Music door

1.Learning goals

In this course, we mainly learn how to use MakeCode graphical programming to realize following function.

Function: The automatic door is gradually opened and gradually closed, the buzzer plays the song "Ode", and the RGB lights switch different colors.

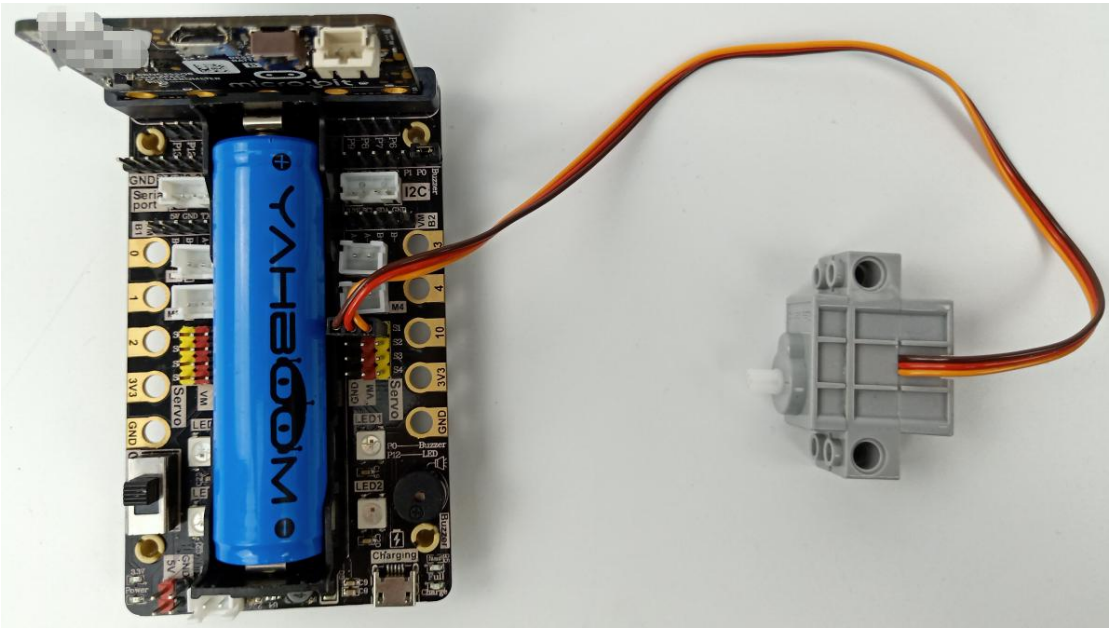
2.Building block assembly steps

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

3.Wiring of servo

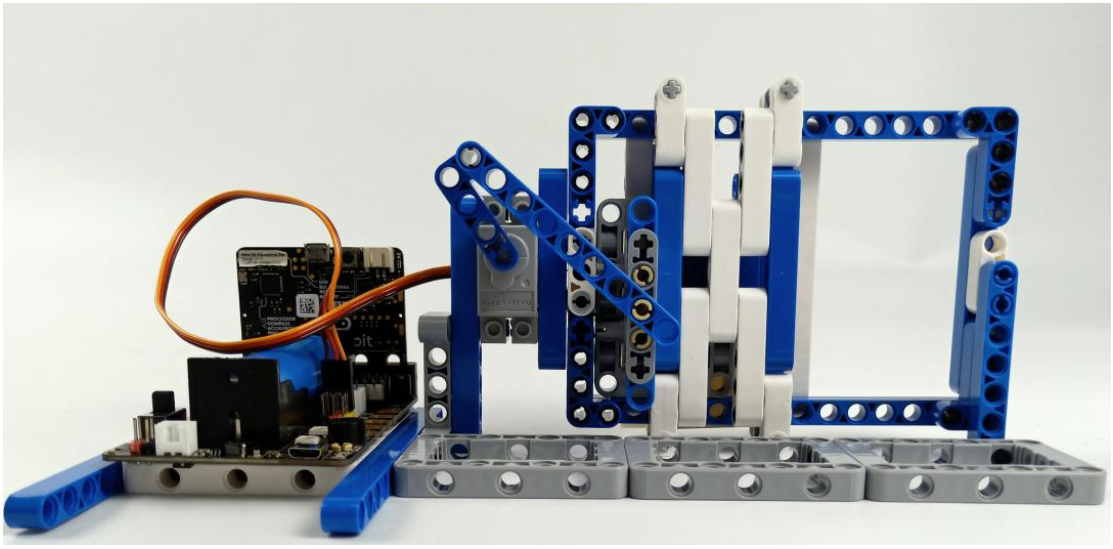
Building block servo insert into the Super: bit expansion board S1 interface, and the orange wiring connect the yellow pin of S1.

