

## Adjust Speed

### 1.Learning goals

In this lesson, we mainly learn how to control motor by micro:bit and Super:bit expansion board.

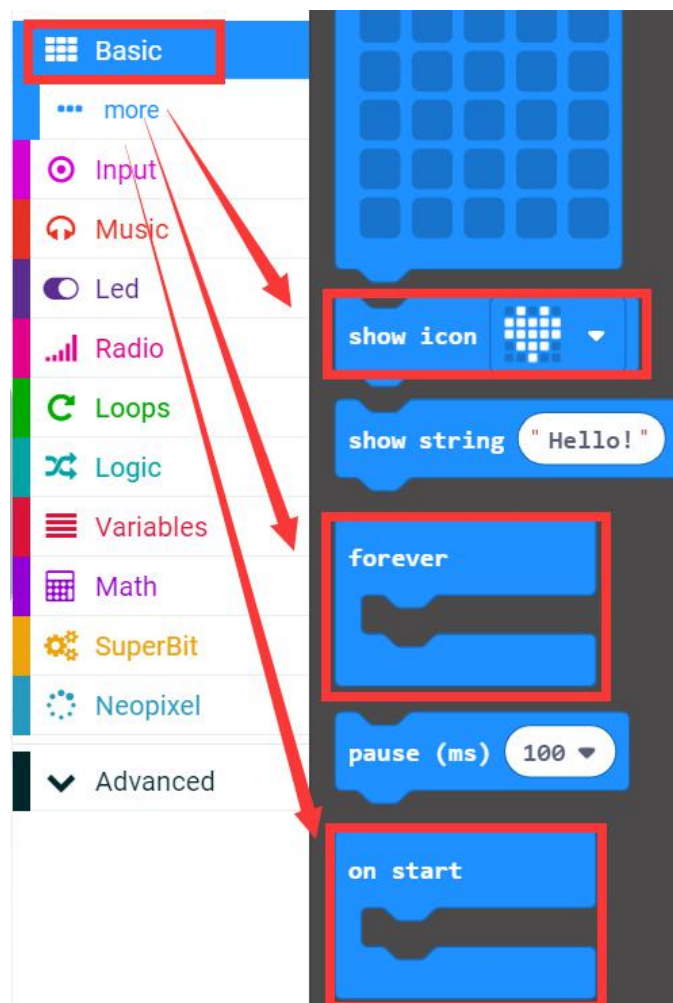
### 2.Programming method

**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.Looking for blocks

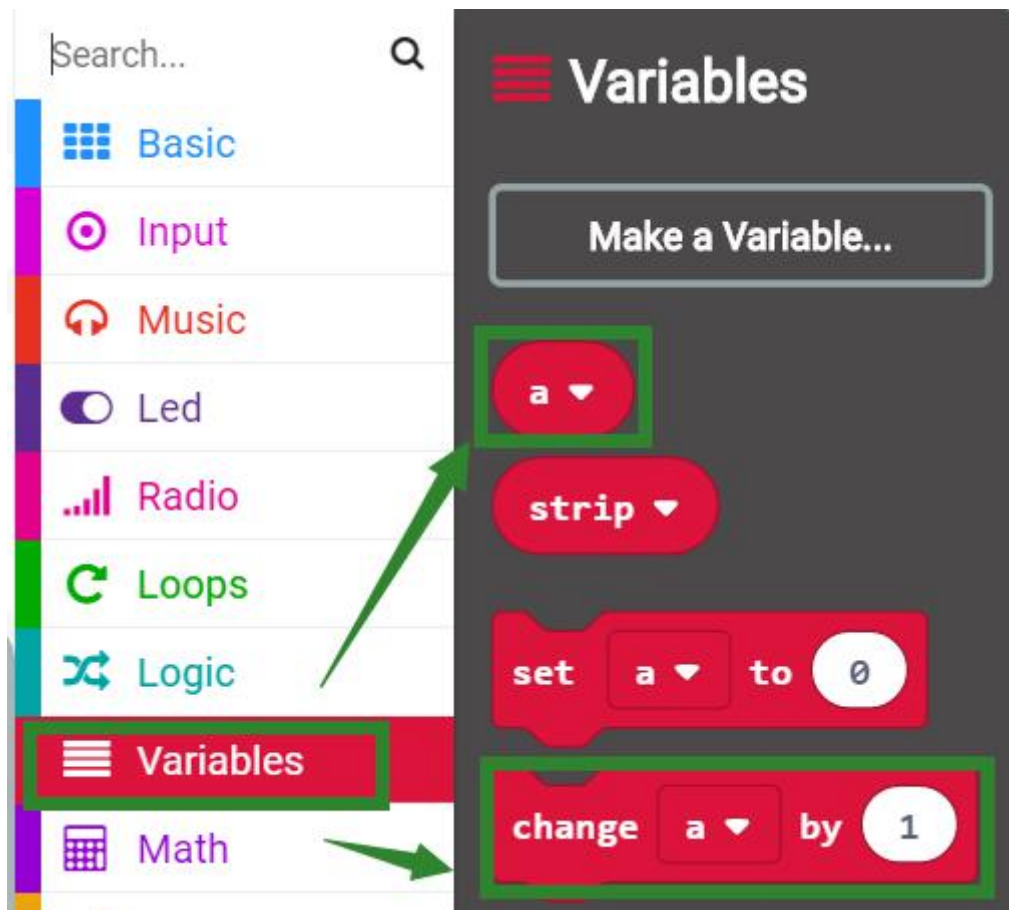
The following is the location of the building blocks required for this programming.



