Sailing Prelude

1. Learning Objectives

In this course, we mainly learn how to use MakeCode graphical programming to make the propeller of the Airplane rotate while the buzzer plays music.

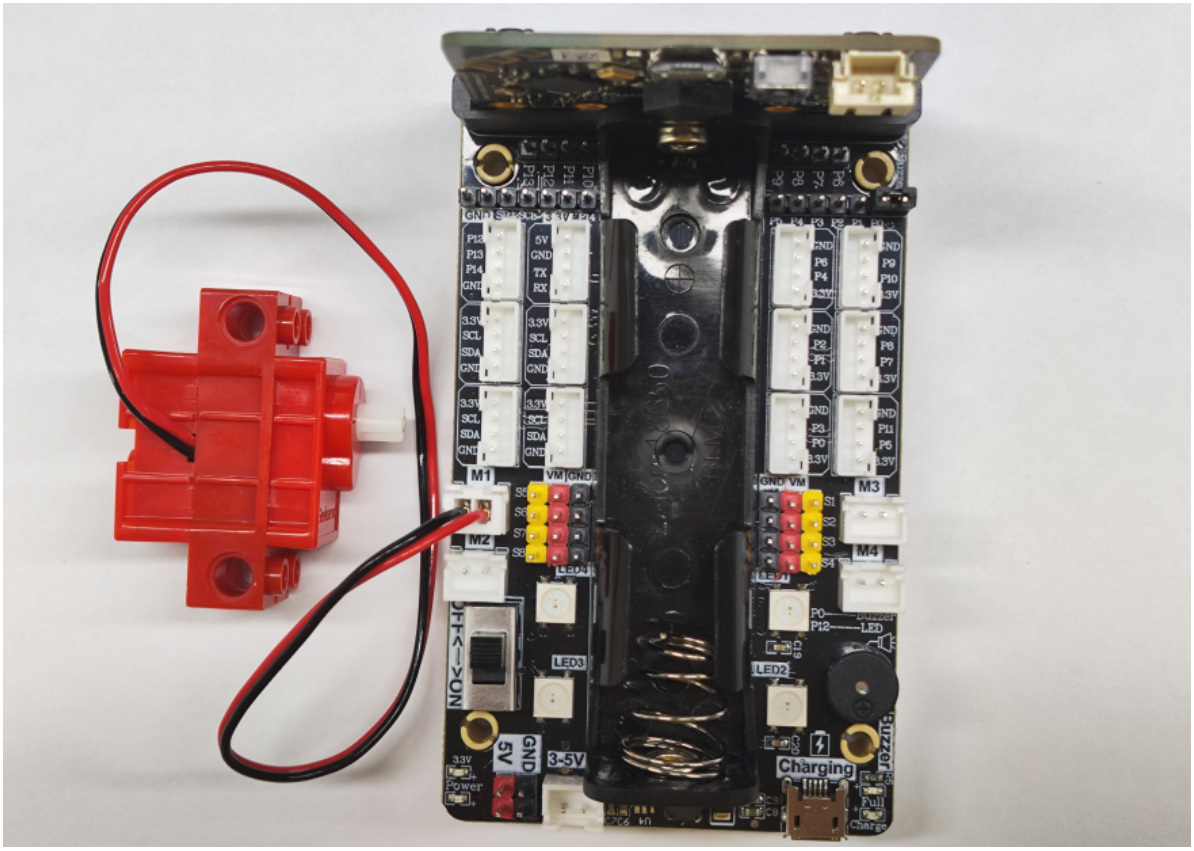
2. Building Blocks

For the building block steps, please refer to the installation drawings of **[Assembly Course]--[Airplane]** in the materials or the building block installation book.

3. Motor Wiring

Insert the motor wiring on the left side of the car into the M1 interface of the Super:bit expansion board, with the black wire close to the battery side;

As shown below:



4. Programming

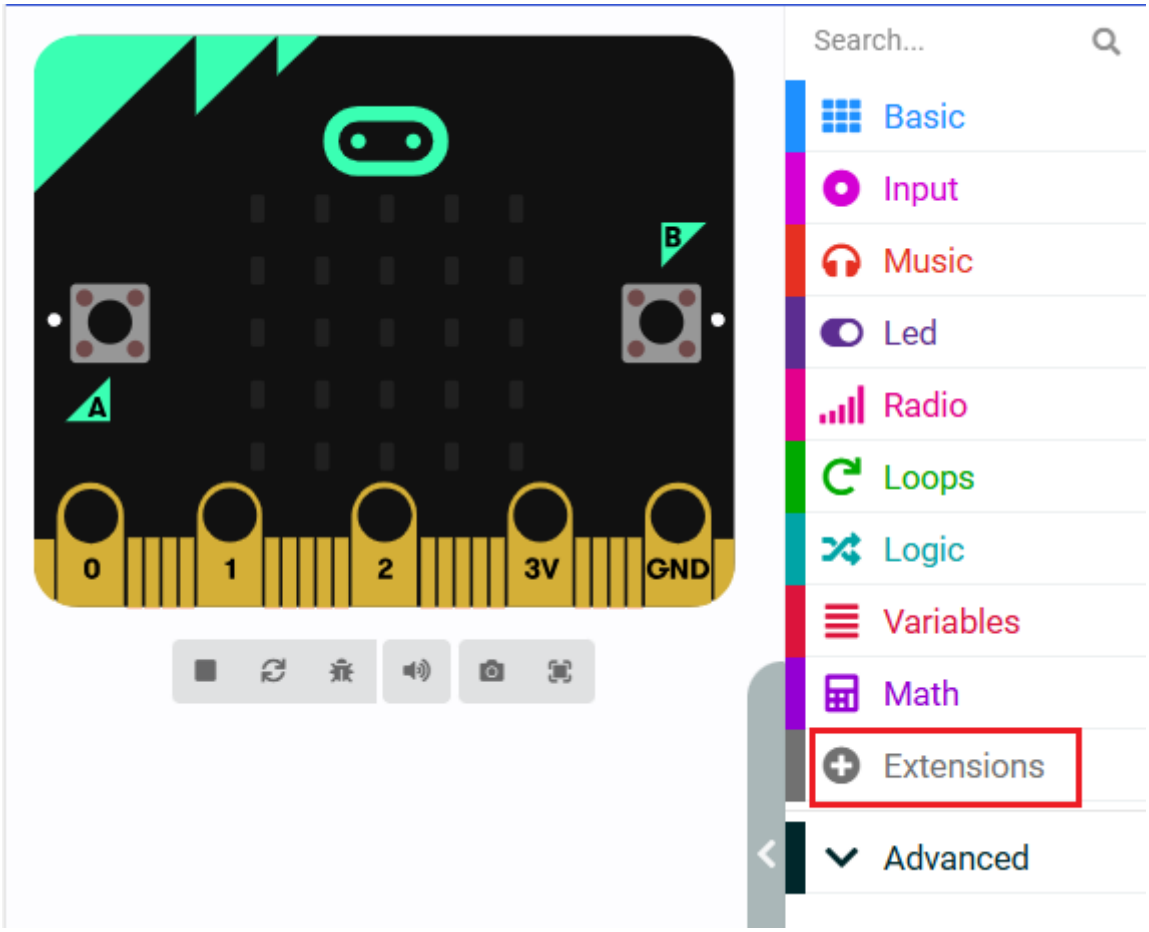
Method 1 Online Programming:

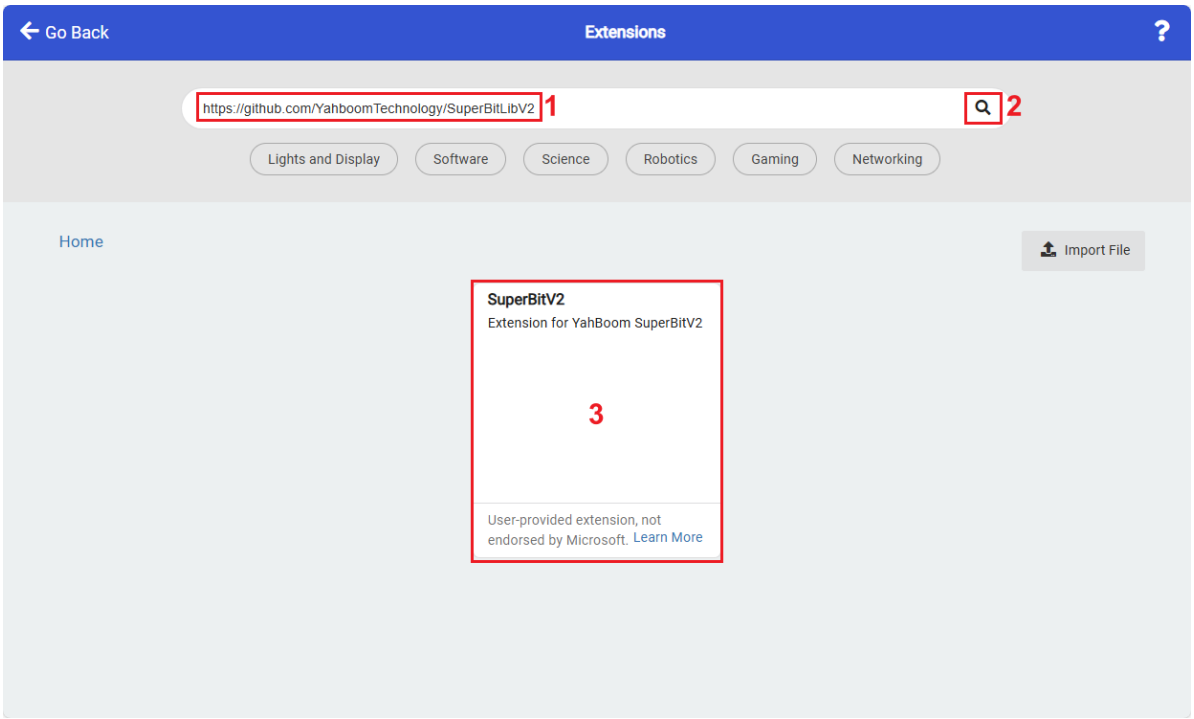
First, connect the micro:bit to the computer via a USB data cable. The computer will pop up a U disk. Click the URL in the U disk: https://makecode.microbit.org/ to enter the programming interface. Then, add the Yahboom software package **https://github.com/YahboomTechnology/SuperBitLibV2**, and you can start programming.