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 automatic door is opened. Finally, install the servo. (If you have used programs related to clip robot before, you can skip this step)



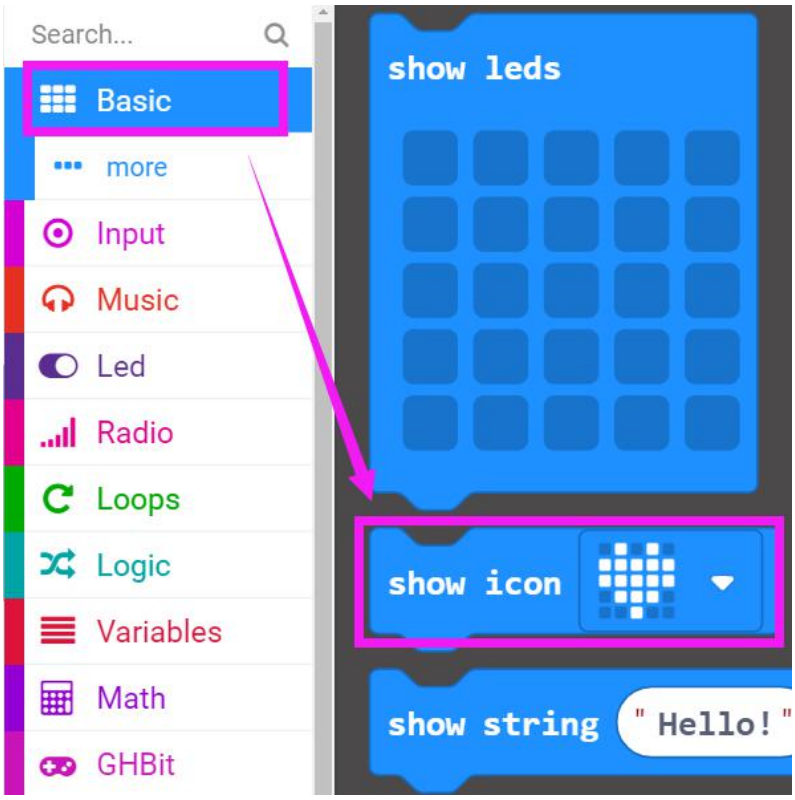
4. Programming method

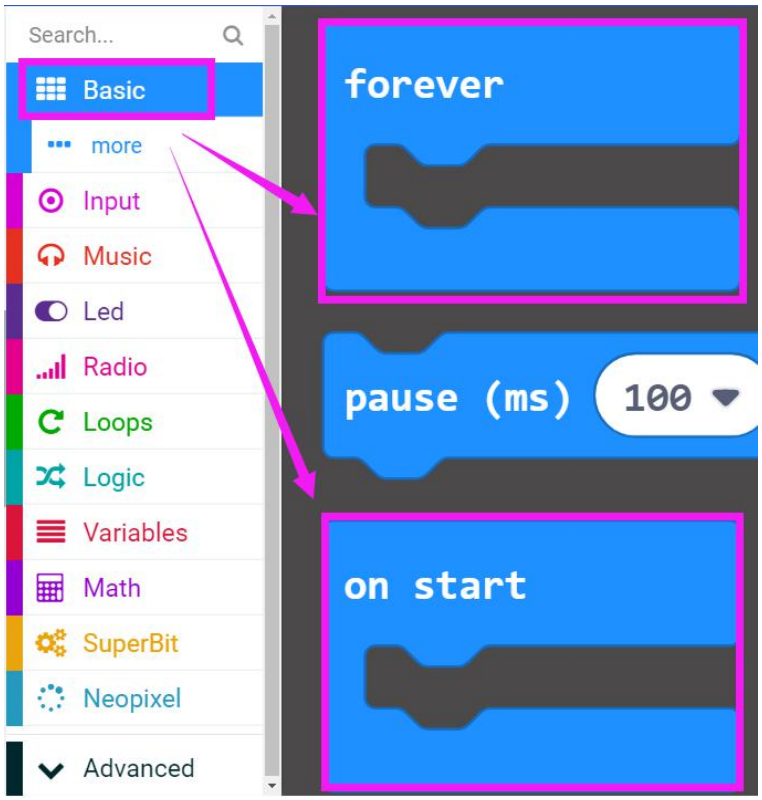
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface. Add the Yahboom package **https://github.com/lzty634158/SuperBit**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

