

Colorful windmill

1.Learning goals

In this course, we mainly learn how to use MakeCode graphical programming to make the Oscillating fan rotate at different speeds. At the same time, the dynamic picture of the windmill rotating is displayed on the micro:bit lattice, and the RGB lights switch different colors.

2.Building block assembly steps

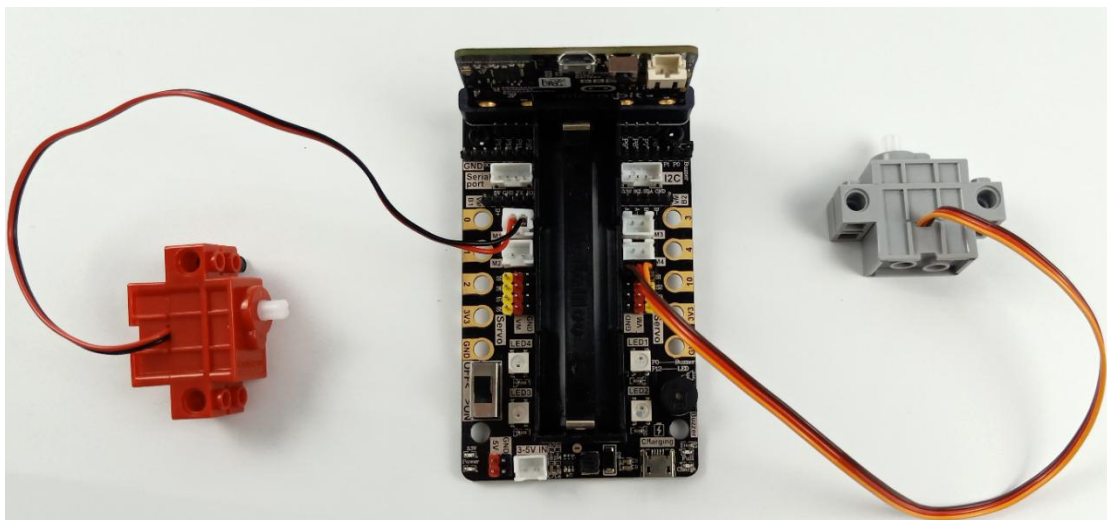
For the building block construction steps, please refer to the installation manual or building block installation picture of [Assembly course]-[Oscillating fan].

3.Wiring of motor and servo

The motor wiring is inserted into the M1 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.



