Dancing

1.Learning goals

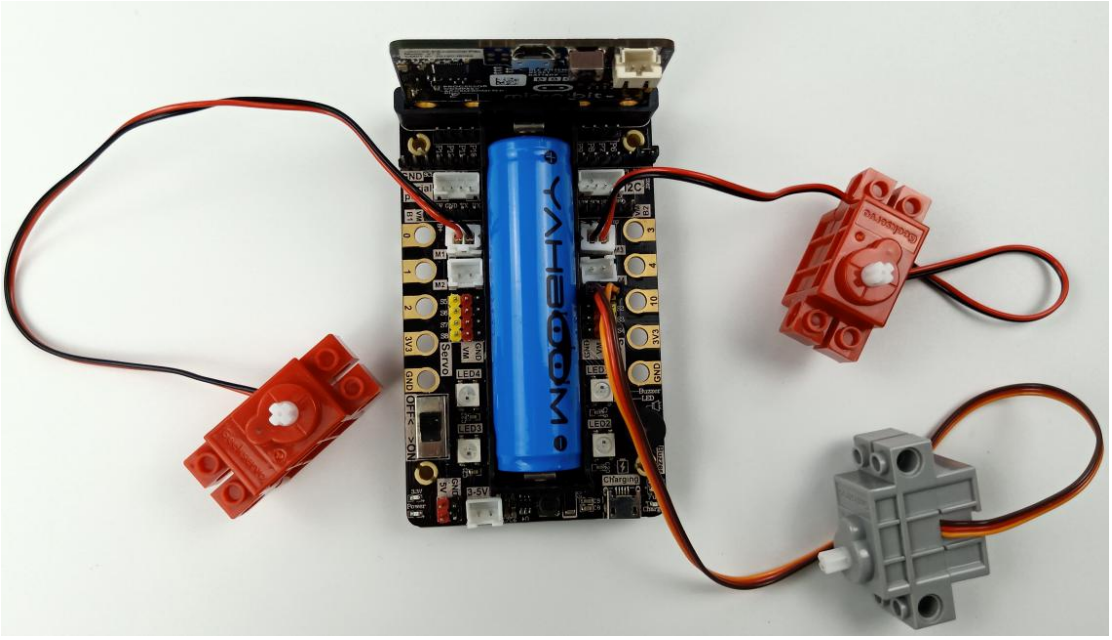
In this course, we mainly learn how to use the MakeCode graphical programming to realize the "singing" and "dancing" of the Proficient carrier that is, the servo, motor, buzzer and RGB lights work simultaneously.

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]-[Proficient carrier].

3.Wiring of motor and servo

The motor wiring on the left side of the car is inserted into the M1 interface of the Super:bit expansion board, and the black wire is close to the battery side;
The motor wiring on the right side of the car is inserted into the M3 interface of the Super:bit expansion board, and the black wire is close to the battery side;
Building block servo insert into the Super: bit expansion board S1 interface, and the orange wiring connect the yellow pin of S1.
As shown below:



Note:
For the first course related to building block servo, we need to remove the gear on the servo and upload the program of this course to micro: bit. Then, turn on the power switch of the Super:bit expansion board and wait for the building block servo turn to the initial position. Next, we can turn off the power, and adjust the shovel of the car to keep it parallel to the ground. Finally, install the servo. (If you have used programs related to mobile shooter before, you can skip this step)

4.Programming method

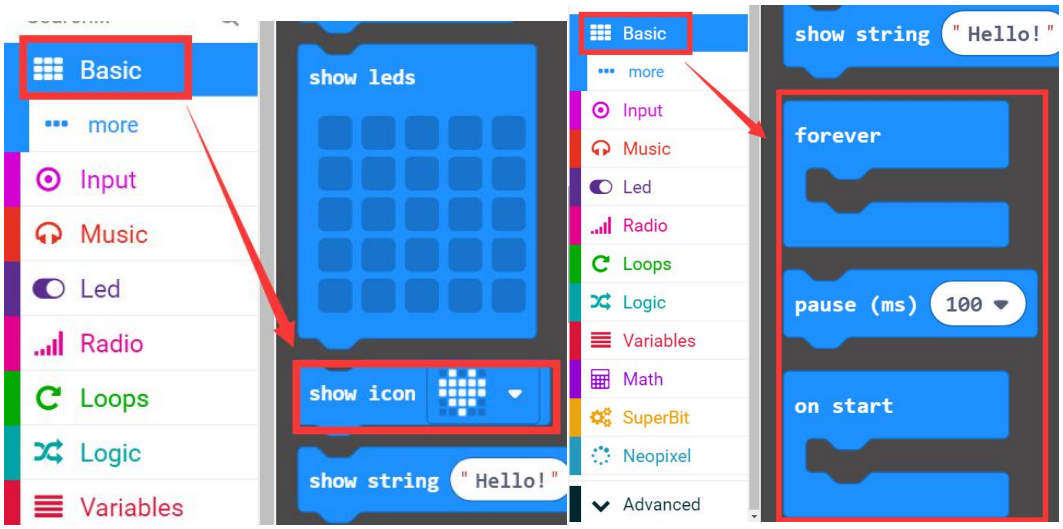
Mode 1 online programming: First, we need to connect the micro:bit to the

