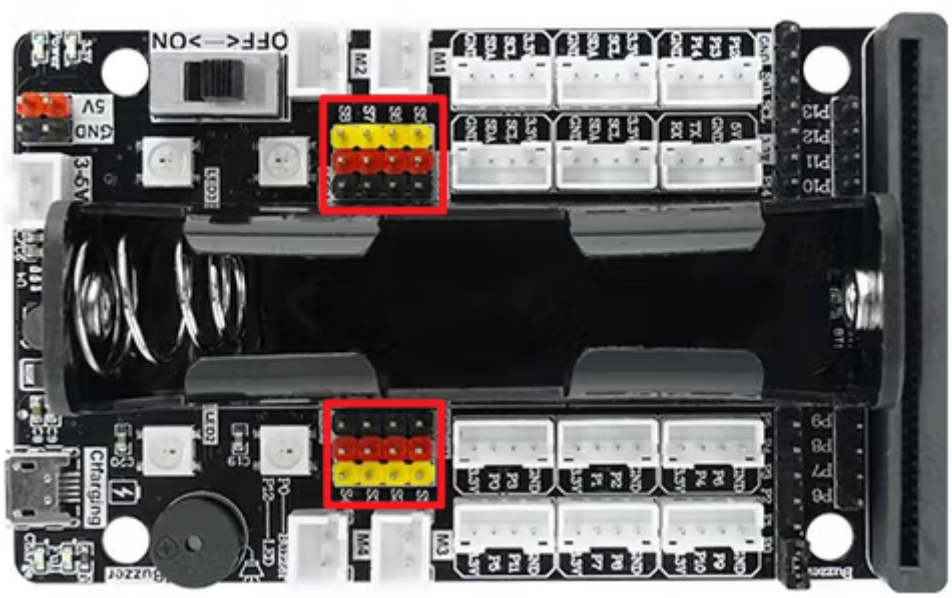
# Drive 180° servo



## 1. Learning objectives

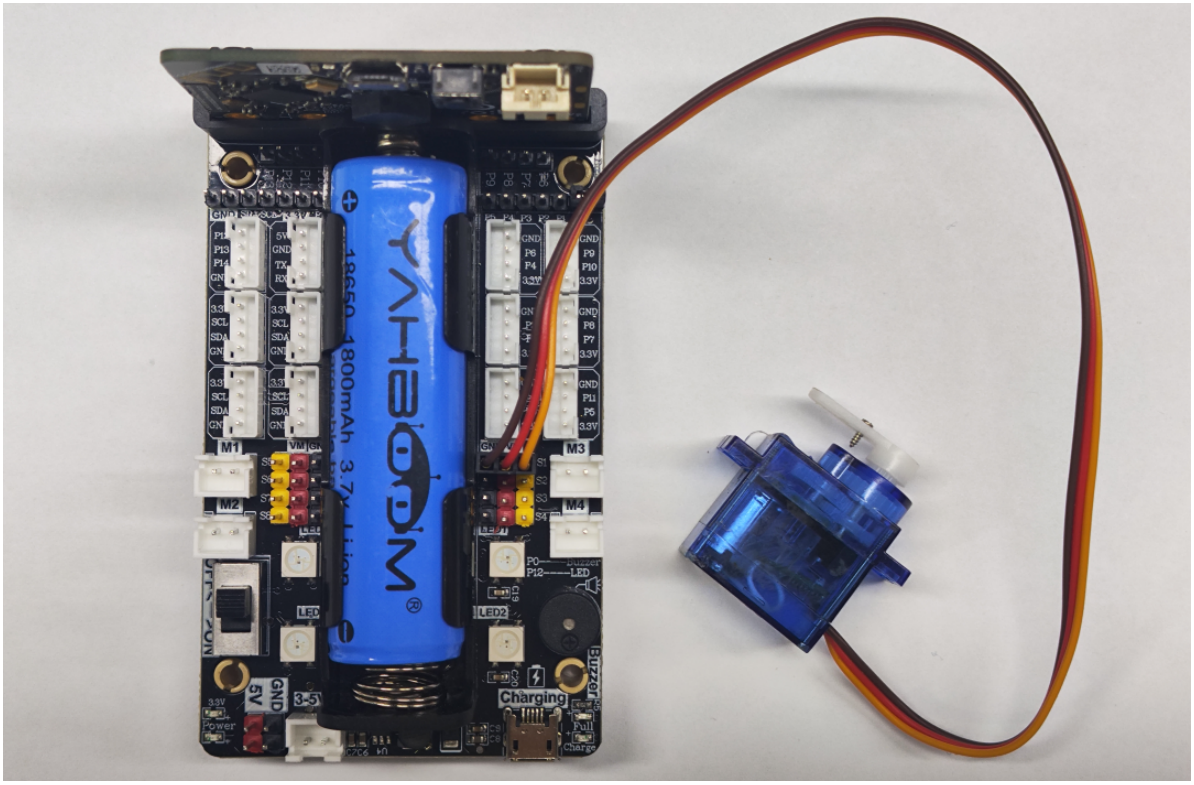
In this course, we mainly learn how to drive the servo connected to the superbit expansion board through MakeCode graphical programming.

