Control Stepper motor

Learning goals

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

Code:

```
from microbit import *
import microbit
import superbit

display.show(Image.HEART)


while True:
    superbit.stepper_control(superbit.B1, 90)
    microbit.sleep(1000)
    superbit.stepper_control(superbit.B2, 90)
    microbit.sleep(1000)
    superbit.stepper_control(superbit.B1, 360)
    superbit.stepper_control(superbit.B2, 360)
    microbit.sleep(1000)
    microbit.sleep(1000)

```

Import the 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.

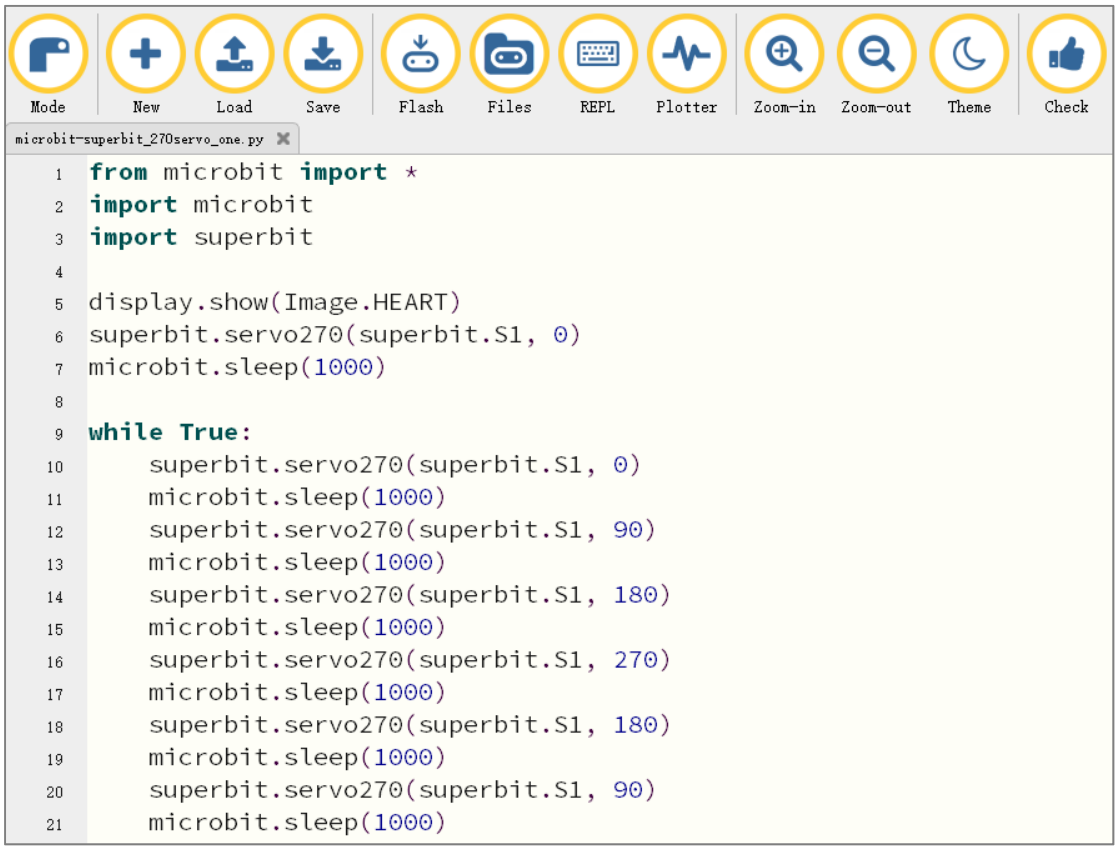
superbit.stepper_control(superbit.B1, 90): Rotate the 270 ° servo on S1 port to 0 °

