Walking

1.Learning goals

In this course, we mainly learn how to use the MakeCode graphical programming to realize the Biped robot advance all the time.

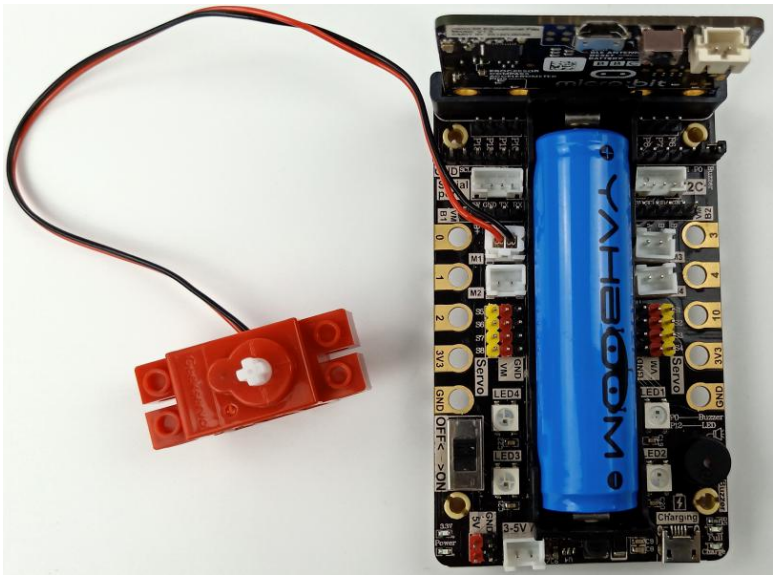
2.Building block assembly steps

For the building block construction steps, please refer to the installation manual or building block installation picture of [Assembly course]-[Biped robot].

3.Wiring of motor

The motor wiring is inserted into the M1 interface of the Super:bit expansion board, and the black wire is close to the battery side;

As shown below.



4.Code and analysis

The program for this course, please view .py file.

```
from microbit import *
import superbit
import microbit
```

First, we need to import the library needed for this lesson from micro:bit, superbit library is dedicated to super:bit expansion board.

```
display.show(Image.HAPPY)
```

display.show(Image.HAPPY): Display smile pattern on micro:bit matrix.

```
while True:
    superbit.motor_control(superbit.M1, -255, 0)
```

while True:

superbit.motor_control(superbit.M1, -255, 0)：The motor connected to the M1

interface rotates forward with speed 255;