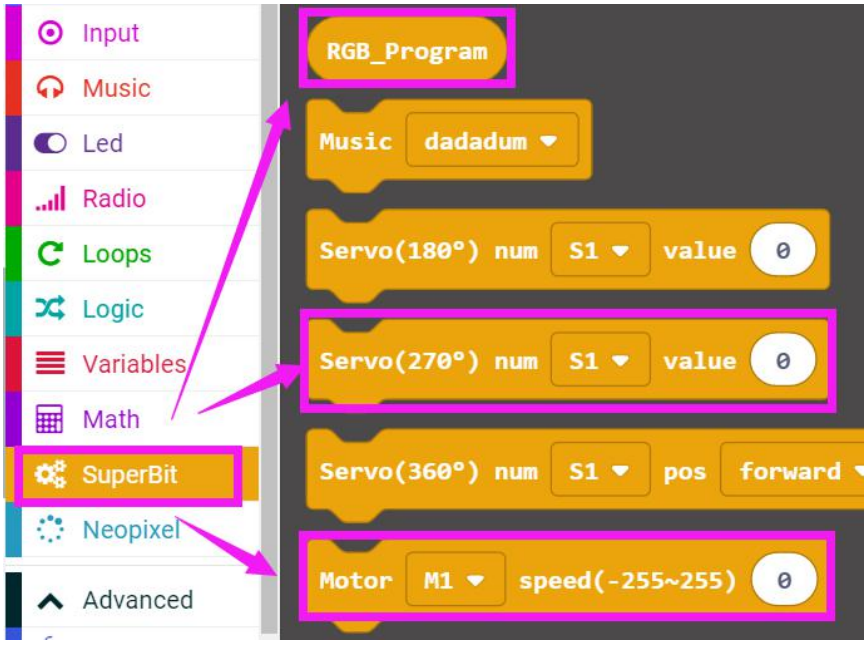
computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface. Add the Yahboom package **https://github.com/lzty634158/SuperBit** to program.

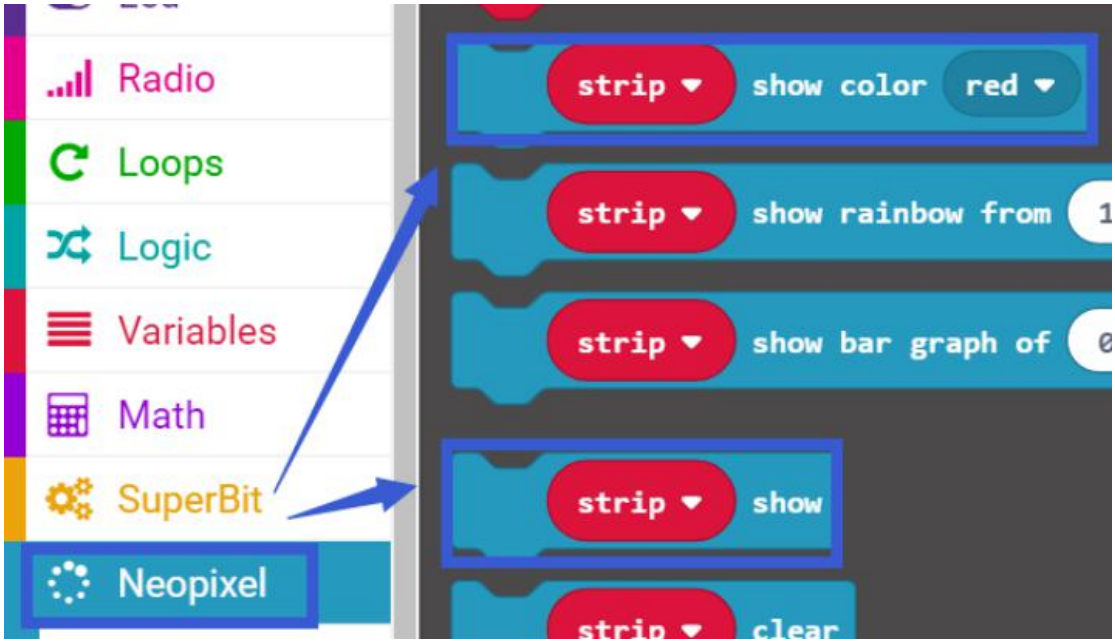
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: **https://github.com/lzty634158/SuperBit**, you can program.

