**Automatic Lift**

## 1.Learning goals

In this course, we mainly learn how to use the MakeCode graphical programming to realize the lifting platform automatically rises and falls.

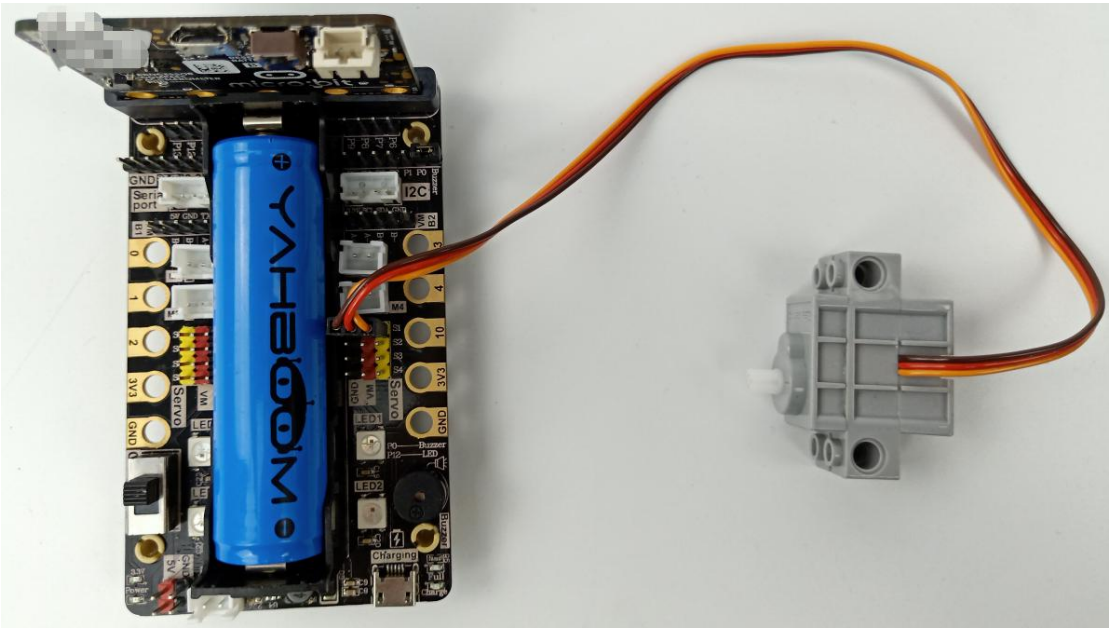
## 2.Building block assembly steps

For the building block construction steps, please refer to the installation manual or building block installation picture of [Assembly course]-[Lifting platform].

## 3.Wiring of servo

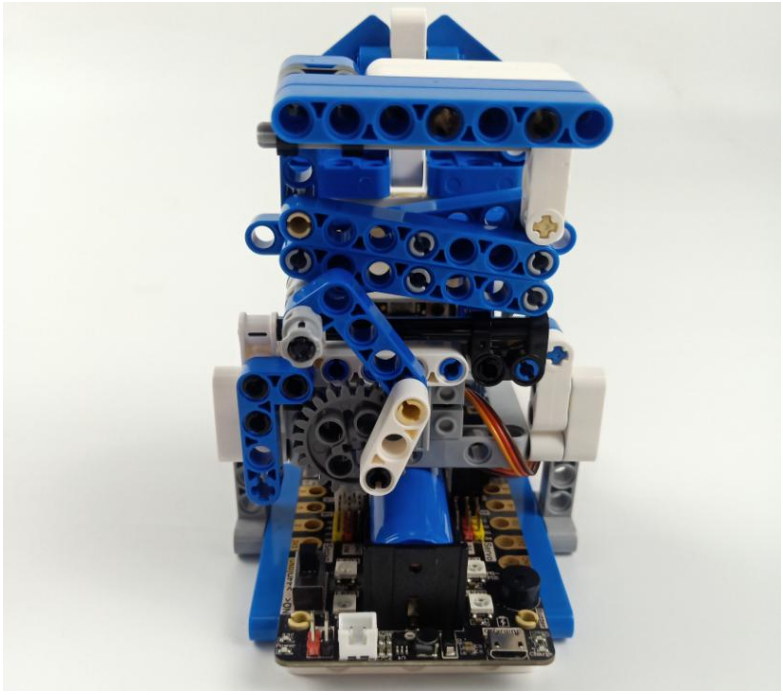
Building block servo insert into the Super: bit expansion board S1 interface, and the orange wiring connect the yellow pin of S1.

As shown below:




**Note:**

**For the first course related to building block servo, we need to remove the gear on the servo and upload the program of this course to micro: bit. Then, turn on the power switch of the Super:bit expansion board and wait for the building block servo turn to the initial position. Next, we can turn off the power, and adjust the lifting platform to the lowest. Finally, install the servo. (If you have used programs related to clip robot before, you can skip this step)**



