

## Dancing

### Learning goals

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

### Code

Please refer to **Dancing.py** file.

Import the microbit library and the superbit library;

`display.show(Image.HAPPY)`: Show “smile” pattern;

`superbit.motor_control(superbit.M1, 255, 0)`: M1 is the interface on the super:bit board, speed is 255;

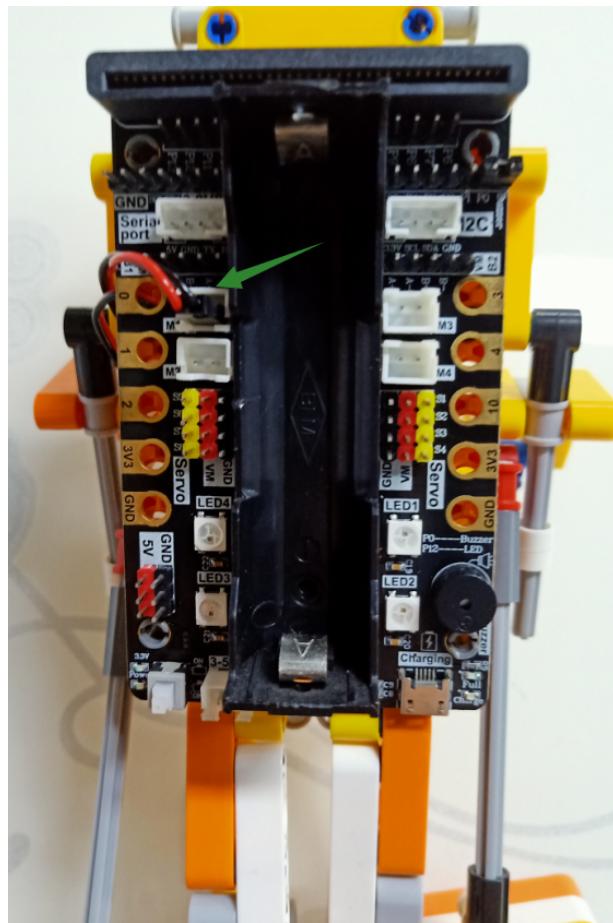
`music.play('C4:4')`: Refers to the note named ‘C’ in octave number 4 to be played for a duration of 4.

### About wiring:

As shown below,

**Building block motor connect to M1 interface of super:bit.**

The black wiring of the motor is near the battery side.



## 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 Mu IDE interface. At the top, there is a toolbar with icons for Mode, New, Load, Save, Flash, Files, REPL, Plotter, and Zoom-in. Below the toolbar, the file name "Ferris wheel rotate.py" is displayed. The code editor contains the following Python code:

```
1 from microbit import *
2 import superbit
3
4 display.show(Image.HAPPY)
5
6 while True:
7     superbit.motor_control(superbit.M1, 255, 0)
8
```

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.

```

from microbit import *
import superbit

display.show(Image.HAPPY)

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

```

Good job! No problems found.

3. Click the 'REPL' button to check whether the super:bit library has been downloaded. If not, please refer to the [1.preparation before class] ---> [2.How to import Yahboom superbit library] import super:bit library tutorial.

```

from microbit import *
import superbit

display.show(Image.HAPPY)

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

```

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.

The screenshot shows the Yahboom micro:bit editor interface. At the top, there is a toolbar with several icons: Mode, New, Load, Save, Flash (which is highlighted with a red border), Files, REPL, Plotter, Zoom-in, and Zoom-out. Below the toolbar, a file tab labeled "Ferris wheel rotate.py" is open. The code editor displays the following Python script:

```
1 from microbit import *
2 import superbit
3
4 display.show(Image.HAPPY)
5
6 while True:
7     superbit.motor_control(superbit.M1, 255, 0)
```

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 [【Preparation before class】---【How to import Yahboom superbit library】](#)

## Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix will display the “smile” pattern and the robot will play birthday. Robot will advance ---> back --> advance ---> back. And keep the loop in this state.