

### 3.1 Tumble:bit Advance and back

#### 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 forward and back 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

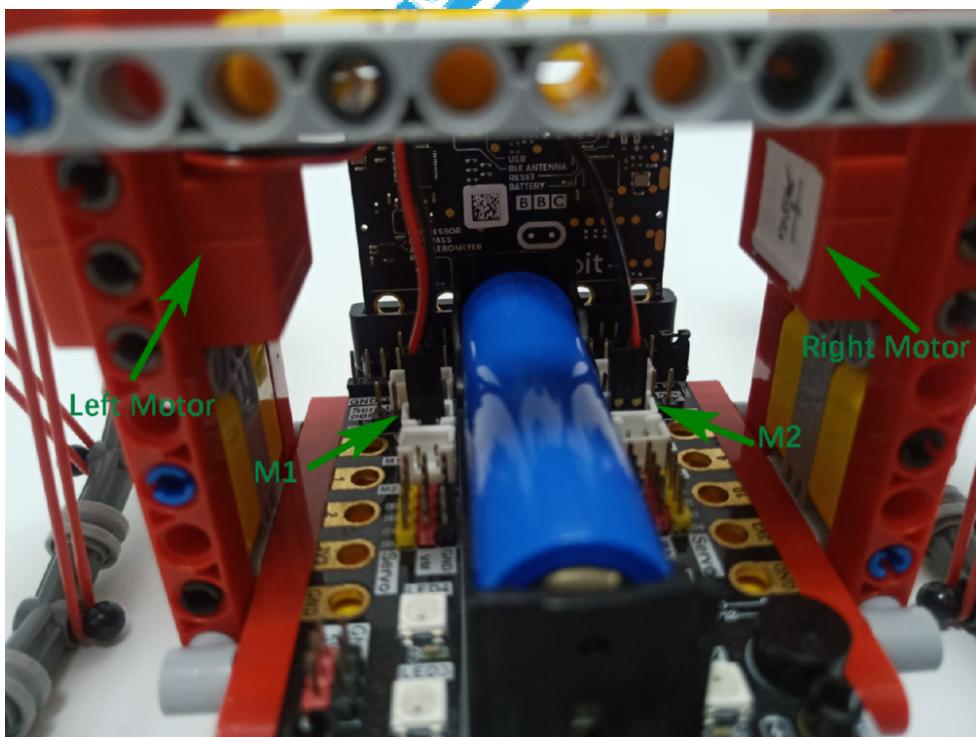
Please refer to the [\[Tumblebit Assembly Steps\]](#)

#### 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.

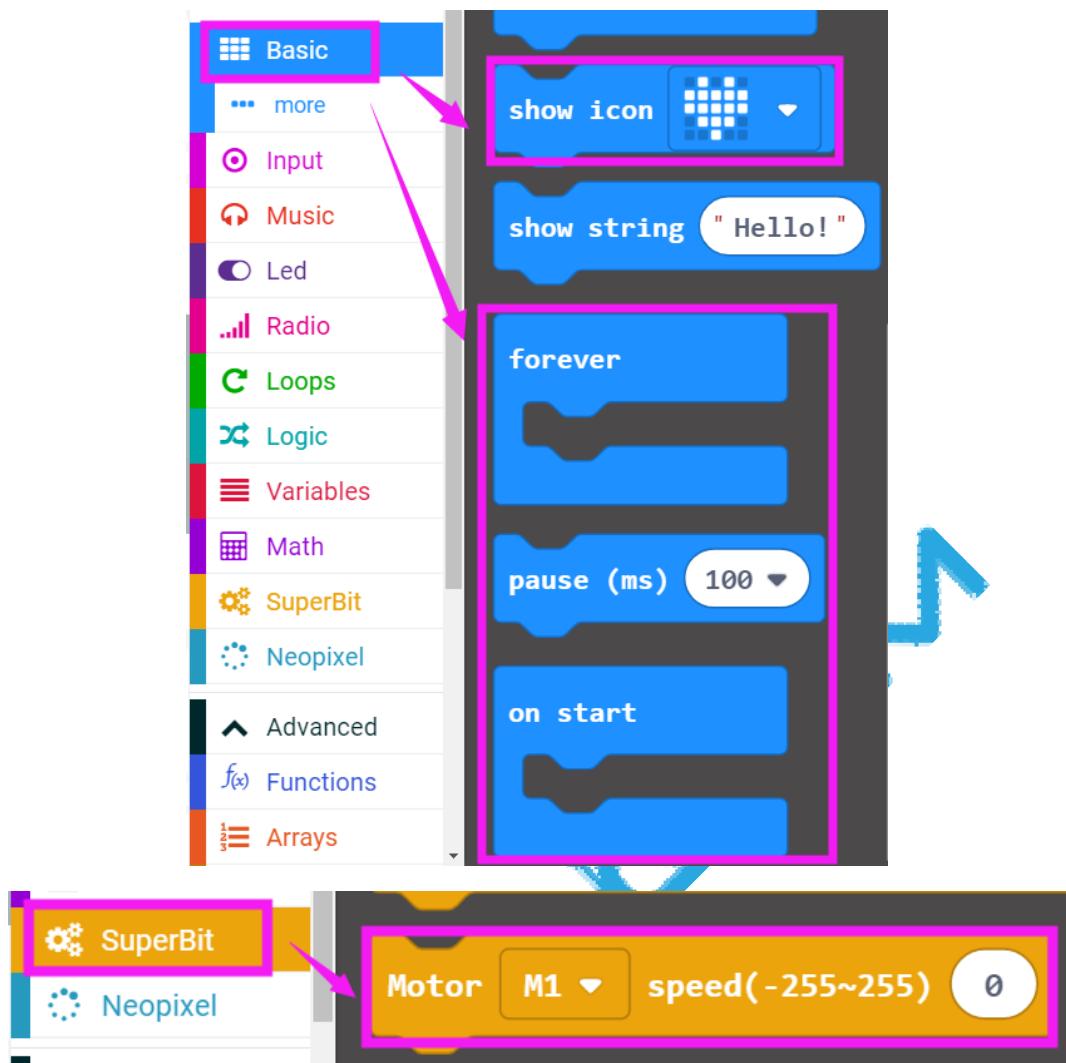
The motor wiring on the right side of the building block balance car is connected to the Super:bit M3 interface, and the black wire is on the battery side.

