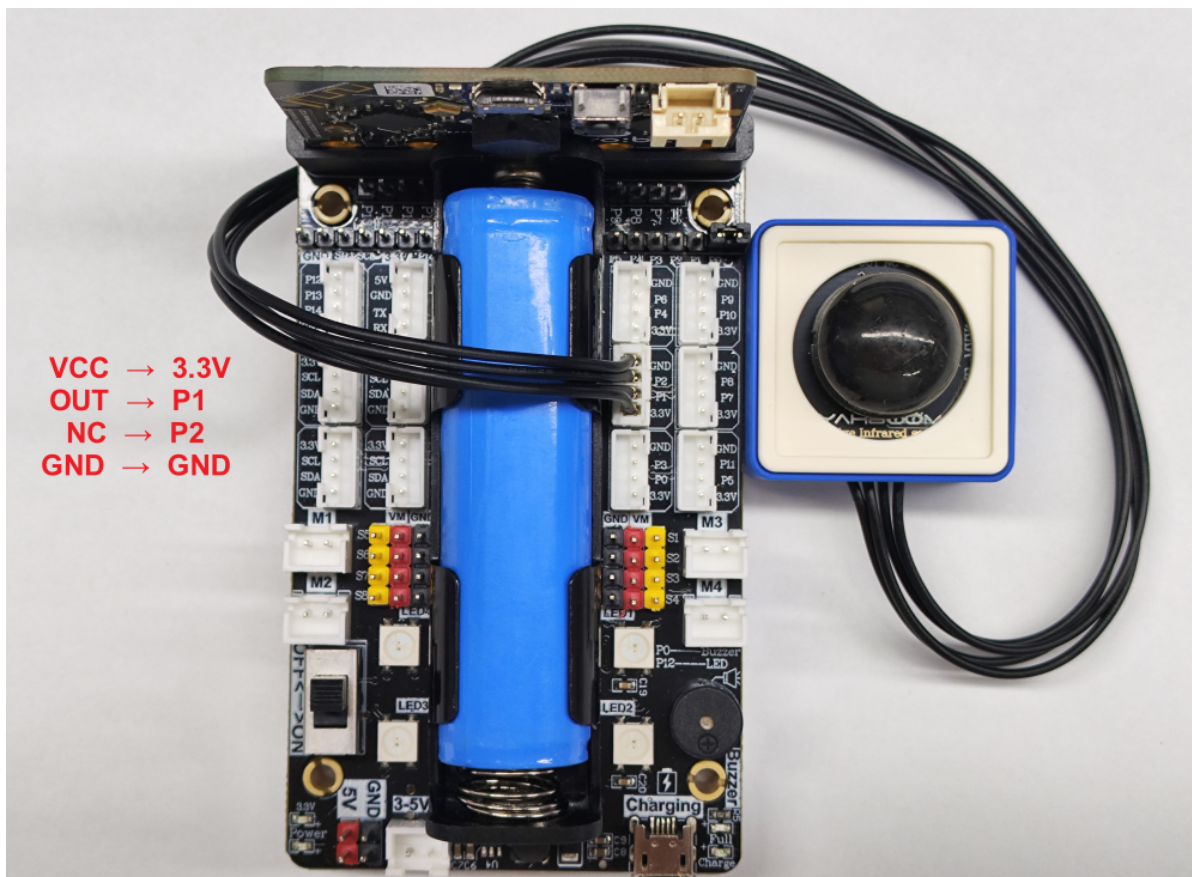
3. Code analysis

For the program of this course, please see the **Human-body-detection.py** file.

```
from microbit import *
import WOM_Sensor_Kit
```

