Summer cooling artifact

1.Learning goals

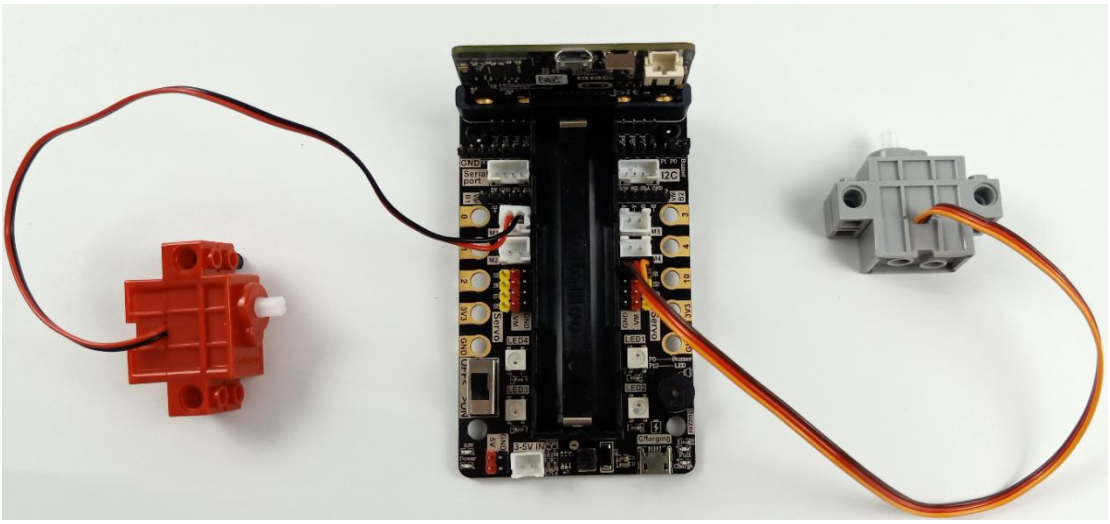
In this course, we mainly learn how to use MakeCode graphical programming to make the Oscillating fan rotate and shake left to right at different speeds. At the same time, the dynamic picture of the windmill rotating is displayed on the micro:bit lattice.

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.



