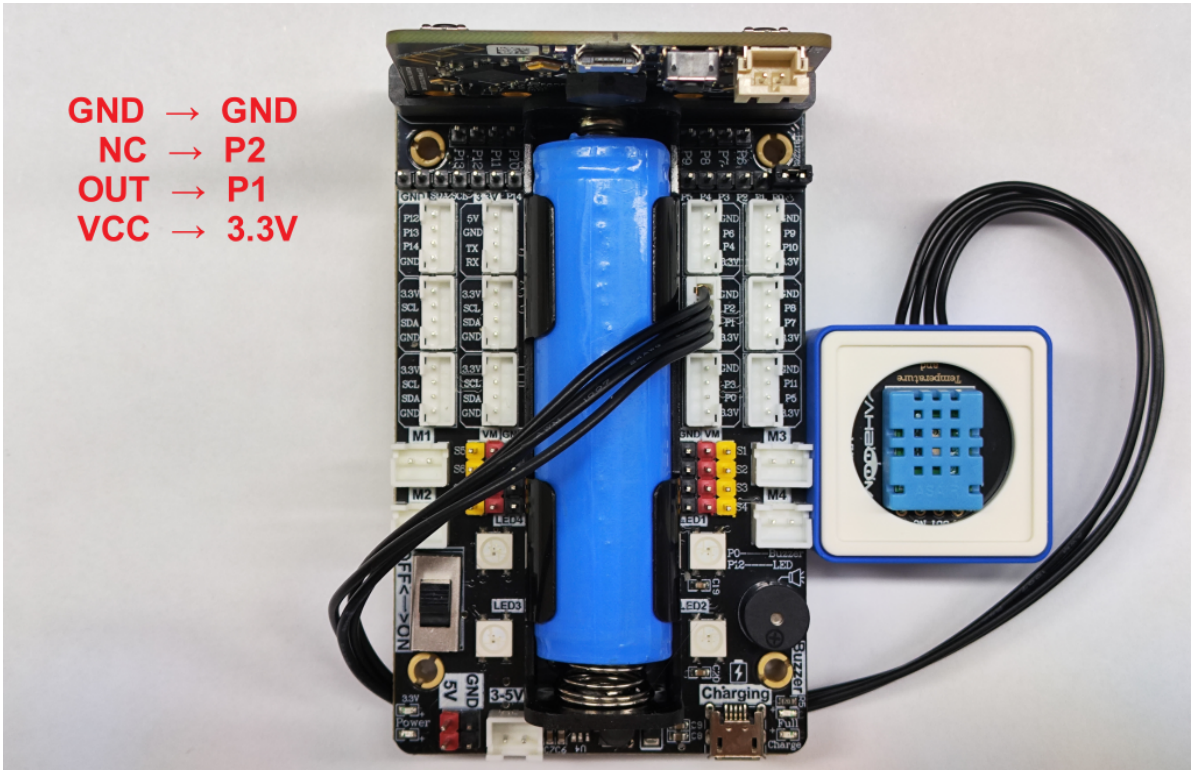
Read temperature humidity

1. Learning objectives

In this course, we mainly learn how to display temperature and humidity through Python programming.

2. Sensor wiring

The temperature and humidity sensor is connected to the P1P2 interface.



3. Code analysis

For the program of this course, please see the **Read-temperature-humidity.py** file.