microbit.sleep(1000): delay 1000ms

Programming and downloading：

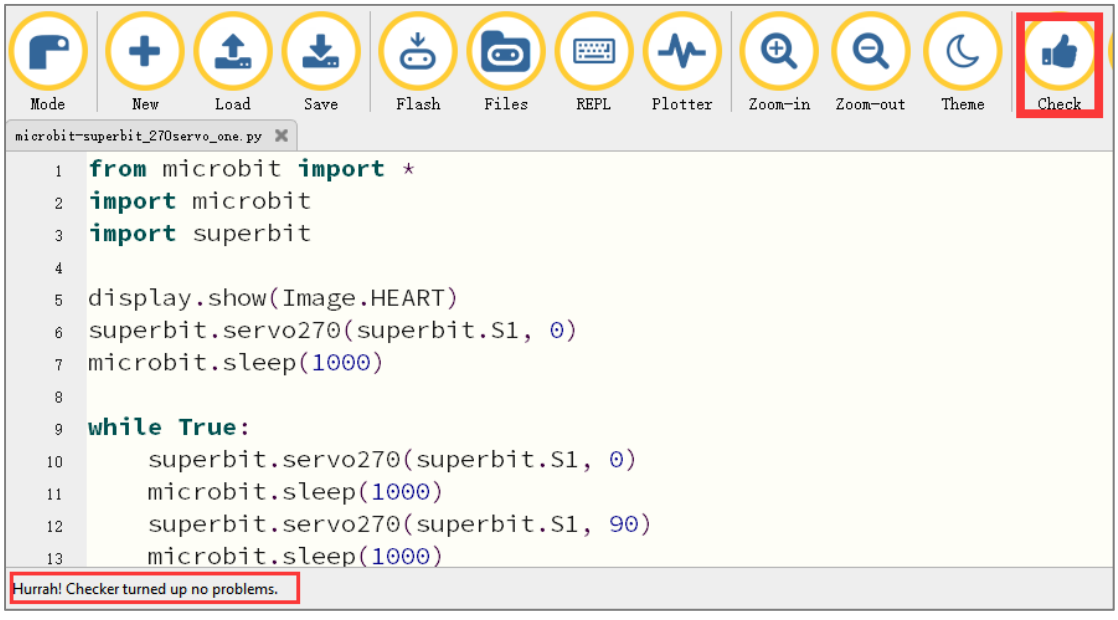
1.You should open the Mu software, and enter the code in the edit window, , as shown below.

Note! All English and symbols should be entered in English, and the last line must be a space.