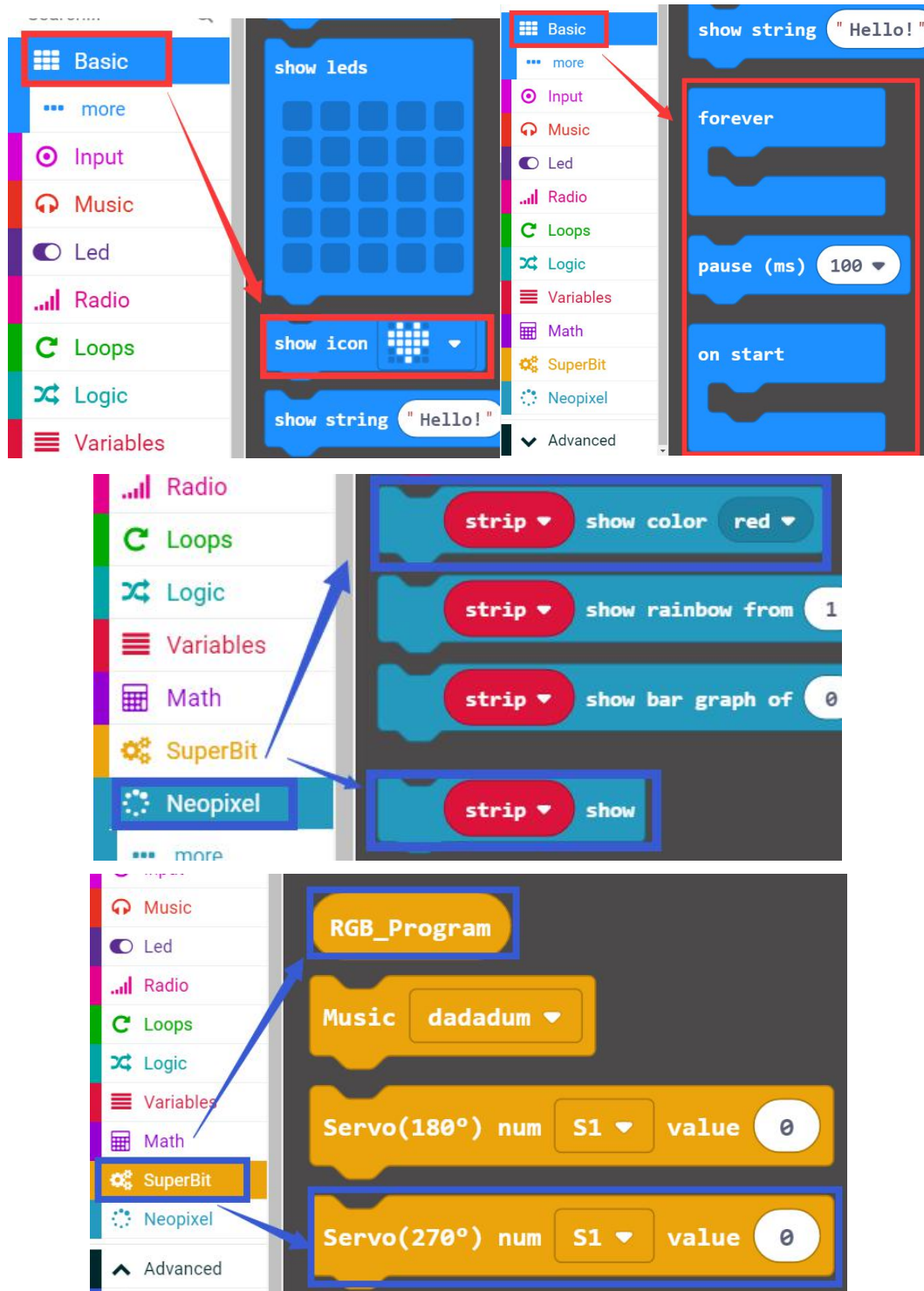
4.Programming method

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.