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

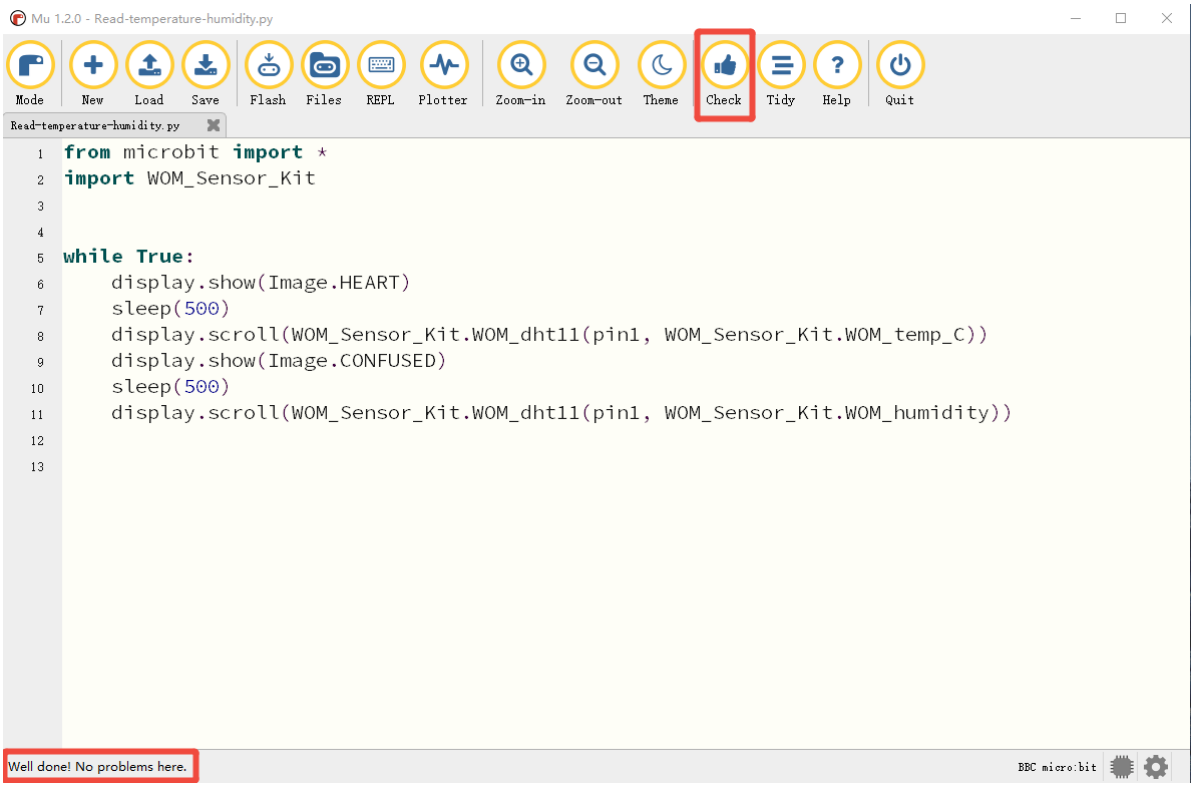
First, import the library needed for this lesson from microbit: WOM_Sensor_Kit library is used for sensors.

```
while True:
display.show(Image.HEART)
sleep(500)
display.scroll(WOM_Sensor_Kit.WOM_dht11(pin1, WOM_Sensor_Kit.WOM_temp_C))
display.show(Image.CONFUSED)
sleep(500)
display.scroll(WOM_Sensor_Kit.WOM_dht11(pin1, WOM_Sensor_Kit.WOM_humidity))
```

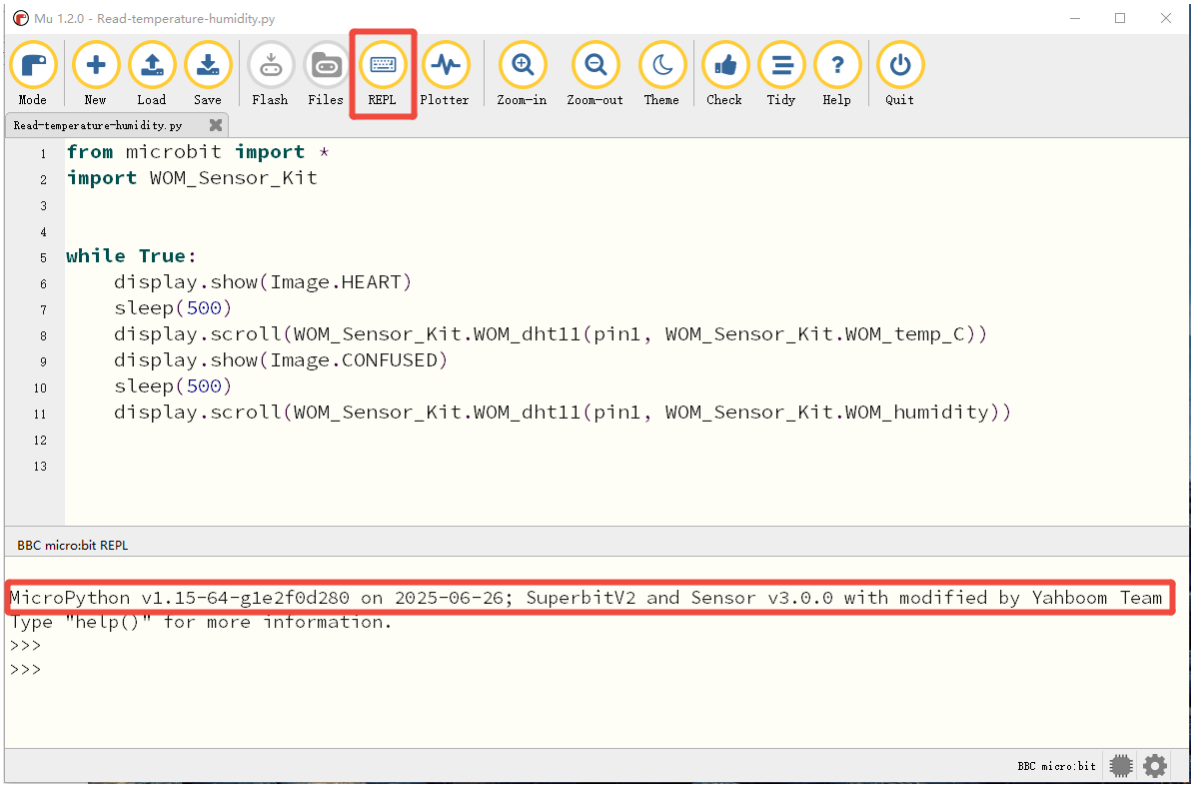
Show the heart pattern in an infinite loop and wait for 0.5 seconds, scroll the Celsius temperature value obtained by the temperature and humidity sensor (pin1); display the puzzled face pattern and wait for 0.5 seconds; scroll the humidity value obtained by the temperature and humidity sensor (pin1).