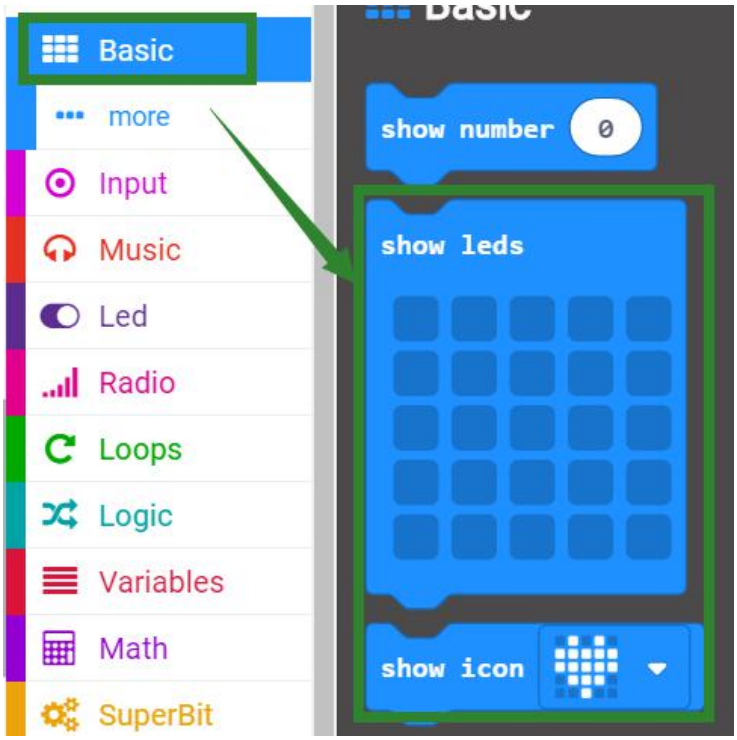
4.Programming method

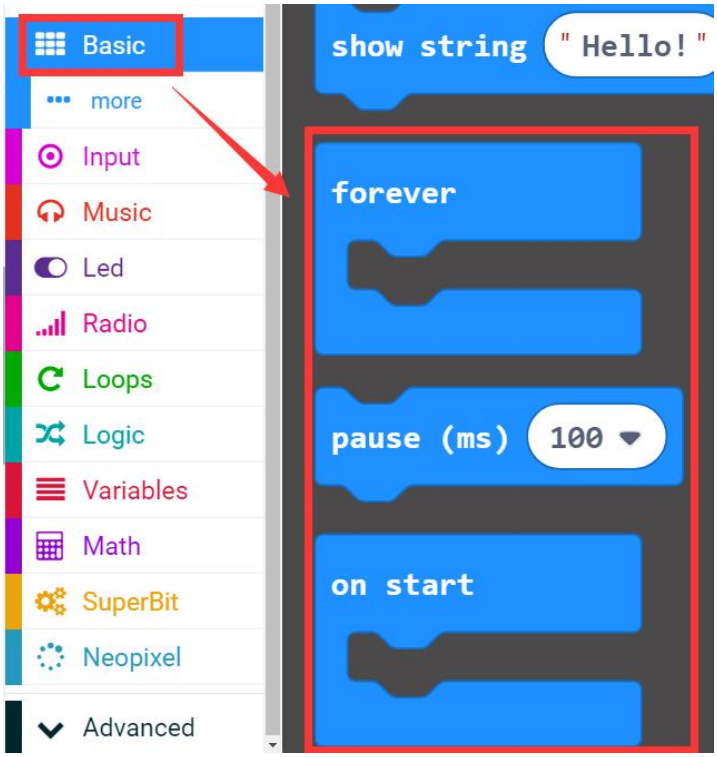
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface. Add the Yahboom package **https://github.com/lzty634158/SuperBit**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

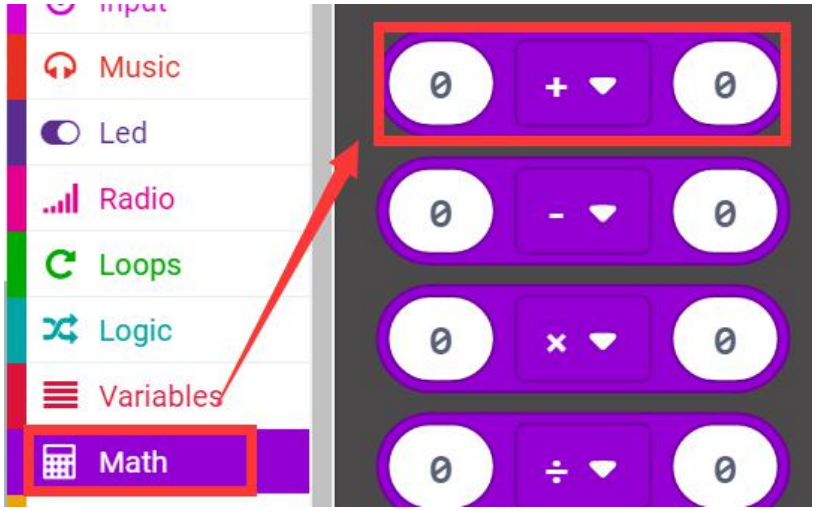
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: **https://github.com/lzty634158/SuperBit**, you can program.

5.Looking for blocks

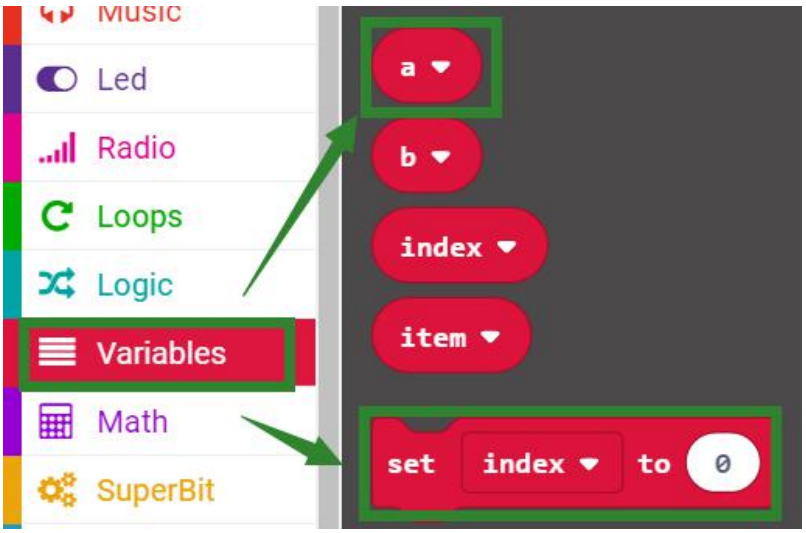
The following is the location of the building blocks required for this programming.

