

Control motor

Learning goals

In this lesson, we mainly learn how to control motor by micro:bit and Super:bit expansion board.

The following is the code for controlling the motor of M1 separately.

Code:

```
1  from microbit import *
2  import microbit
3  import superbit
4
5  display.show(Image.HEART)
6
7  while True:
8      superbit.motor_control(superbit.M1, 255, 0)
9      microbit.sleep(1000)
10
11     superbit.motor_control(superbit.M1, 0, 0)
12     microbit.sleep(1000)
13
14     superbit.motor_control(superbit.M1, -255, 0)
15     microbit.sleep(1000)
16
17
```

Import micro:bit library, and super:bit library.

`import microbit, import superbit` Import micro:bit library, import super:bit library

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

`superbit.motor_control(superbit.M1, 255, 0)`: M1 is port connect motor, others motor port is M2,M3,M4, 255 is motor speed.

`microbit.sleep(1000)`: delay 1000ms

The following is the code for controlling the four motor at the same time.

```
1 from microbit import *
2 import microbit
3 import superbit
4
5 display.show(Image.HEART)
6
7
8 while True:
9     superbit.motor_control(superbit.M1, 255, 0)
10    superbit.motor_control(superbit.M2, 255, 0)
11    superbit.motor_control(superbit.M3, 255, 0)
12    superbit.motor_control(superbit.M4, 255, 0)
13    microbit.sleep(1000)
14
15    superbit.motor_control(superbit.M1, 0, 0)
16    superbit.motor_control(superbit.M2, 0, 0)
17    superbit.motor_control(superbit.M3, 0, 0)
18    superbit.motor_control(superbit.M4, 0, 0)
19    microbit.sleep(1000)
20
21    superbit.motor_control(superbit.M1, -255, 0)
22    superbit.motor_control(superbit.M2, -255, 0)
23    superbit.motor_control(superbit.M3, -255, 0)
24    superbit.motor_control(superbit.M4, -255, 0)
25    microbit.sleep(1000)
26
```

Programming and downloading:

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, and the last line must be a space.

The screenshot shows the Yahboom Microbit Editor interface. At the top, there's a toolbar with various icons: Mode, New, Load, Save, Flash, Files, REPL, Plotter, Zoom-in, Zoom-out, Theme, and Check. Below the toolbar is a code editor window titled "microbit-superbit_270servo_one.py". The code is as follows:

```

1 from microbit import *
2 import microbit
3 import superbit
4
5 display.show(Image.HEART)
6 superbit.servo270(superbit.S1, 0)
7 microbit.sleep(1000)
8
9 while True:
10     superbit.servo270(superbit.S1, 0)
11     microbit.sleep(1000)
12     superbit.servo270(superbit.S1, 90)
13     microbit.sleep(1000)
14     superbit.servo270(superbit.S1, 180)
15     microbit.sleep(1000)
16     superbit.servo270(superbit.S1, 270)
17     microbit.sleep(1000)
18     superbit.servo270(superbit.S1, 180)
19     microbit.sleep(1000)
20     superbit.servo270(superbit.S1, 90)
21     microbit.sleep(1000)

```

2. You can click the “Check” button to check if our code has an error. If a line appears with a cursor or an underscore, the program indicating this line is wrong.

The screenshot shows the Yahboom Microbit Editor interface. The "Check" button in the toolbar is highlighted with a red box. Below the toolbar is a code editor window titled "microbit-superbit_270servo_one.py". The code is identical to the one in the previous screenshot. At the bottom of the code editor, there is a message box with the text "Hurrah! Checker turned up no problems.".

3. Click the 'REPL' button to check whether the super:bit library has been downloaded. If not, please refer to the [preparation before class] ---> [2.How to import Yahboom superbit library] import super:bit library tutorial.

```

1 from microbit import *
2 import microbit
3 import superbit
4
5 display.show(Image.HEART)
6 superbit.servo270(superbit.S1, 0)
7 microbit.sleep(1000)

```

BBC micro:bit REPL

MicroPython for Super:bit V1.1 modified by Yahboom Team
Type "help()" for more information.

>>>

4. After writing the code, please click the 'Flash' button to download the program to the micro:bit board.

```

1 from microbit import *
2 import microbit
3 import superbit
4
5 display.show(Image.HEART)
6 superbit.servo270(superbit.S1, 0)
7 microbit.sleep(1000)
8
9 while True:
10     superbit.servo270(superbit.S1, 0)
11     microbit.sleep(1000)
12     superbit.servo270(superbit.S1, 90)
13     microbit.sleep(1000)

```

If the program is wrong or the experimental phenomenon is wrong after downloading, please confirm whether you have downloaded the superbit library hex file we provided to the micro:bit board.

For the specific method of adding library files, please refer to 【1.Preparation before class】---【How to import Yahboom superbit library】

6. After downloading the program, the heart pattern is displayed on the micro:bit dot matrix. The motor stops for 1s after rotating with full speed for 1s, and then reverses for 1s with full speed And keep looping like this status.