4. Write and download the program

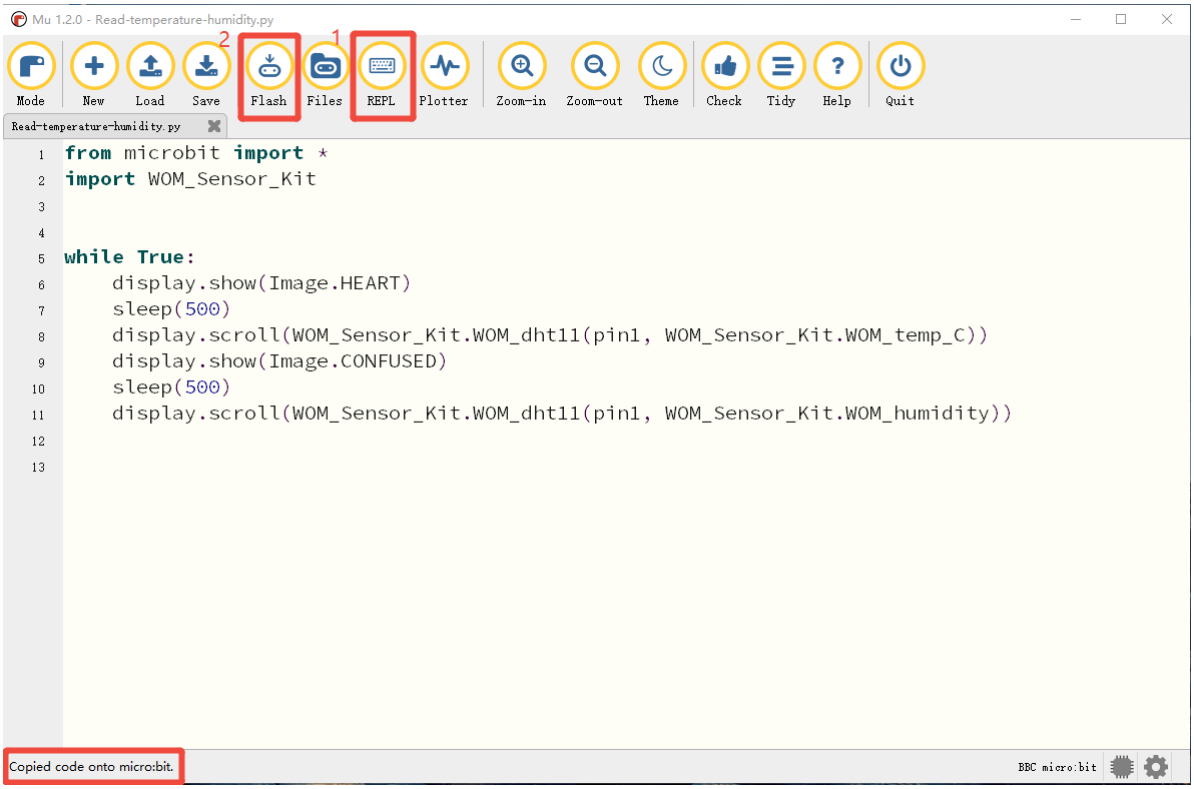
1. Open the Mu software and enter the code in the editing window. **Note! All English and symbols should be entered in English mode, use the Tab key for indentation, and the last line ends with a blank program.**
2. Click the thumb 'Check' button to check whether there are any errors in our code. If 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].



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)**.



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

5. Experimental phenomenon

After the program runs successfully, the dot matrix displays a heart, then the current temperature, then a confused expression, and then the humidity.