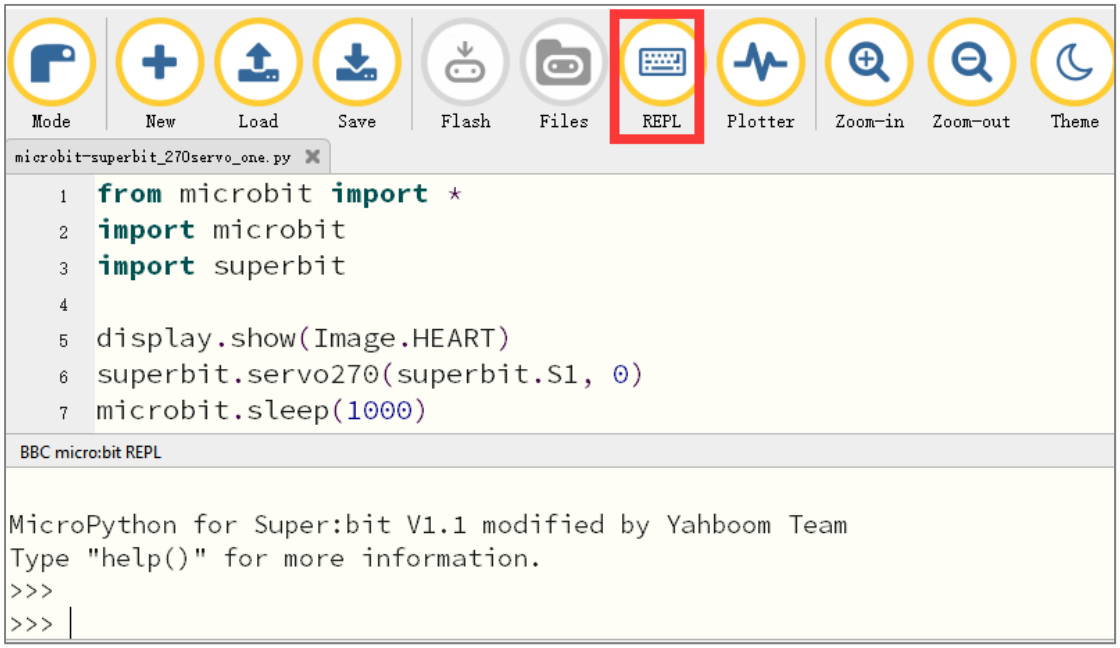

```
from microbit import *
import microbit
import superbit

display.show(Image.HEART)
superbit.servo270(superbit.S1, 0)
microbit.sleep(1000)

while True:
    superbit.servo270(superbit.S1, 0)
    microbit.sleep(1000)
    superbit.servo270(superbit.S1, 90)
    microbit.sleep(1000)
    superbit.servo270(superbit.S1, 180)
    microbit.sleep(1000)
    superbit.servo270(superbit.S1, 270)
    microbit.sleep(1000)
    superbit.servo270(superbit.S1, 180)
    microbit.sleep(1000)
    superbit.servo270(superbit.S1, 90)
    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.

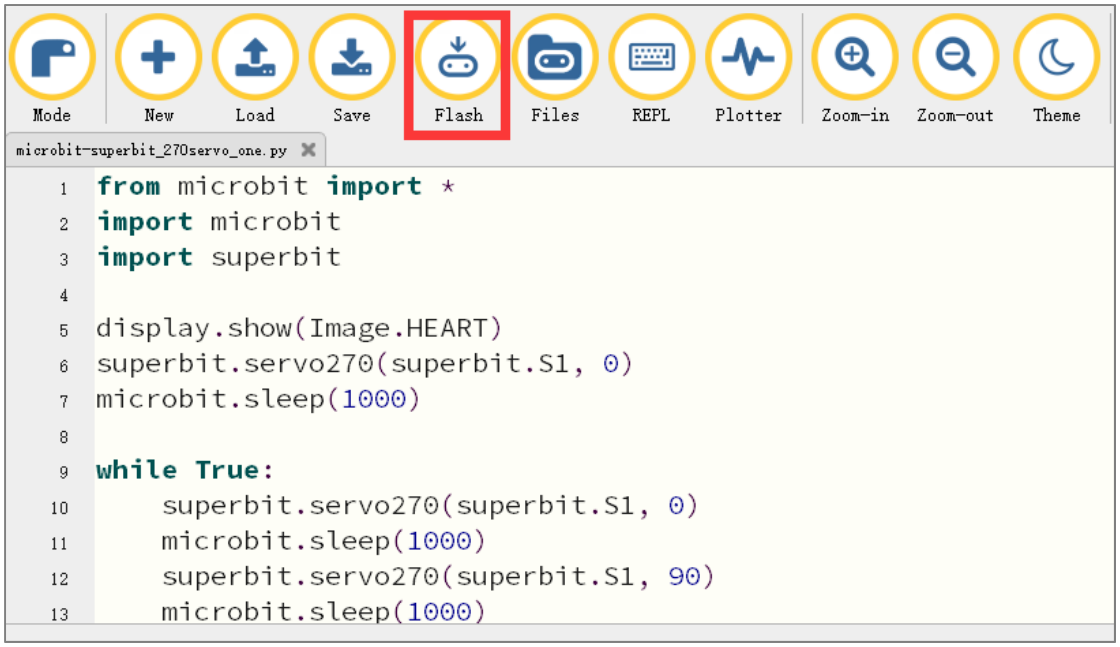



```
from microbit import *
import microbit
import superbit

display.show(Image.HEART)
superbit.servo270(superbit.S1, 0)
microbit.sleep(1000)

while True:
    superbit.servo270(superbit.S1, 0)
    microbit.sleep(1000)
    superbit.servo270(superbit.S1, 90)
    microbit.sleep(1000)
```

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.



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



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 the program is downloaded successfully, the micro:bit dot matrix will display heart and control the rotation of the stepper motor.
First, individually control the B1 stepping motor to rotate 1/4 turn(90 °)

counterclockwise, time interval for 1 second, and individually control the B2 stepping motor to rotate 1/4 turn(90 °) clockwise, time interval for 1 second, Then, controlling B1 rotate 360 ° counterclockwise and B2 rotate 360 ° clockwise, time interval for 1 second. Controlling B1and B2 to stop at an interval of 1 second, and keep looping like this status.

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