

The dancing spider

(Due to the problem of the building block structure, if you want to make the spider move forward, the building block motor needs to turn back, speed of motor need to be set negative number, such as, -255)

1.Learning goals

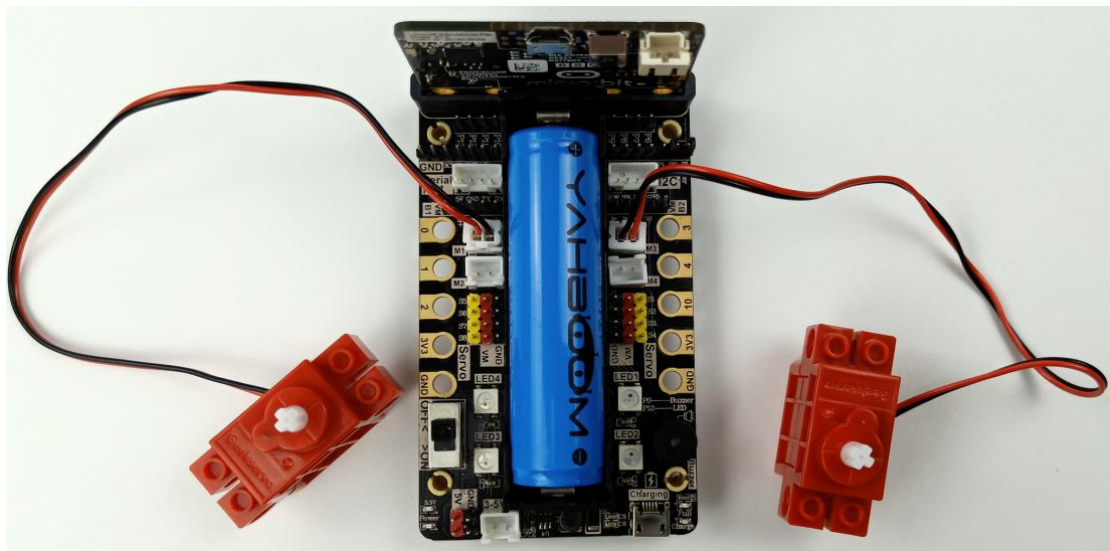
In this course, we mainly learn how to use the MakeCode graphical programming to realize the Spider “dancing” and “singing”, that is, the motor, buzzer and RGB lights work simultaneously.

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]-[Spider].

3.Wiring of motor

The motor wiring on the left side of the Spider 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 Spider is inserted into the M3 interface of the Super:bit expansion board, and the black wire is close to the battery side;
As shown below:



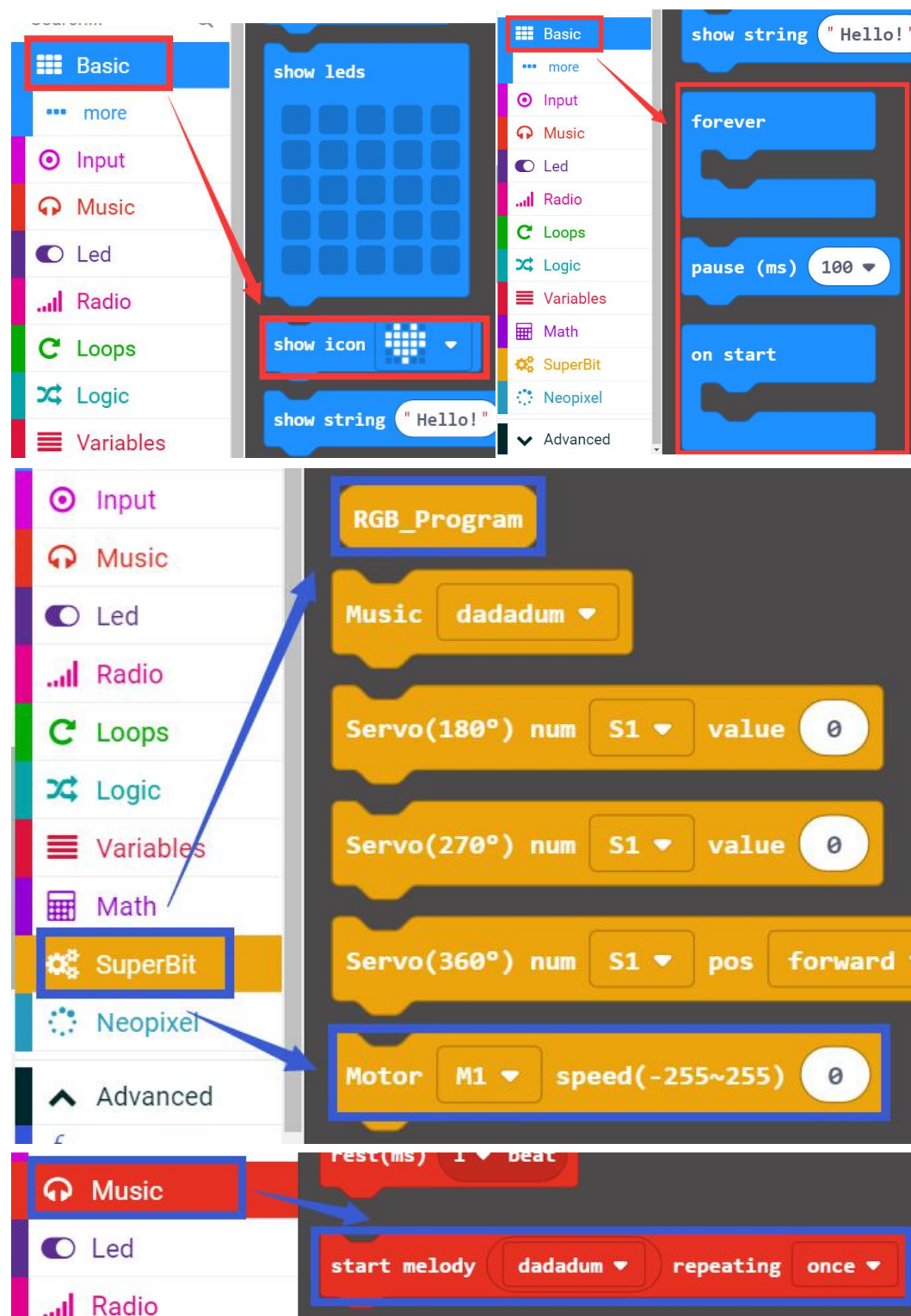
4.Programming method

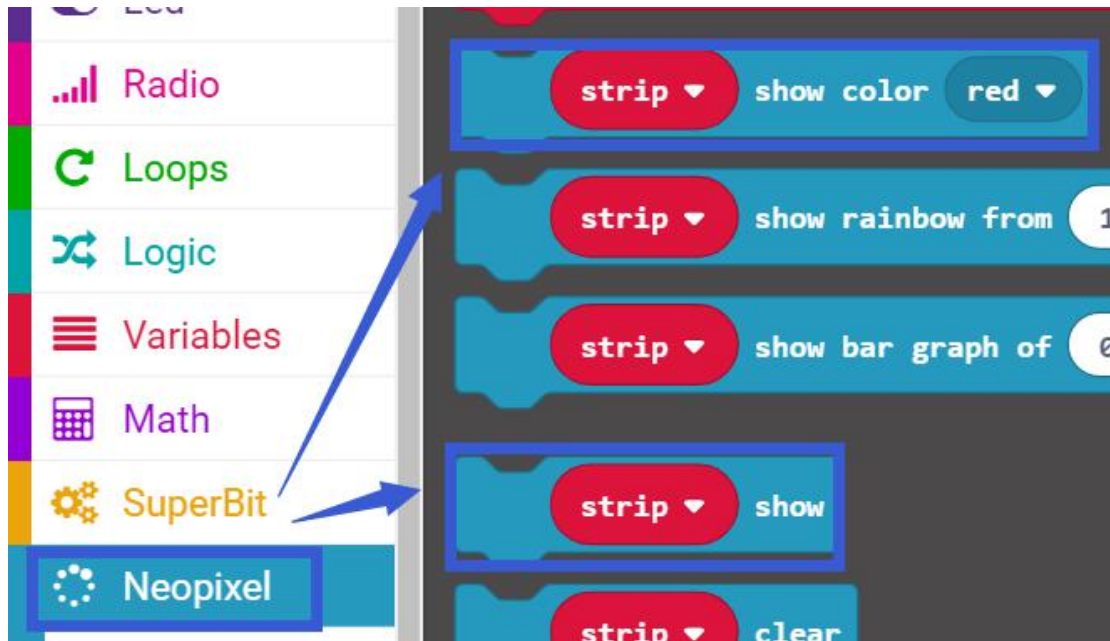
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: <http://microbit.org/> to enter the programming interface. Add the Yahboom package <https://github.com/lzty634158/SuperBit> 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

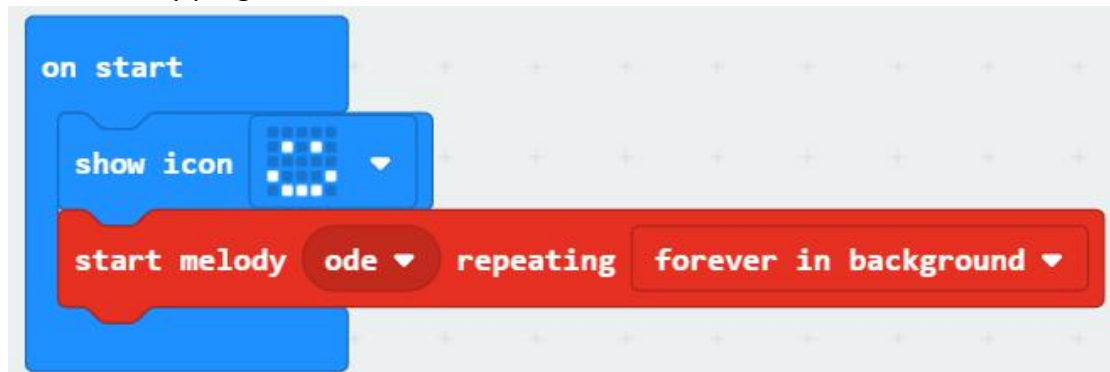
The following is the location of the building blocks required for this programming.