Method 2 Offline programming:

Open the offline programming software MakeCode and enter the programming interface. Click [New] and add the Yahboom software package **https://github.com/YahboomTechnology/SuperBitLibV2** to start programming.

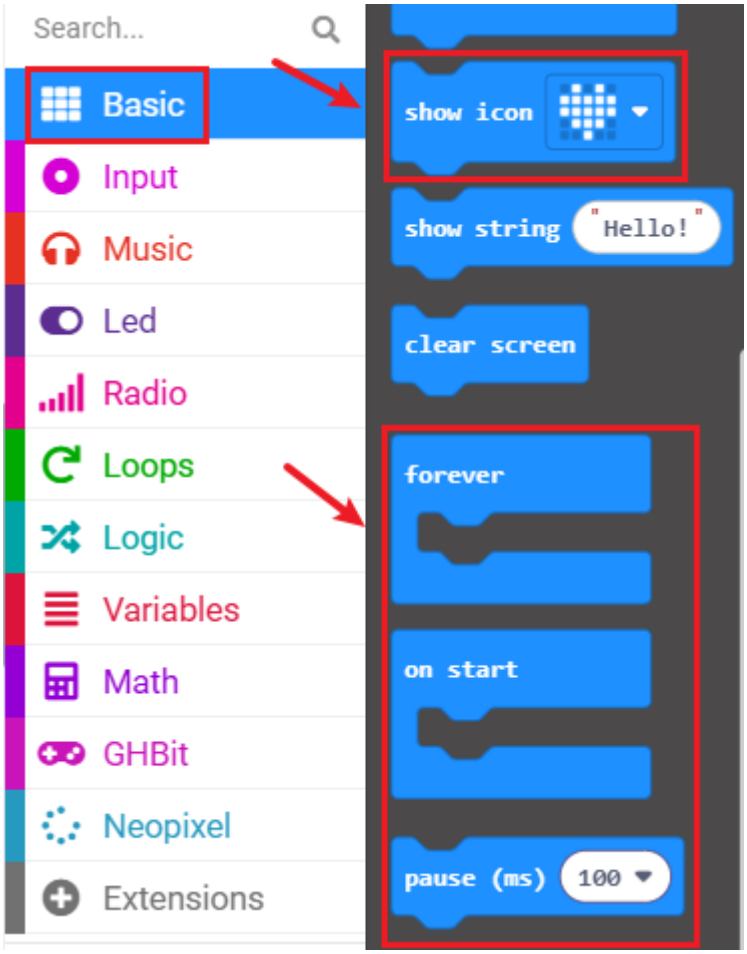
4.1 Add expansion package



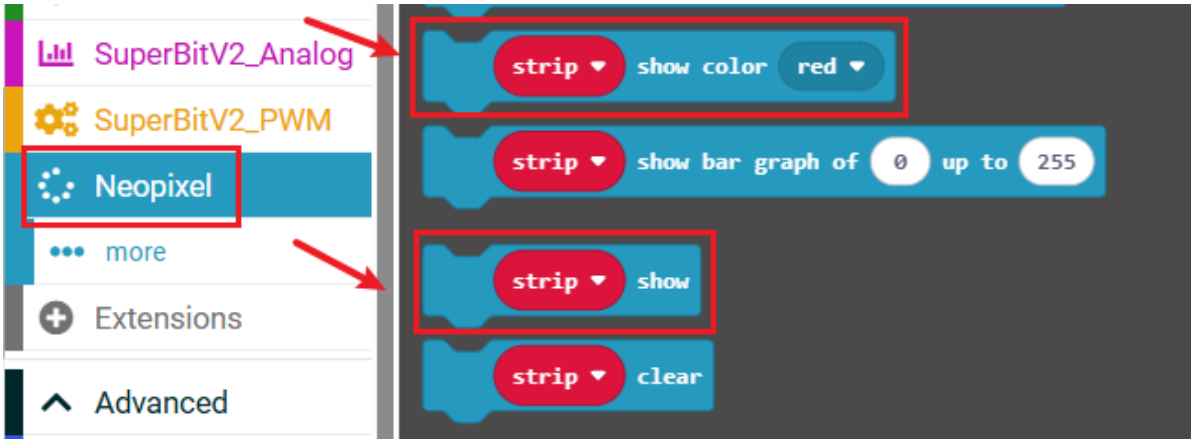


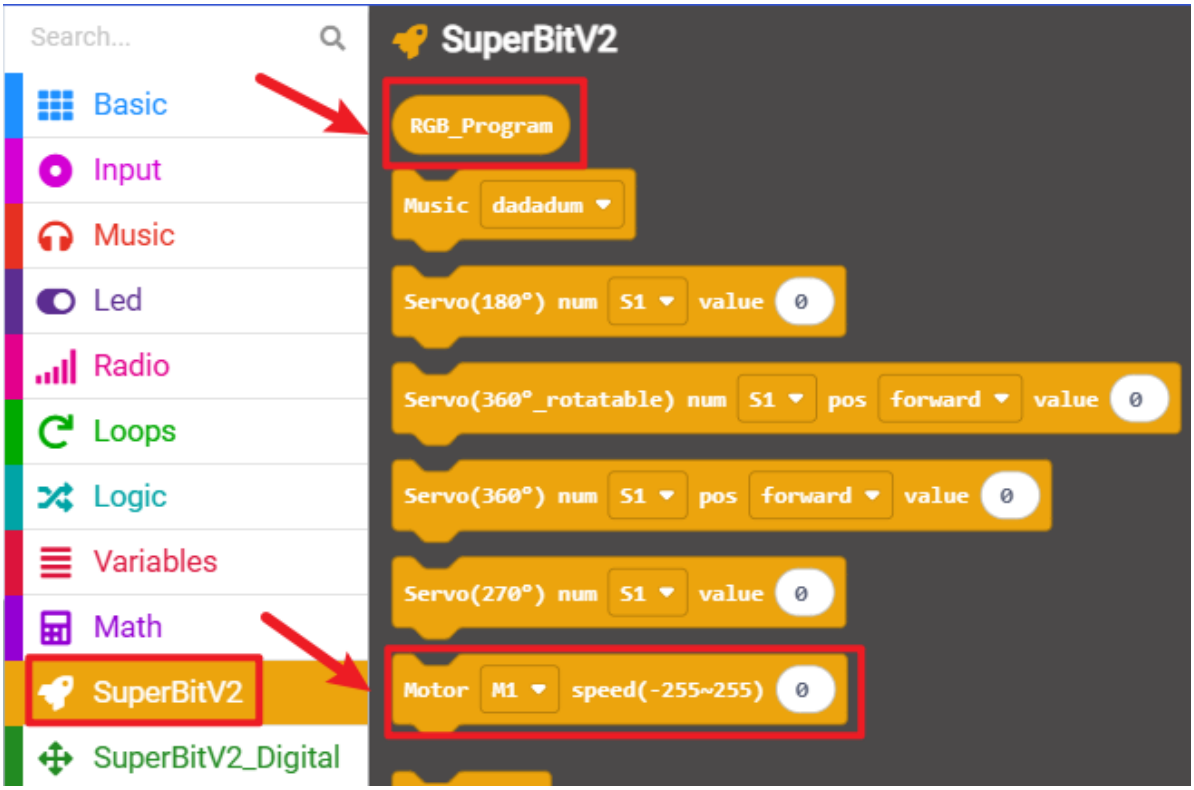
4.2 Building blocks used

The location of the building blocks required for this programming is shown in the figure below.


Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
GHBit
Neopixel
Extensions
show icon
show string "Hello!"
clear screen
forever
on start
pause (ms) 100

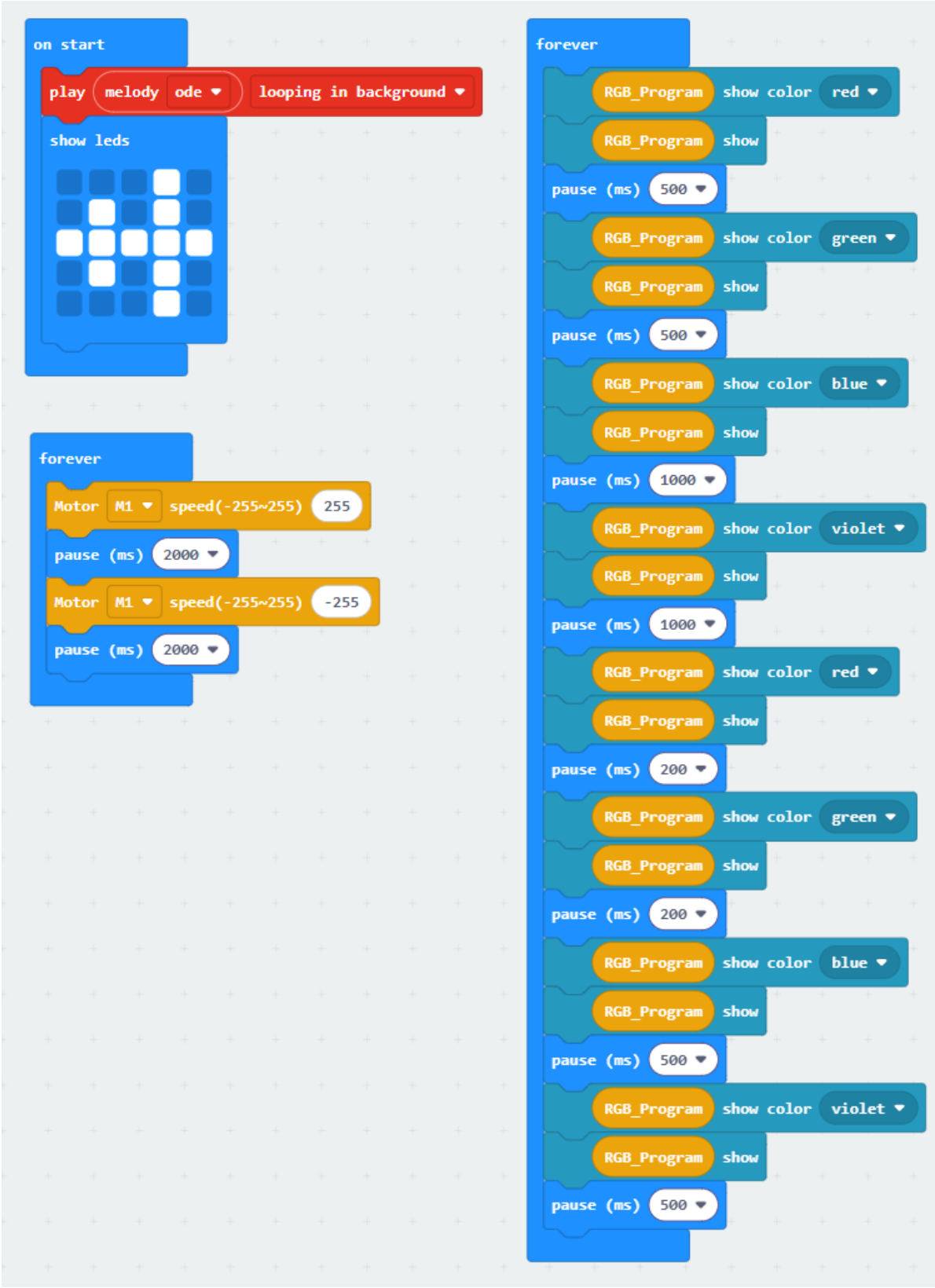

Search...
Basic
Input
Music
play melody dadadum in background
stop melody all


SuperBitV2_Analog
SuperBitV2_PWM
Neopixel
more
Extensions
Advanced
strip show color red
strip show bar graph of 0 up to 255
strip show
strip clear



4.3 Combining blocks

The summary program is shown in the figure below.



You can also directly open the **microbit-Sailing-Prelude.hex** file provided in this experiment and drag it into the browser that opens the URL, and the program diagram of this project source code will be automatically opened

5. Experimental phenomenon

After the program is successfully downloaded, turn on the power switch, and an airplane pattern will be displayed on the micro:bit dot matrix, as shown in the figure below. Then the propeller of the airplane starts to rotate, the buzzer starts to play the music "Ode", and RGB will also switch to different colors.