The image shows a multi-step process of building a code block in the YAHBOOM environment. The interface includes a left sidebar with category tabs (Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, SuperBit, Neopixel) and a top search bar. The main workspace shows the assembly of a block:

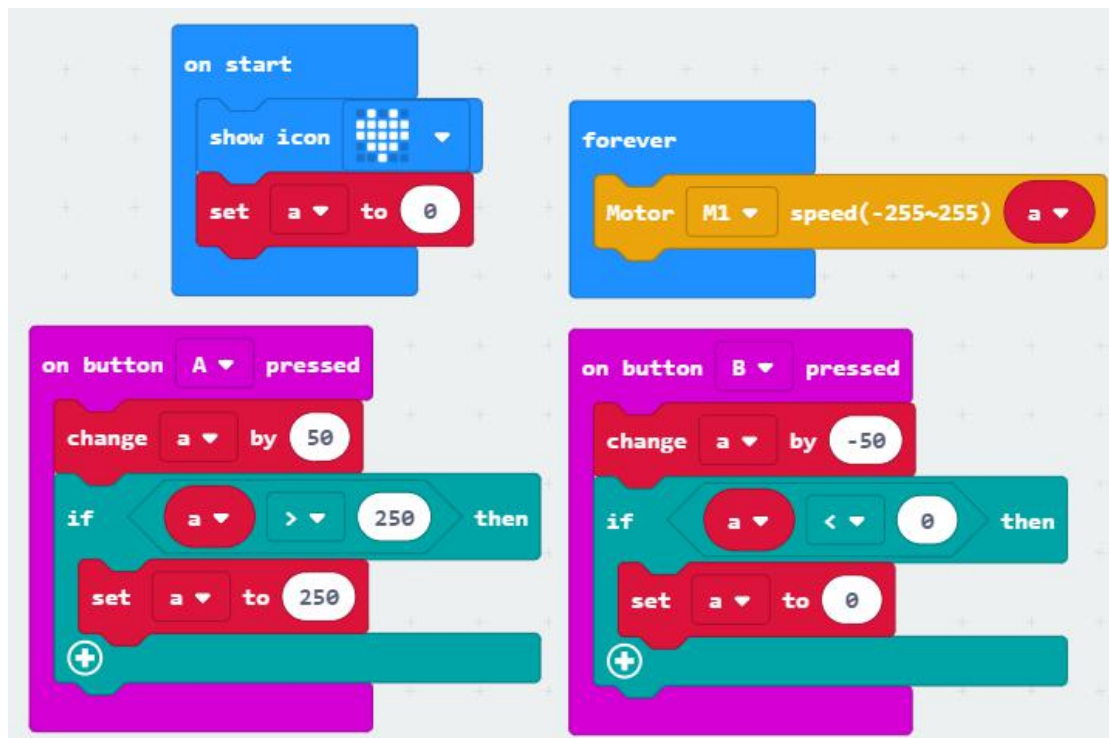
- Step 1:** A block titled "on button A pressed" is selected from the "Input" category and placed into the workspace.
- Step 2:** The "Logic" category is selected. Two "if true then" blocks are added to the workspace. The first "if" block contains a "+" (add) block, and the second "if" block contains an "-" (subtract) block.
- Step 3:** A "Comparison" block is added below the logic blocks, containing the expression `0 = 0`.
- Step 4:** The "SuperBit" category is selected, and a "Motor M1 speed(-255~255)" block is added to the workspace.

Red arrows indicate the sequence of additions to the workspace. The final workspace contains the "on button A pressed" block, two "if true then" blocks with add and subtract operations, a "Comparison" block with `0 = 0`, and a "Motor M1 speed(-255~255)" block.



#### 4. Combine building block

The summary program is shown below:



### **5.Assembly steps**

Please refer to the **Fan assembly steps** folder in the **Assembly instructions** folder for building blocks assembly steps.

### **6.About wiring**

We need to connect two building block motors to the **M1** interfaces of the Super:bit expansion board.

### **7. Experimental phenomena**

After the program is successfully downloaded, open the power switch, the building block motor stops; press the micro:bit A button to increase the speed, the maximum speed is 250; press the micro:bit B button to decrease the speed, the lowest speed is 0.

[If you need to restart, please press the reset button on the micro: bit board.](#)