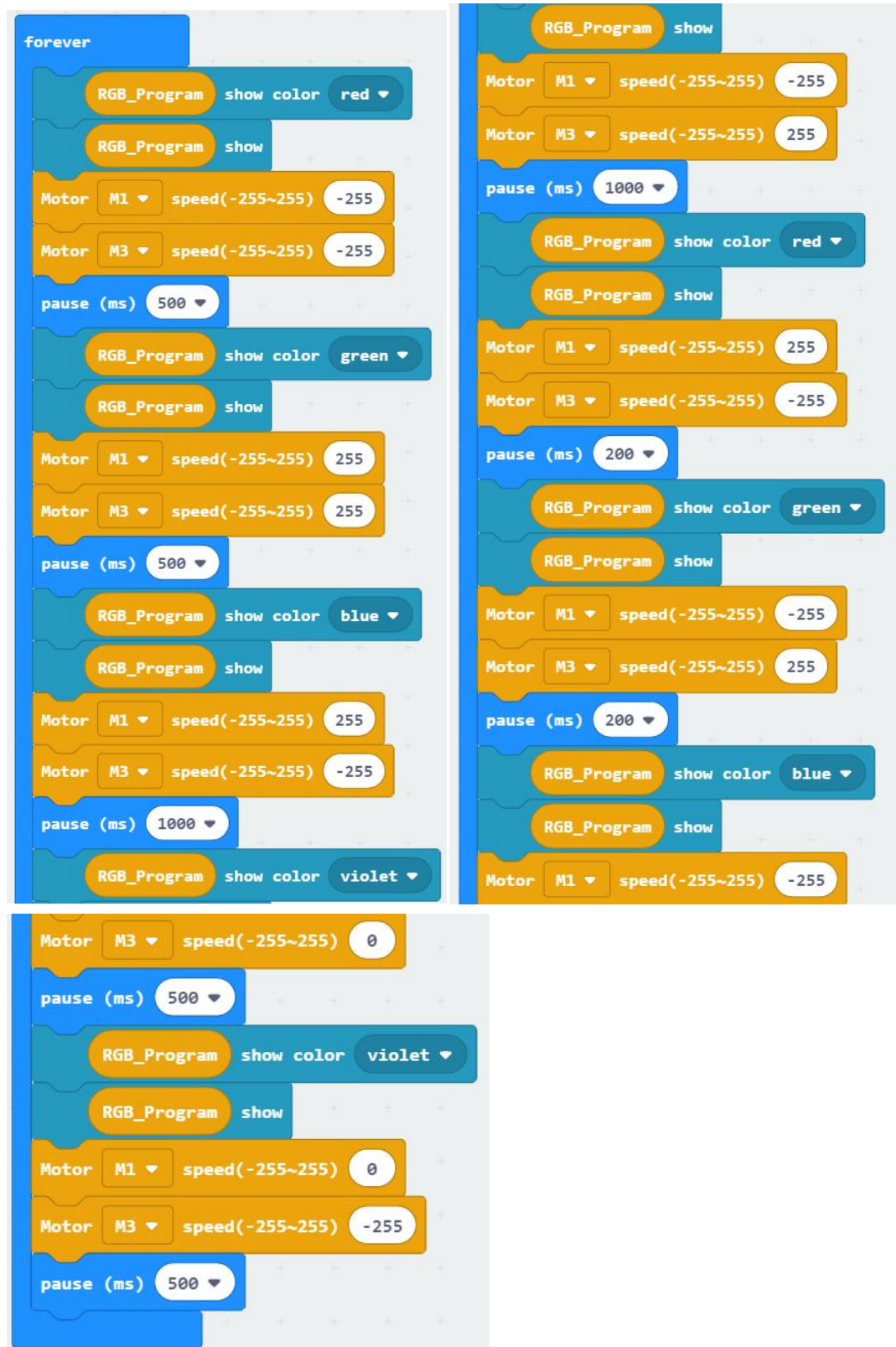




6.Combine block

The summary program is shown below.

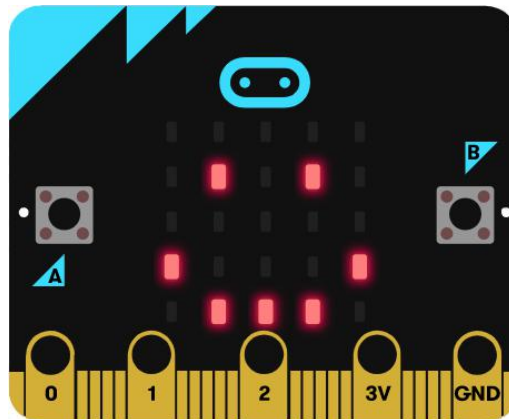




7.Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix will display the smile pattern, as shown below. Open the power switch, the spider will keep advance. Open the power switch, the spider robot will play the music "Ode", and

spider will move forward-> backward-> spin left -> spin right switch different motion states, RGB lights will switch to different colors.



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