3.2 Tumble:bit Left and right

1. Learning goals

In this lesson, we will learn to use the micro:bit and Super:bit to control the building blocks to balance the car movement, including turn left and turn right functions.

2.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.

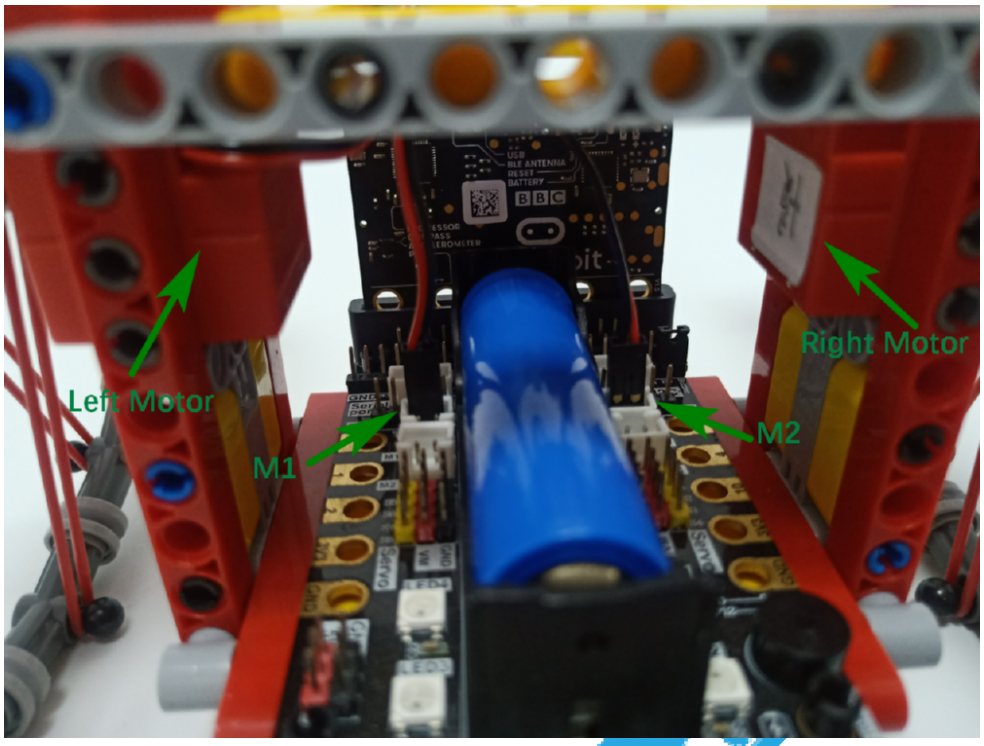
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: https://github.com/lzty634158/SuperBit, you can program.