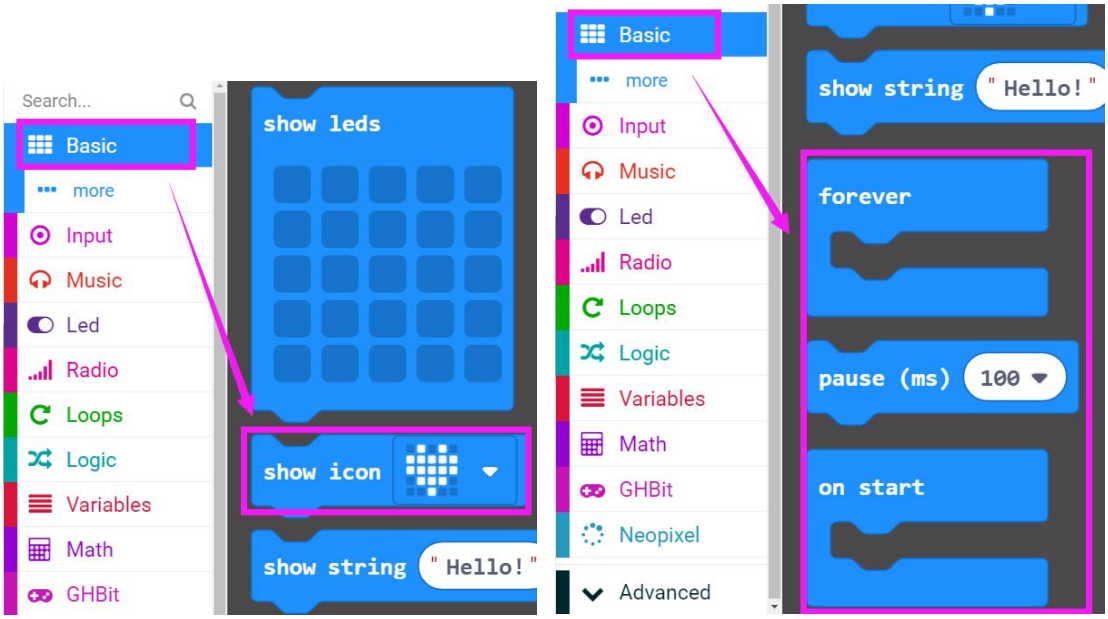
**4. Programming method**

**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【New Project】, add Yahboom package: **https://github.com/lzty634158/SuperBit**, you can program.

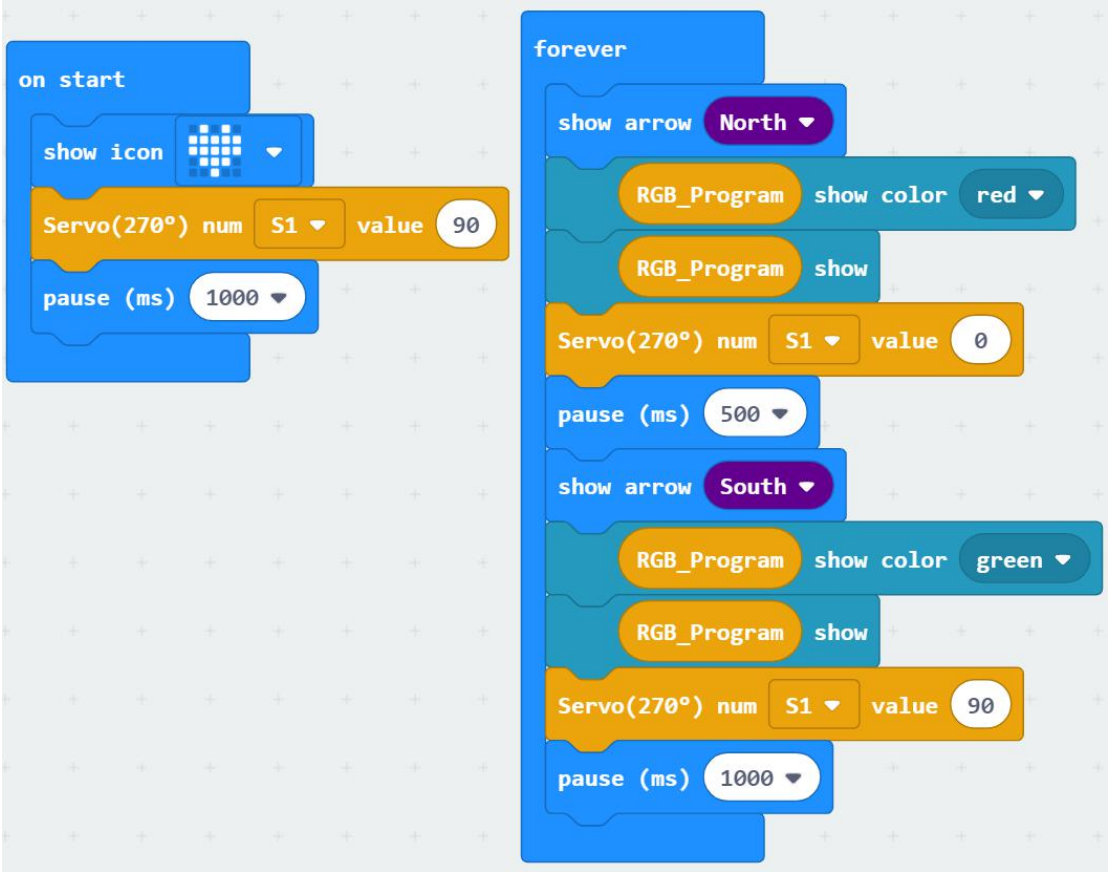
**5.Looking for blocks**

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




**6.Combine block**

The summary program is shown below.




**7.Experimental phenomena**

After the program is successfully downloaded, the micro: bit dot matrix will show a heart pattern.

Open the power switch, the servo will initialize to 0 ° (lifting platform lowest). After

1s, we can see an up arrow pattern on the micro: bit dot matrix, the RGB light turns red, the lifting platform rises.
After 500 ms, we can be seen that a down arrow pattern is displayed on the micro: bit dot matrix, the RGB light turns green, the lifting platform falls. And keep the cycle in this state.

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