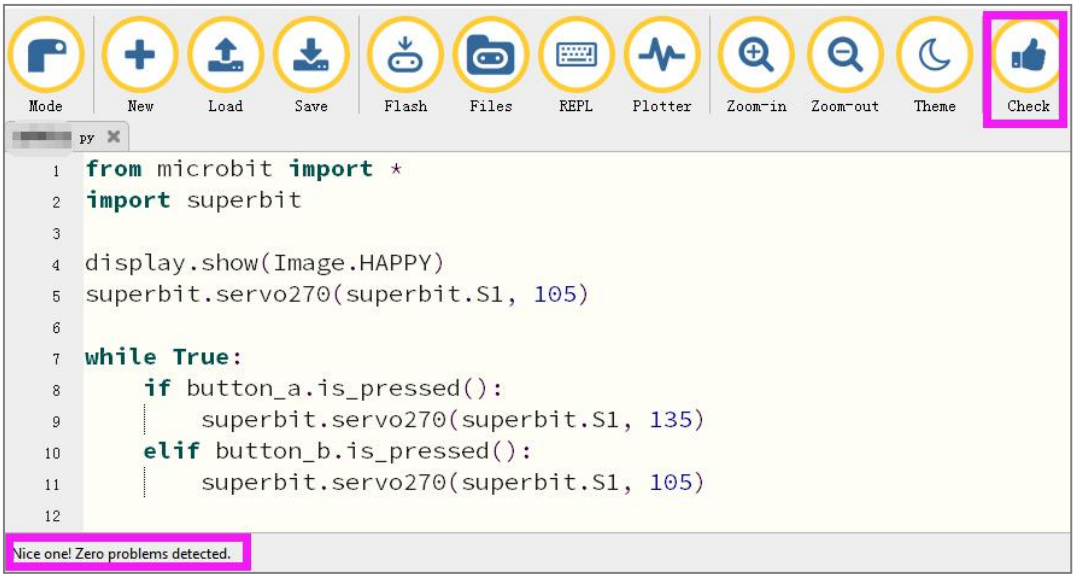
5.Writing and download code

1.You should open the Mu software, and enter the code in the edit window, , as shown below.

Note! All English and symbols should be entered in English, use the Tab key (tab key) to indent and the last line must be a space.

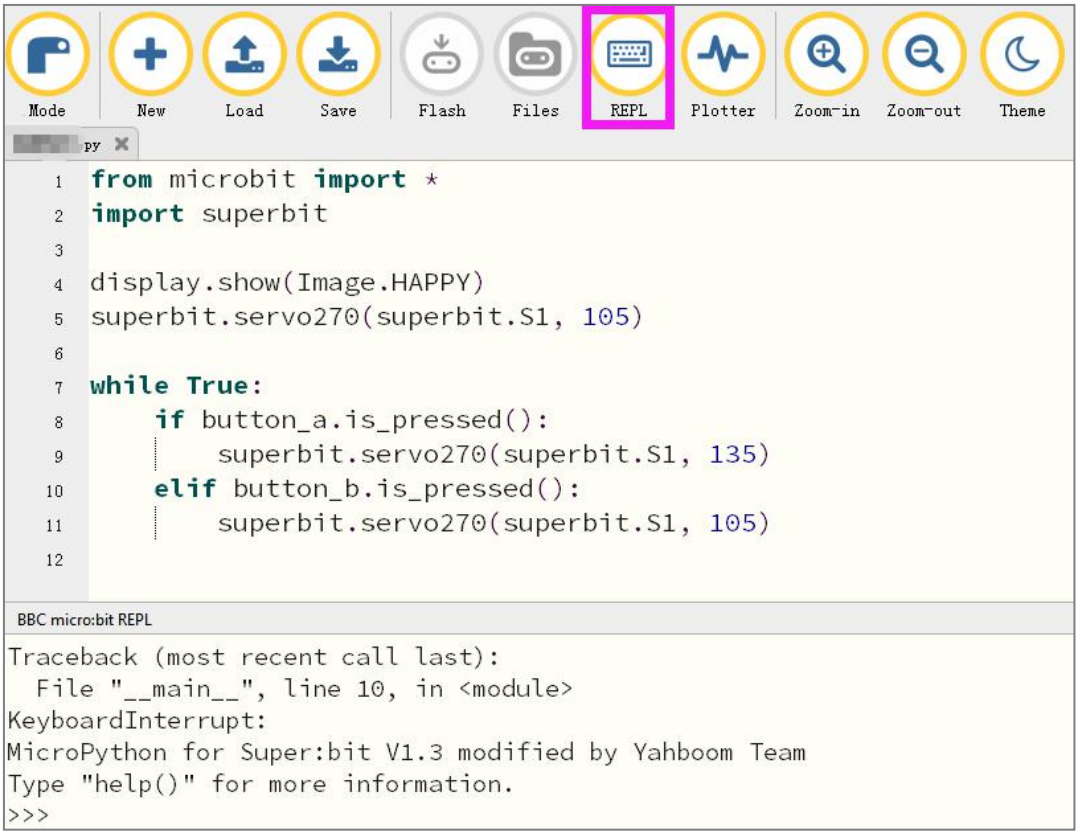
2.You can click the “Check” button to check if our code has an error.

If a cursor or underline appears on a line, it indicates a syntax error, please check and modify. If there is no error in the program, the bottom left of the interface will prompt that there is no problem in detection.