5.Looking for blocks

The following is the location of the building blocks required for this programming.

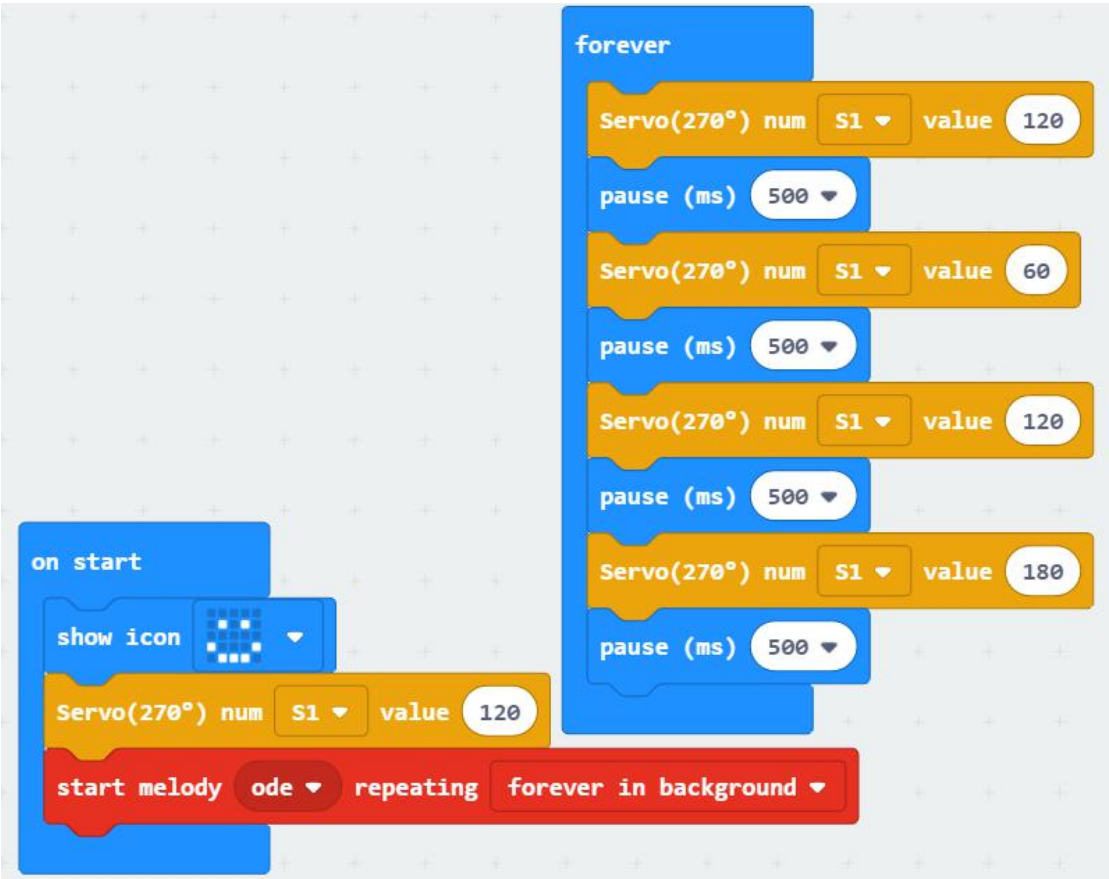


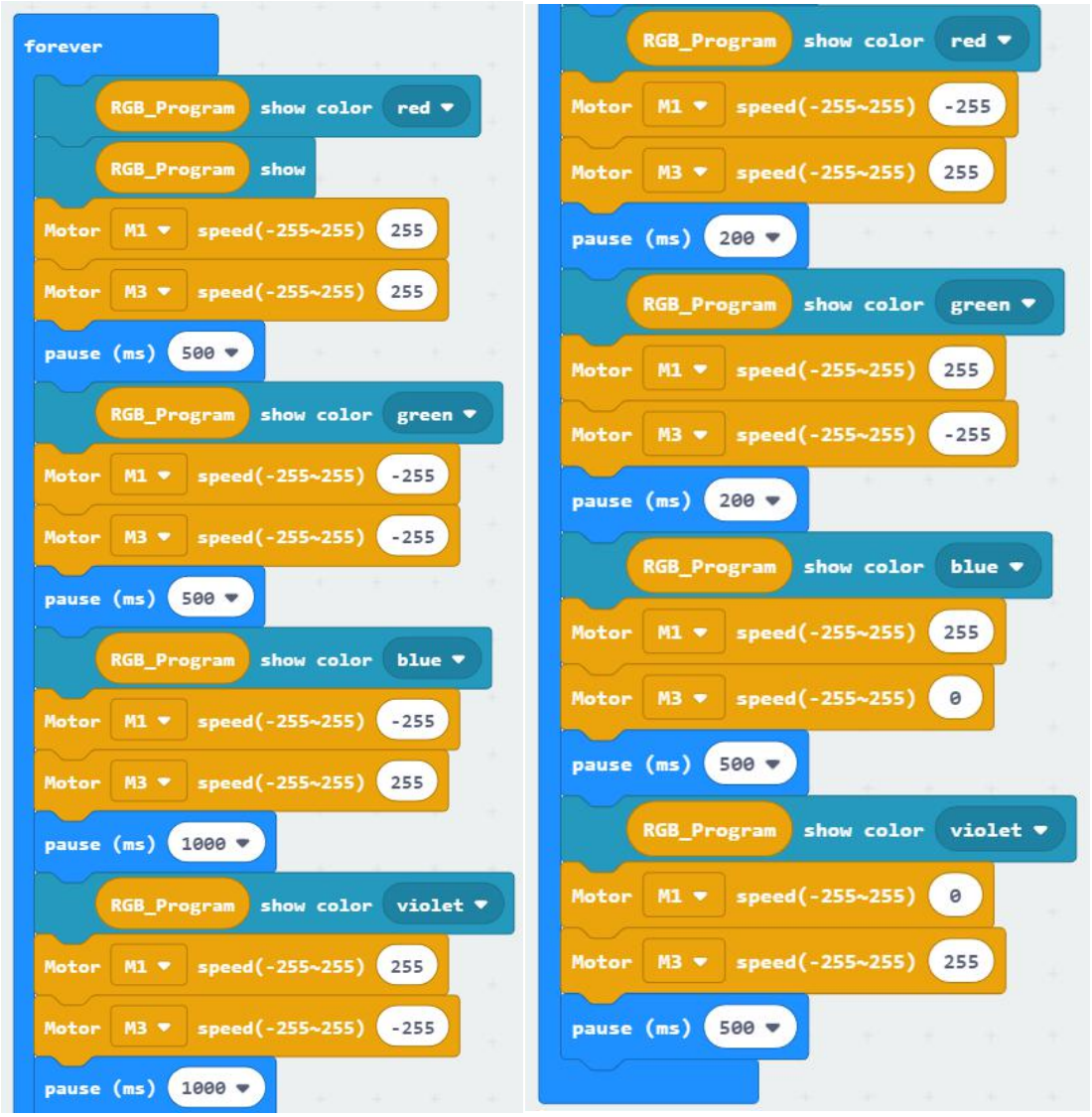




6.Combine block

The summary program is shown below.

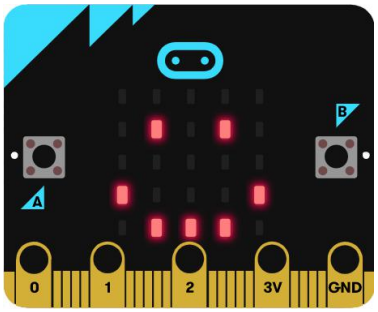

forever
Servo(270°) num S1 value 120
pause (ms) 500
Servo(270°) num S1 value 60
pause (ms) 500
Servo(270°) num S1 value 120
pause (ms) 500
Servo(270°) num S1 value 180
pause (ms) 500
on start
show icon
Servo(270°) num S1 value 120
start melody ode repeating forever in background



7.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 car will play the music "Ode", and it will go forward-> backward-> spin left-> spin right -> turn left -> turn right. RGB lights will switch different colors, shovel will raise->drop constantly.



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