First, import the library needed for this lesson from microbit: WOM_Sensor_Kit library is used for sensors.

```
while True:
if WOM_Sensor_Kit.WOM_pir(pin1) == 1:
display.show(1)
else:
display.show(0)
```
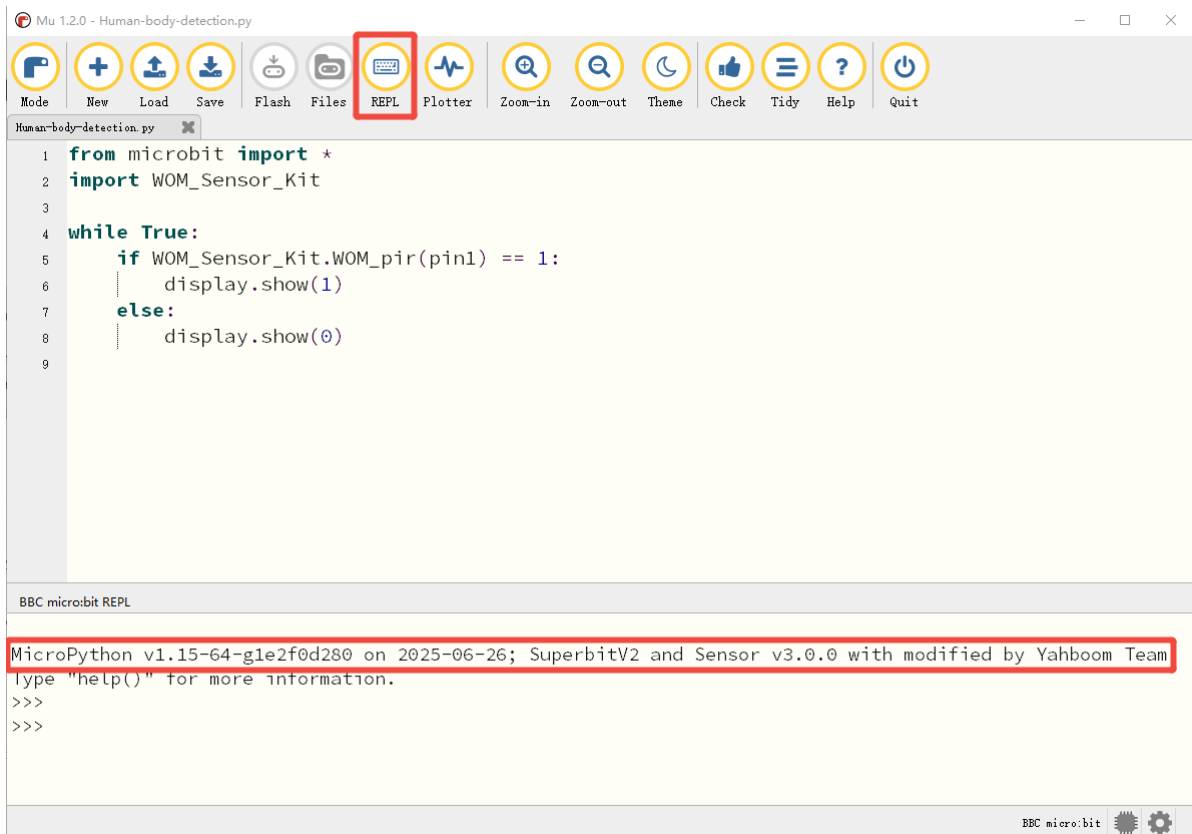
In an infinite loop, check whether the infrared sensor (pin1) detects an object