

Sailing Prelude

1.Learning goals

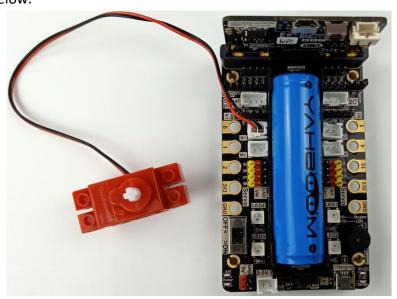
In this course, we mainly learn how to use MakeCode graphical programming to make the propeller of helicopter rotate while the buzzer plays music.

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]-[Airplane].

3. Wiring of motor

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; 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.

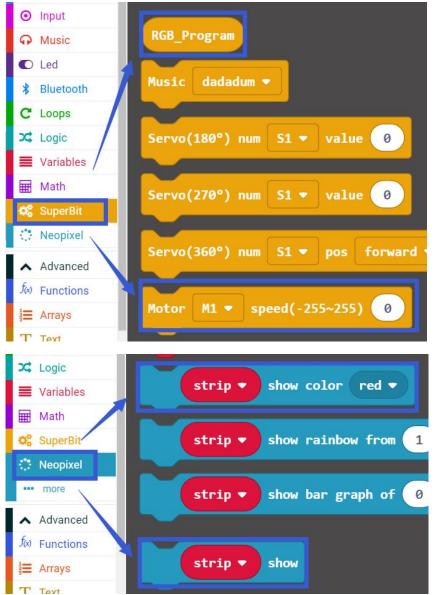
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click \[\text{New Project } \], add Yahboom package: \(\text{https://github.com/lzty634158/SuperBit}, \) you can program.

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.

```
start melody ode ▼ repeating forever in background ▼

show leds

forever

Motor M1 ▼ speed(-255-255) 255

pause (ms) 2000 ▼

Motor M1 ▼ speed(-255-255) -255

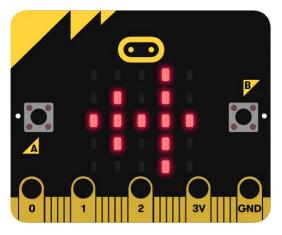
pause (ms) 2000 ▼
```

```
forever
                                               pause (ms) 1000 w
       RGB_Program show color red ▼
                                                    RGB_Program show color red ▼
       RGB_Program show
                                                    RGB_Program show
 pause (ms) 500 ▼
                                               pause (ms) 200 ▼
       RGB_Program show color green ▼
                                                    RGB_Program show color green ▼
      RGB_Program show
                                                    RGB_Program show
                                               pause (ms) (200 ▼
 pause (ms) 500 ▼
                                                    RGB_Program show color blue ▼
       RGB_Program | show color | blue ▼
                                                    RGB_Program show
      RGB_Program show
                                               pause (ms) 500 ▼
 pause (ms) 1000 ▼
                                                    RGB_Program show color violet ▼
       RGB_Program show color violet ▼
                                                    RGB_Program show
       RGB_Program show
                                               pause (ms) 500 ▼
 pause (ms) 1000 ▼
```

7.Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix will display the airplane pattern, as shown below. Open the power switch, propeller of helicopter rotate while the buzzer plays music, and RGB light will switch different color.





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