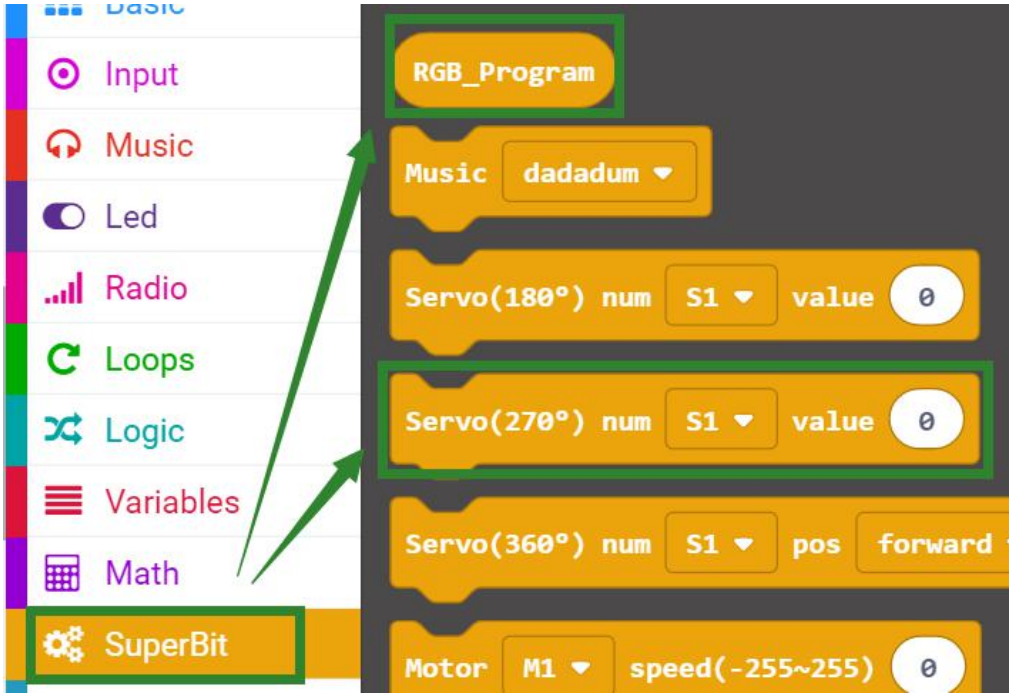
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: **https://github.com/lzty634158/SuperBit**, you can program.