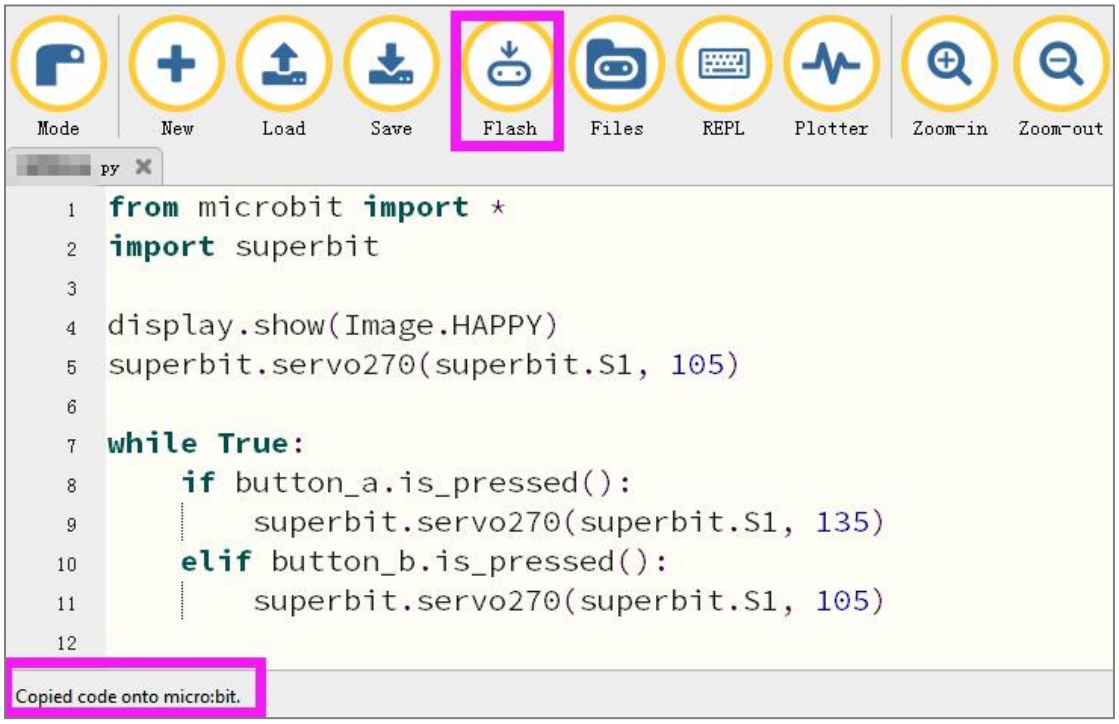


3. Click the ‘REPL’ button to check whether the Superbit library has been downloaded.

If not, please refer to [Preparation before class] --> [2.4 Python Programming Guide] .



4. After the program is written, use a micro USB cable to connect the computer and the micro:bit board. Please click the 'Flash' button to download the program to the micro:bit motherboard (You need to click the 'REPL' button again to close the function of importing library files before you download the program).

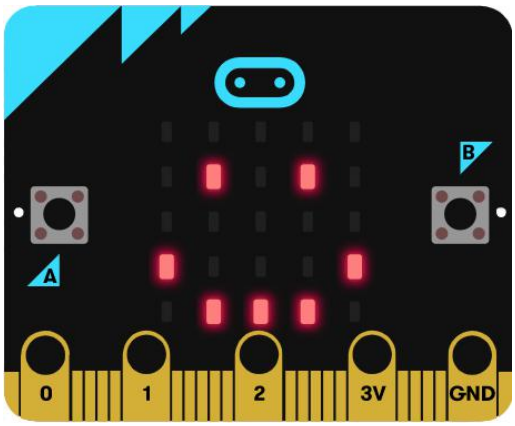


5.If the download failed, please confirm whether the micro:bit is connected to the computer through the micro USB data cable, and confirm whether the Super:bit

Python library has been imported.

6.Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix will display the smile pattern, as shown below. Open the power switch, the Biped robot will keep advance.



If you need to restart, press the reset button on the back of the micro:bit board.