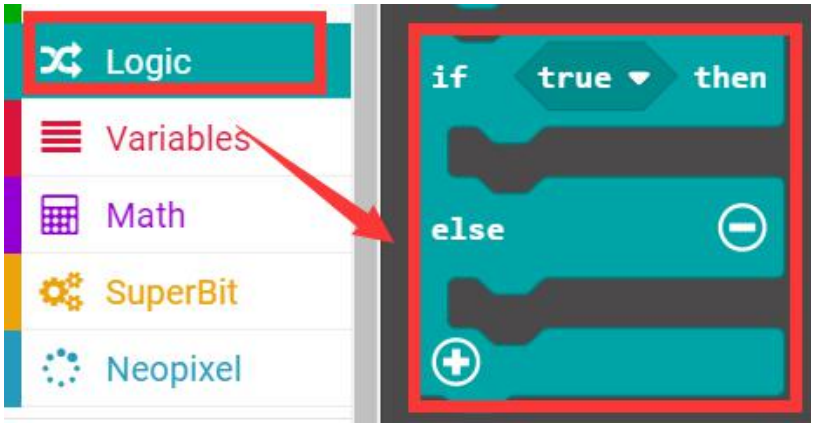

Basic
more
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
show number 0
show leds
show icon


Basic
more
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
Neopixel
Advanced
show string " Hello! "
forever
pause (ms) 100
on start


Music
Led
Radio
Loops
Logic
Variables
Math
0 + 0
0 - 0
0 × 0
0 ÷ 0

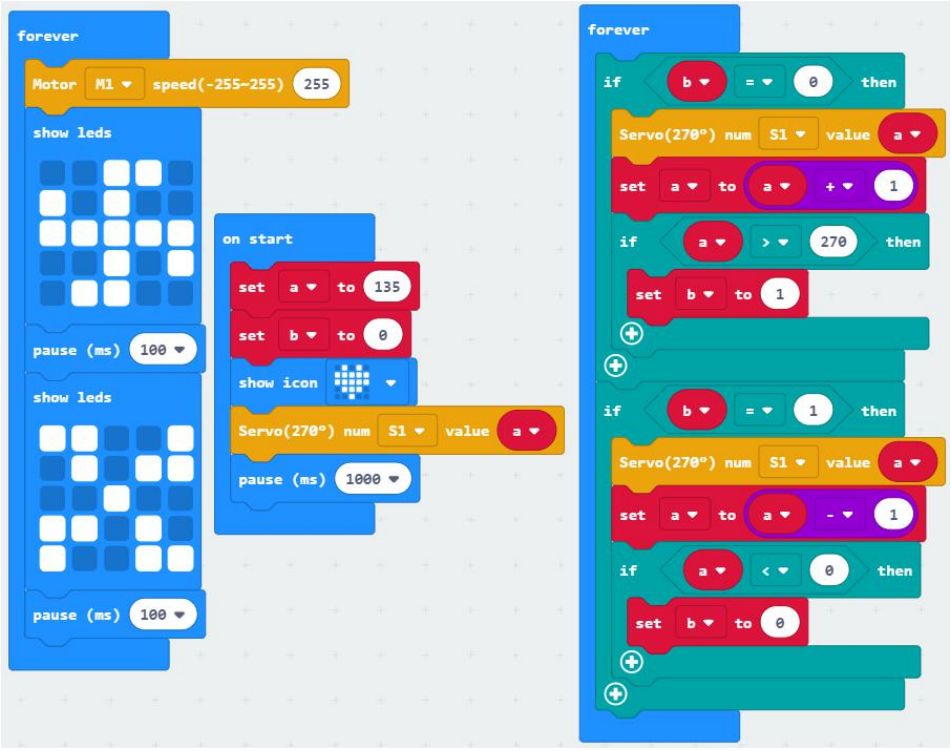

Math
SuperBit
Neopixel
Advanced
Functions
Arrays
Servo(270°) num S1 value 0
Servo(360°) num S1 pos forward
Motor M1 speed(-255~255) 0


Led
Radio
Loops
Logic
Variables
Math
SuperBit
a
b
index
item
set index to 0



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 fan pattern.

Then, the Oscillating fan starts to rotate at the maximum speed of 255, shaking its head from left to right, and keeps loop in this state. At the same time, we can see that the pattern of dynamic windmill rotation will be displayed on the micro:bit matrix.

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