3.Assembly steps

Please refer to the **[Tumblebit Assembly Steps]**

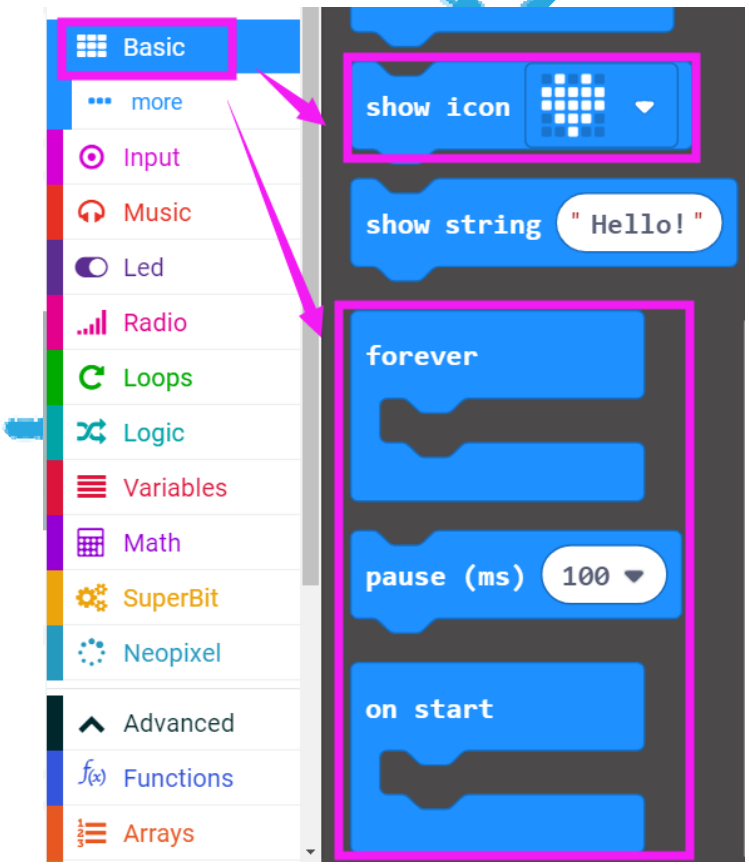
4.About wiring

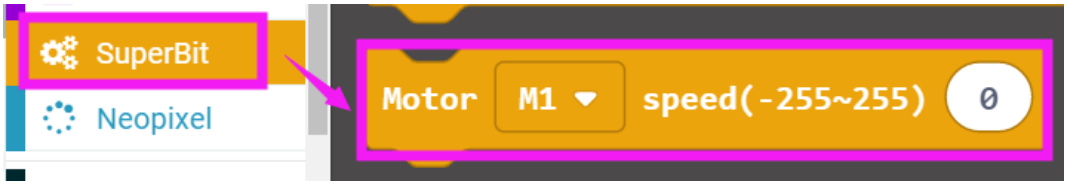
The motor wiring on the left side of the building block balance car is connected to the Super:bit M1 interface, and the black wire is on the battery side.
The motor wiring on the right side of the building block balance car is connected to the Super:bit M3 interface, and the black wire is on the battery side.
As shown below:



5.Looking for blocks

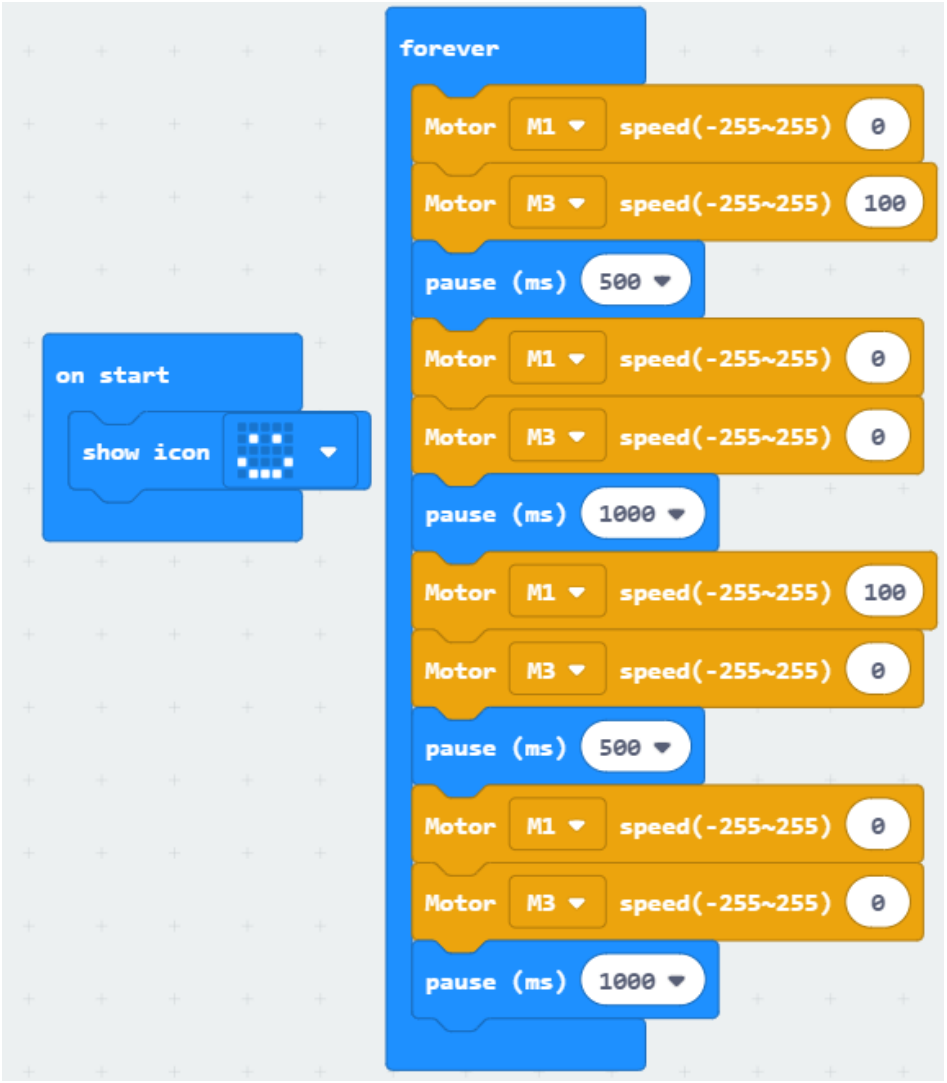
The following is the location of the building blocks required for this programming.





6.Combine building block

The summary program is shown below:



！Note:

Since our building block balance car has only two wheels and the wheel itself does not have the function of turning, the building block balance car relies on the speed difference between the two wheels to achieve the turning effect.

Left wheel stop, the right wheel advances, turn left.

Right wheel stop, the left wheel advances, turn right.

When turning, the wheel speed should not be set too large.

7. Experimental phenomenon

After the program is successfully downloaded, the micro:bit dot matrix will show the smile. The building block balance car turns left for 0.5 seconds, stops for 1 second, then, turns right for 0.5 seconds, stops for 1 second. It will keep loop with this status.

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