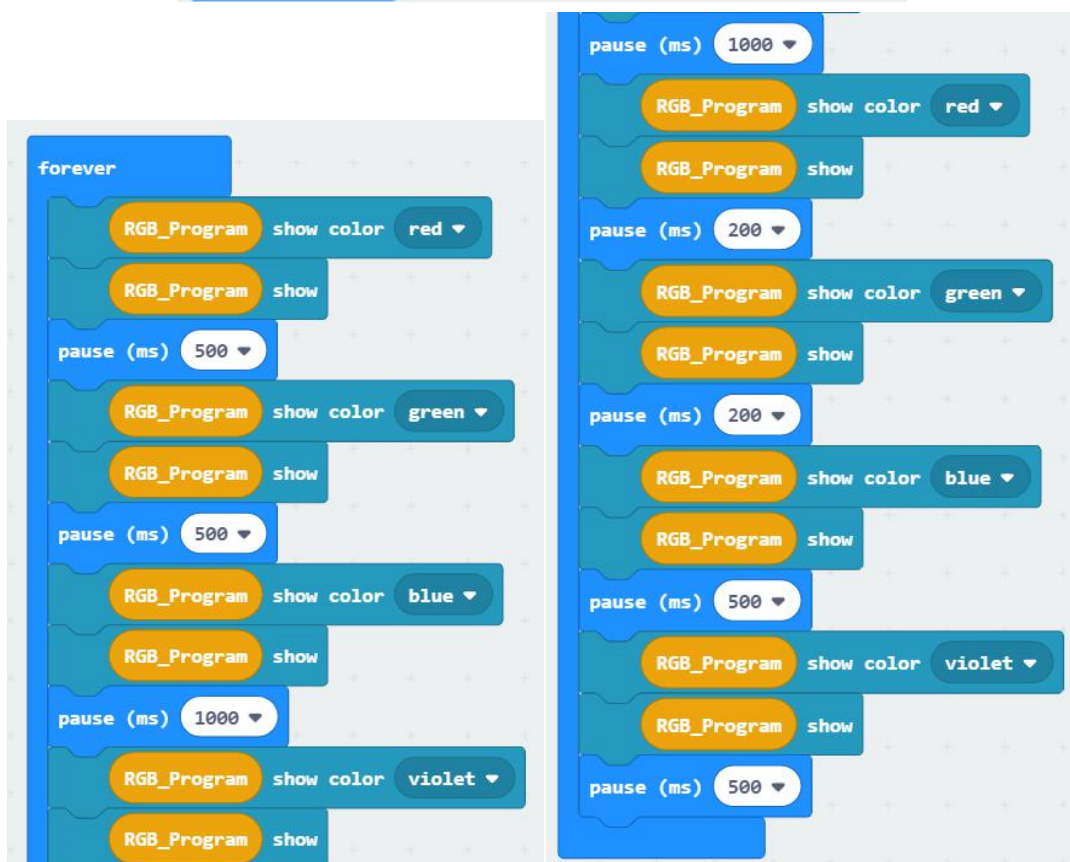
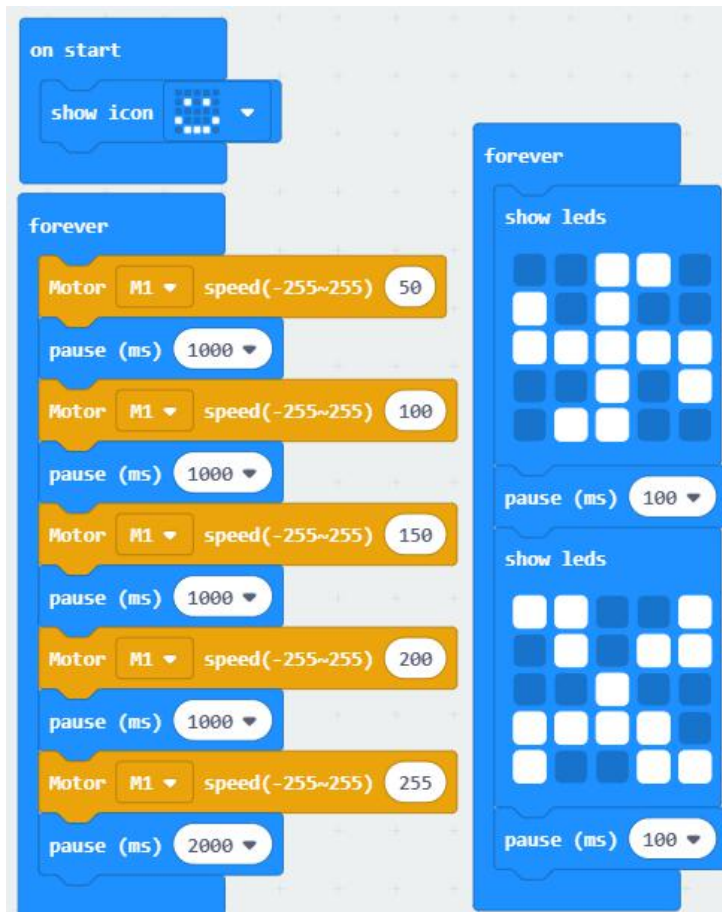
5.Looking for blocks

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.

Then, the Oscillating fan starts to rotate with different speeds, rotates 1 second with speed 50 -> rotates 1 second with speed 100 -> rotates 1 second with speed 150 -> rotates 1 second with speed 200 -> rotates 2 seconds with speed 255 , and keeps in this state cycle.

At the same time, we can see that the micro:bit dot matrix will display the pattern of dynamic windmill rotation, and RGB will also switch different colors.

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