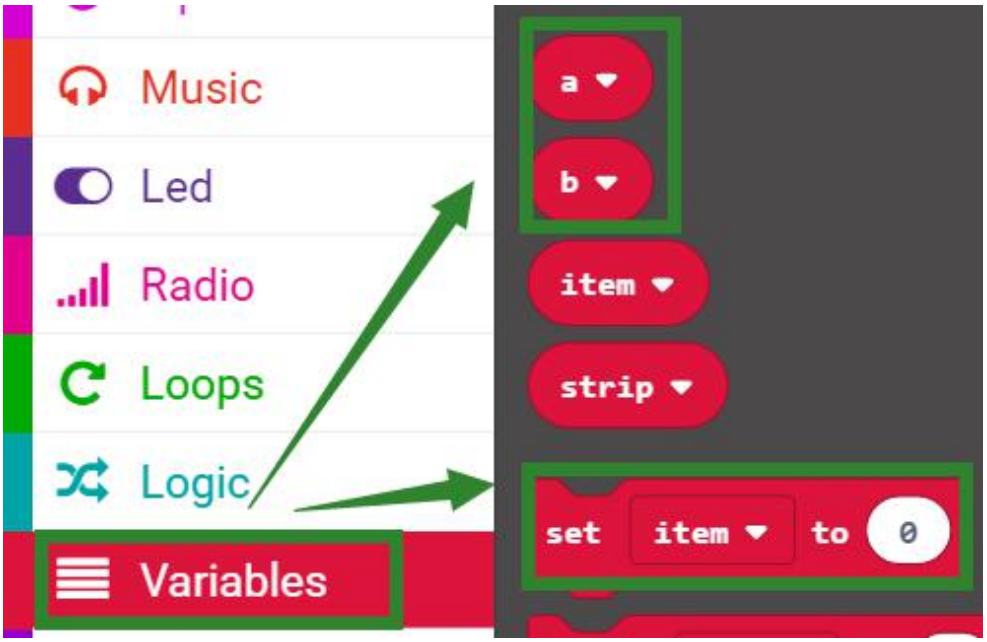
5.Looking for blocks

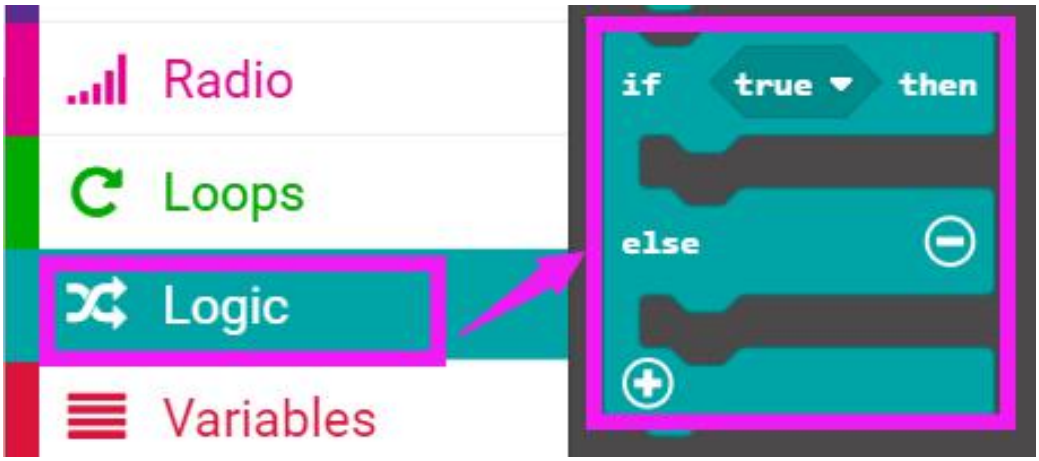
The following is the location of the building blocks required for this programming.

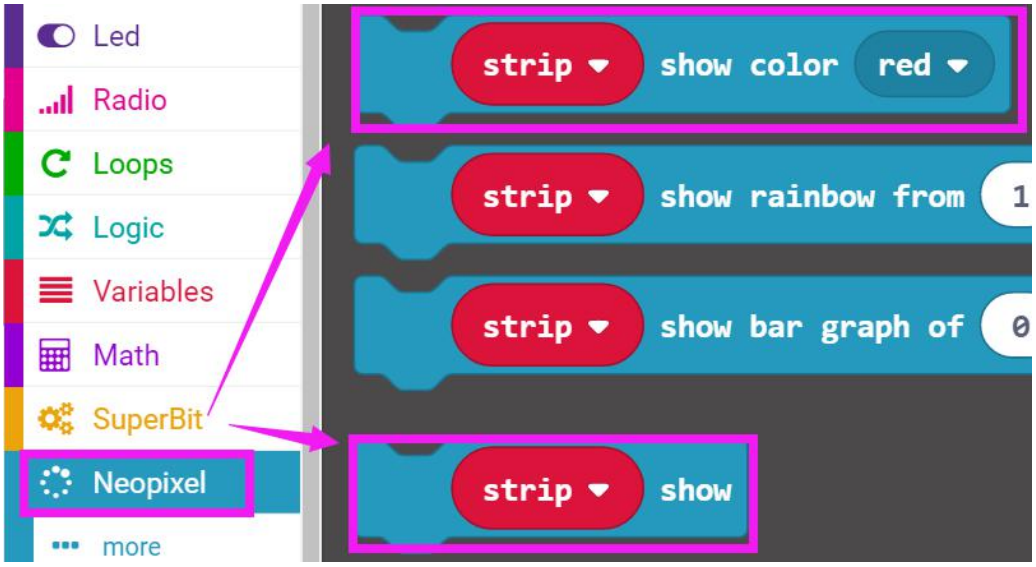

Search...
Basic
more
Input
Music
Led
Radio
Loops
Logic
Variables
Math
GHBit
show leds
show icon
show string
" Hello! "


Search...
Basic
more
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
Neopixel
Advanced
forever
pause (ms)
100
on start


Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBit
RGB_Program
Music dadadum
Servo(180°) num S1 value 0
Servo(270°) num S1 value 0
Servo(360°) num S1 pos forward
Motor M1 speed(-255~255) 0

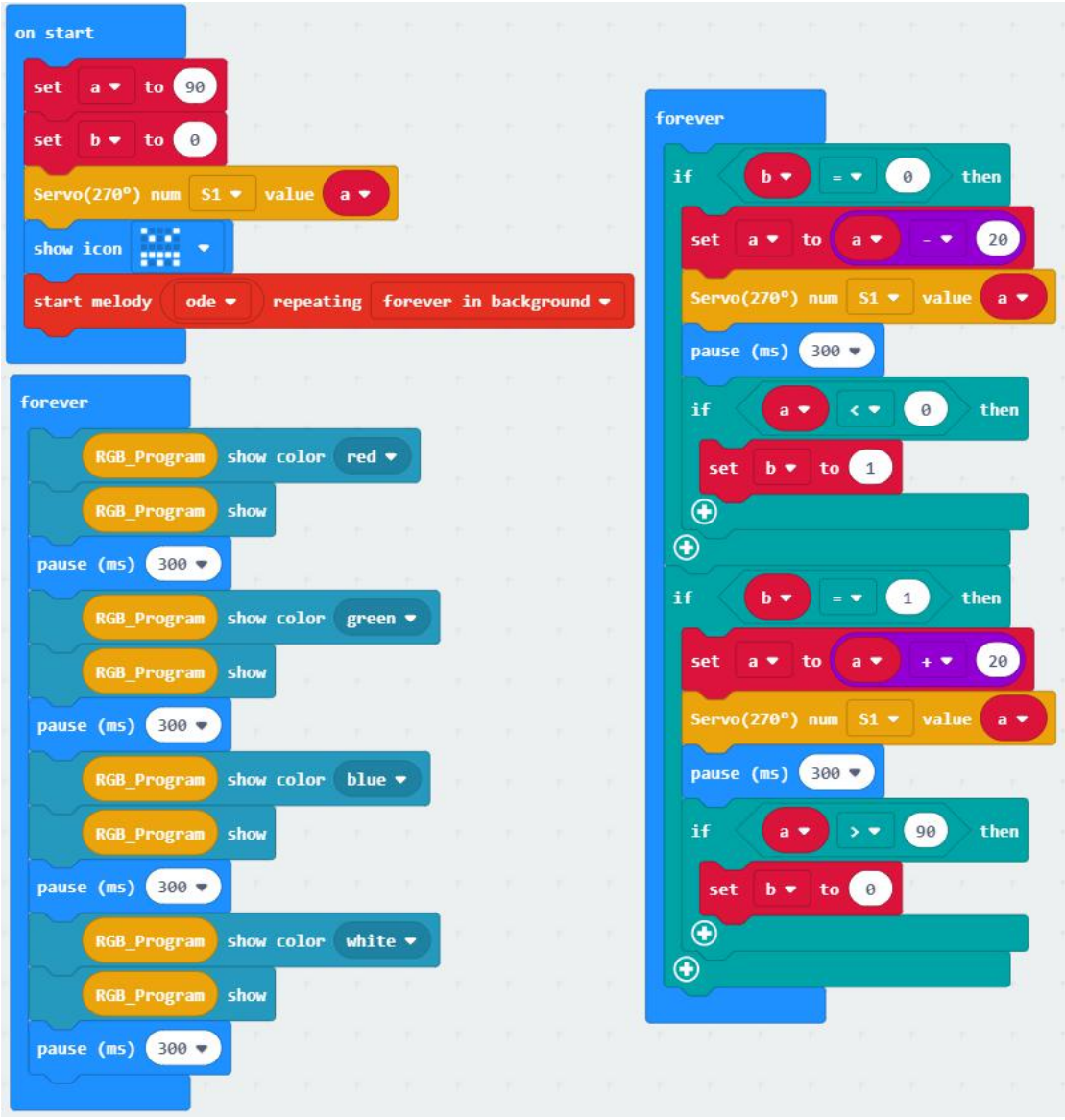

Music
Led
Radio
Loops
Logic
Variables
a
b
item
strip
set item to 0


Radio
Loops
Logic
Variables
if true then
else



6.Combine block

The summary program is shown below.



7.Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix will show a angry pattern.

Open the power switch, the automatic door is gradually opened and gradually closed, the buzzer plays the song "Ode", and the RGB lights switch different colors.

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