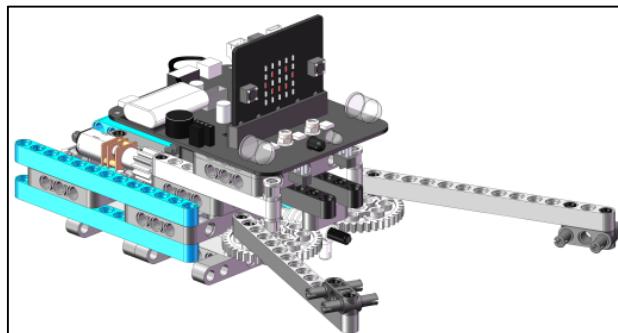


Python course Mechanical Clip---“button control”



1. Learning goals

After downloading the program, turn on the power switch of the Mechanical Clip, press the A button on the micro:bit main board, clamp is closed, press the B button on the micro:bit main board, clamp is opened, and press the A and B button, the motor is stopped.

2. Preparation before class

We needs to be ready:

Building Block Mechanical Clip*1

USB data cable*1

3. Programming

```

1 # Write your code here :-)
2 from microbit import display, Image, button_a, button_b
3 import buildingbit
4 display.show(Image.HAPPY)
5
6 while True:
7     if button_a.was_pressed():
8         buildingbit.car_back(100, 100, 0)
9     elif button_b.was_pressed():
10        buildingbit.car_run(100, 100, 0)
11    elif button_a.is_pressed() and button_b.is_pressed():
12        buildingbit.car_stop()
13

```

- 1) Import buildingbit library: `import buildingbit` and `display,Image,button_a,button_b` library.
- 2) `display.show(Image.HAPPY)` Display smile.
- 3) `button_a.was_pressed()`: Check whether the button A on the micro:bit board is pressed. If it is pressed, it returns True; if it is not pressed, it returns False.

- 4) **buildingbit.car_back(100, 100, 0)** Control the motor to close the mechanical clip
- 5) **button_b.was_pressed()**: Check whether the button B on the micro:bit board is pressed. If it is pressed, it returns True; if it is not pressed, it returns False.
- 6) **buildingbit.car_run(100, 100, 0)** Control the motor to open the mechanical clip
- 7) press the A and B button, the motor is stopped.

Code as shown below:

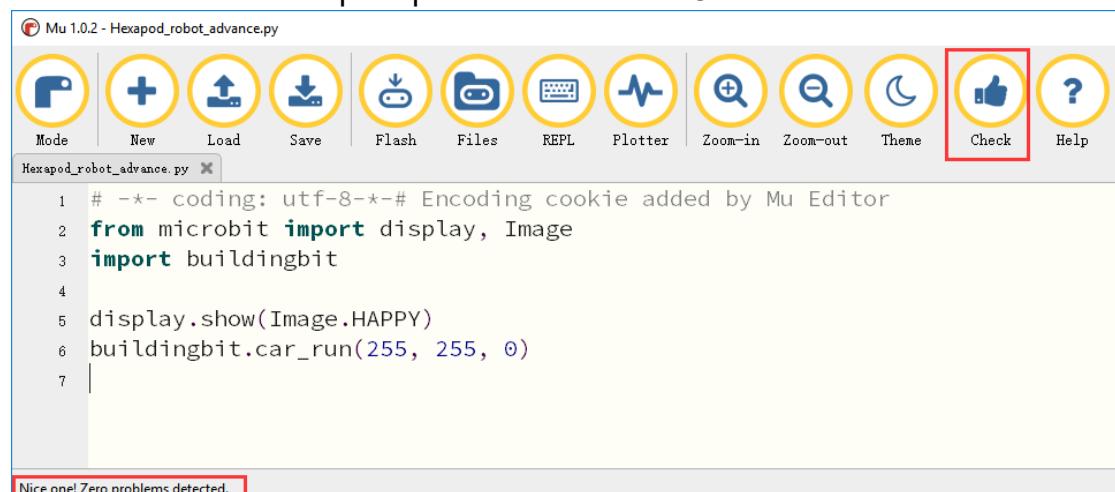
```

1 # Write your code here :-
2 from microbit import display, Image, button_a, button_b
3 import buildingbit
4 display.show(Image.HAPPY)
5
6 while True:
7     if button_a.was_pressed():
8         buildingbit.car_back(100, 100, 0)
9     elif button_b.was_pressed():
10        buildingbit.car_run(100, 100, 0)
11    elif button_a.is_pressed() and button_b.is_pressed():
12        buildingbit.car_stop()
13

```

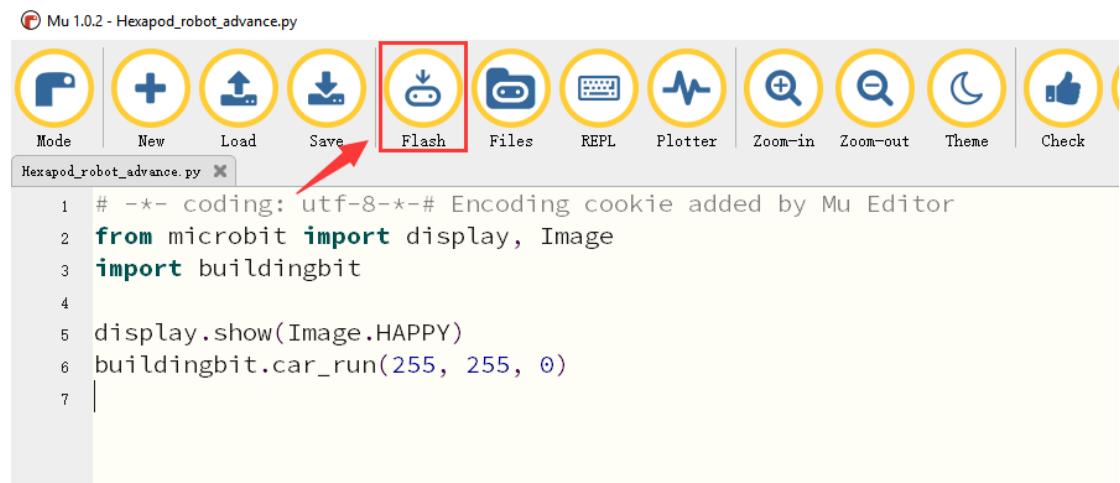
4. Download program

- 4.1 After programming is complete, please connect the computer and the micro:bit board with a Micro USB data cable.
- 4.2 You need to 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. If there is no cursor or underline, it means that the code is correct, and the bottom left will prompt that the check is OK.



- 4.3 Click the **【Flash】** button to download the program to the micro:bit board

of the building block Mechanical Clip.



If the program is wrong or the experimental phenomenon is wrong after downloading, please confirm whether you have downloaded the Buildingbit 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】---【Python programming】