and controls the feedback. If detected (the value is 0), display the smiley face `YES` pattern, play the jumping sound effect, and the motors M1 and M3 reverse (-255) for 2 seconds; otherwise display the `NO` pattern, and the motors M1 and M3 stop
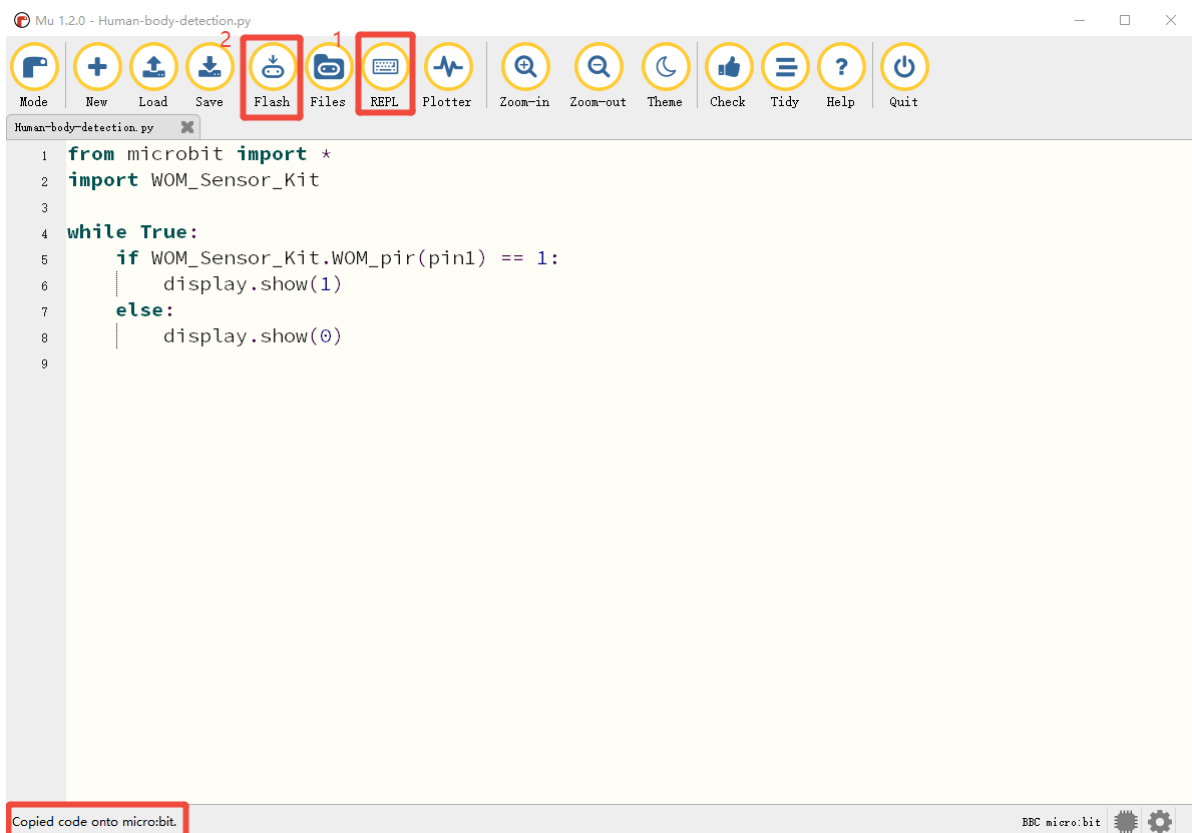
4. Write and download the program