As shown below:



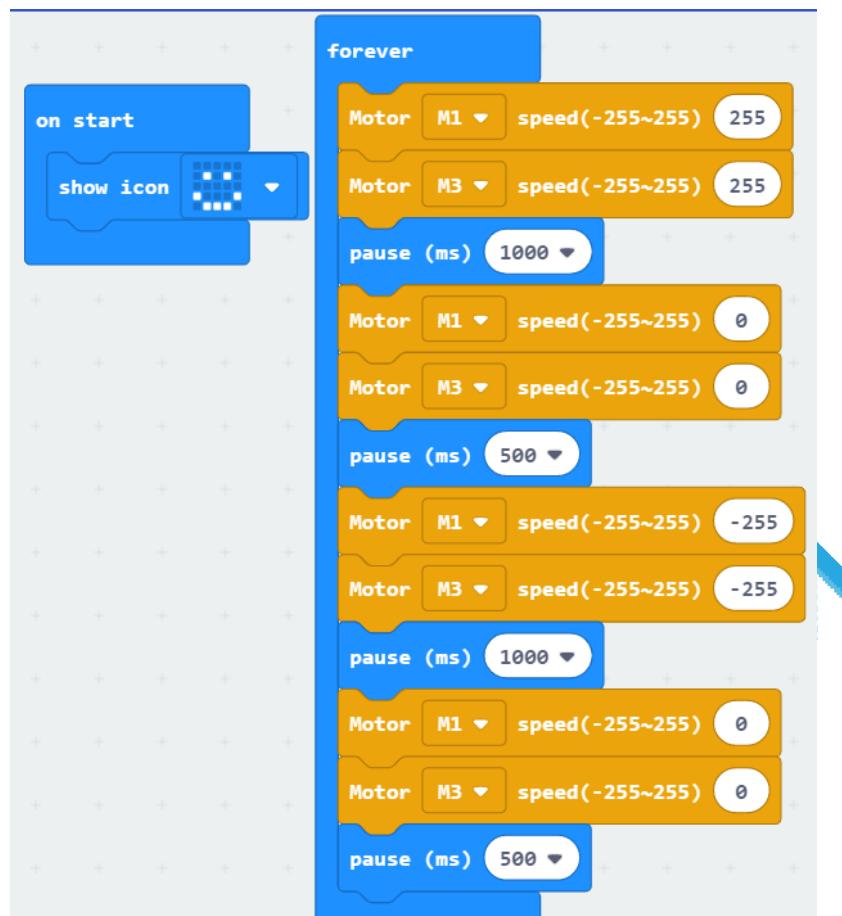
#### 5. Looking for blocks

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



## 6. Combine building block

The summary program is shown below:



## 7. Experimental phenomenon

After the program is successfully downloaded, the micro:bit dot matrix will show the smile. The building block balance car moves forward with 255 speed for 1 second, then, stops for 0.5 seconds,. Next, it moves back with 255 speed for 1 second, stops for 0.5 seconds. It will keep loop with this status.

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