1. Open the Mu software and enter the code in the editing window. **Note! All English and symbols should be entered in English mode, use the Tab key (tab key) for indentation, and the last line ends with a blank program.**
2. Click the thumb 'Check' button to check if there are any errors in our code. If a cursor or underline appears in a line, it means a syntax error. Please check and modify it. If there is no error, the lower left corner will prompt that there is no problem with the detection.
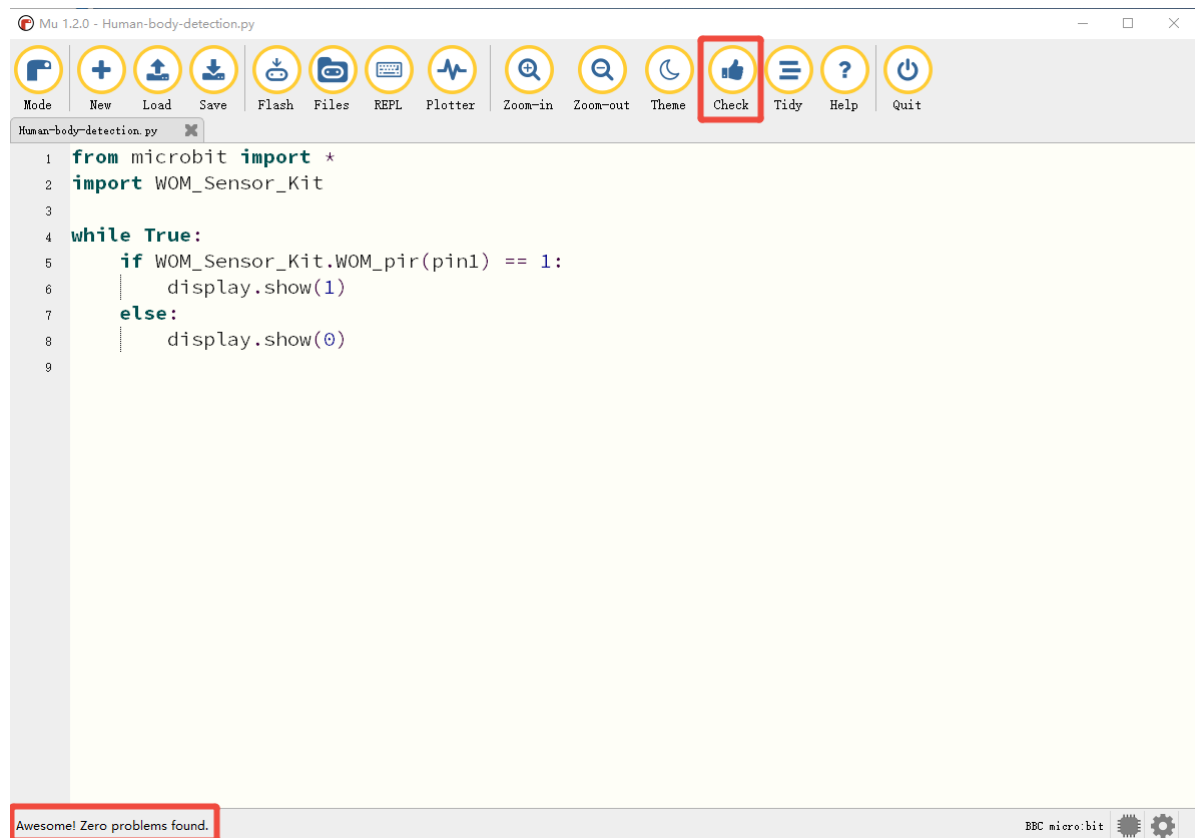
3. Click the 'REPL' button to check whether the Superbit library has been downloaded. If not, please refer to [Preparation before class] --> [2.4 Python Programming Guide].

```
1  from microbit import *
2  import WOM_Sensor_Kit
3
4  while True:
5      if WOM_Sensor_Kit.WOM_pir(pin1) == 1:
6          display.show(1)
7      else:
8          display.show(0)
9
```

BBC micro:bit REPL

```
MicroPython v1.15-64-g1e2f0d280 on 2025-06-26; SuperbitV2 and Sensor v3.0.0 with modified by Yahboom Team
Type "help()" for more information.
>>>
>>>
```

4. After the program is written, connect the computer and microbit mainboard with a microUSB data cable, please click the 'Flash' button to download the program to the micro:bit mainboard. **(You need to click the 'REPL' button again to turn off the import library file function before you can download the program normally).**


```
1  from microbit import *
2  import WOM_Sensor_Kit
3
4  while True:
5      if WOM_Sensor_Kit.WOM_pir(pin1) == 1:
6          display.show(1)
7      else:
8          display.show(0)
9
```

Copied code onto micro:bit.

5. If the download fails, please confirm whether the microbit is properly connected to the computer via the microUSB data cable and the Superbit Python library has been imported.

5. Experimental phenomenon

After the mainboard is powered on and the program is initialized (wait for the microbit mainboard to display 0), after the program runs successfully, when someone is detected, the dot matrix displays 1, otherwise it displays 0.