The servo interface is located on the expansion board as shown in the figure below.




## 2. Servo wiring

Insert the servo wiring into the S1 interface of the Super:bit expansion board, and insert the orange servo wiring into the yellow pin of S1, as shown in the figure below.




# 3. Programming

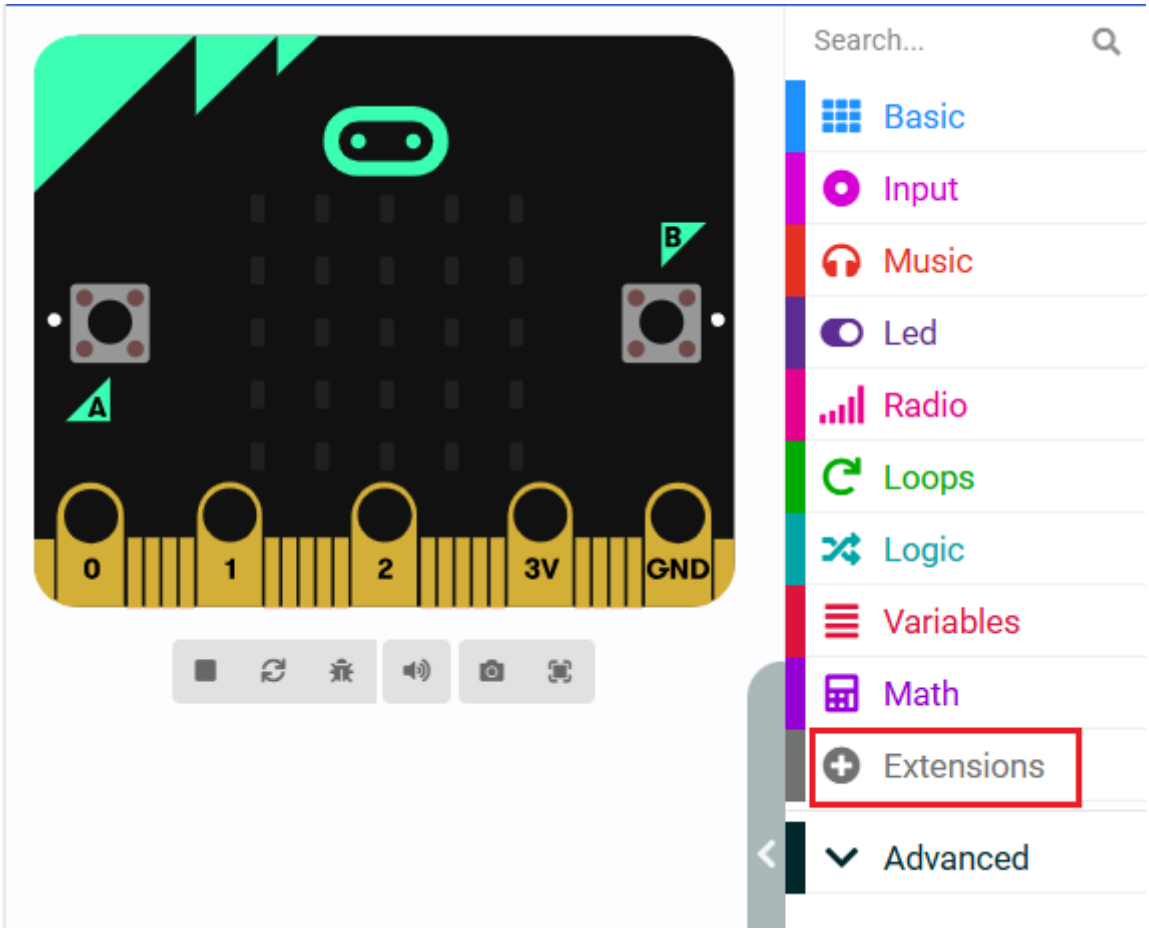
**Method 1 Online programming:**

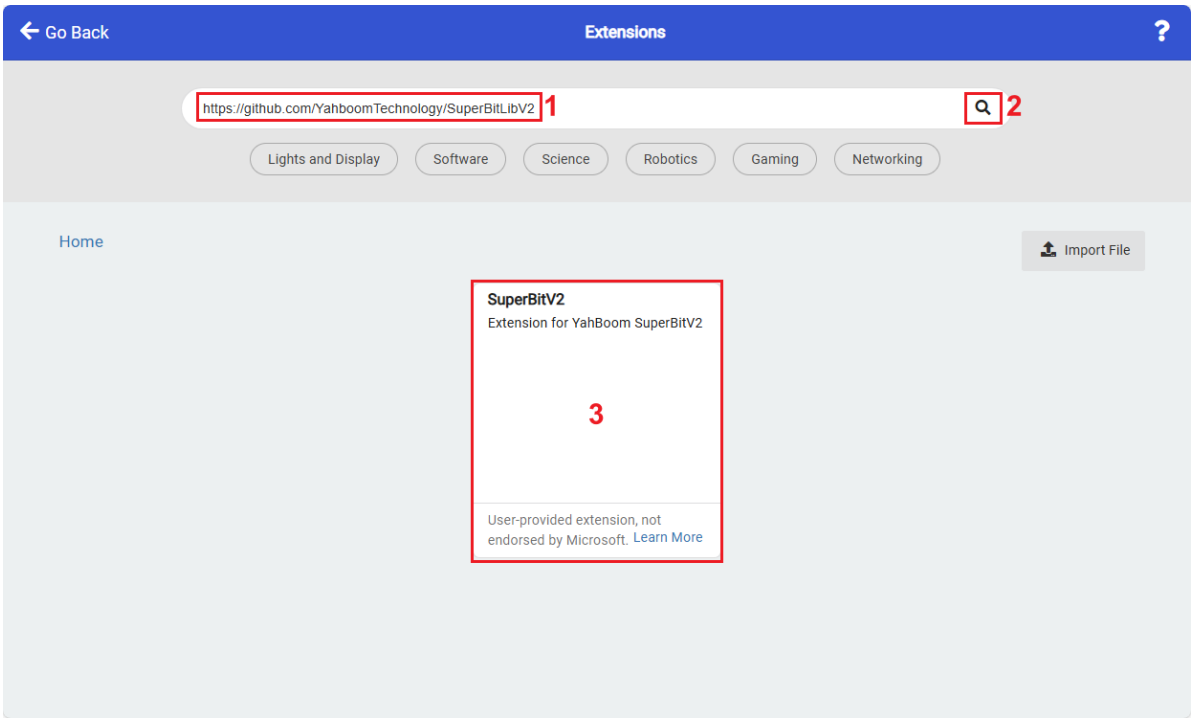
First, connect the micro:bit to the computer via a USB data cable. The computer will pop up a U disk. Click the URL in the U disk: https://makecode.microbit.org/ to enter the programming interface. Then, add the Yahboom smart software package **https://github.com/YahboomTechnology/SuperBitLibV2** to start programming.

**Method 2 Offline programming:**

Open the offline programming software MakeCode and enter the programming interface. Click [New] and add the Yahboom smart software package **https://github.com/YahboomTechnology/SuperBitLibV2** to start programming.

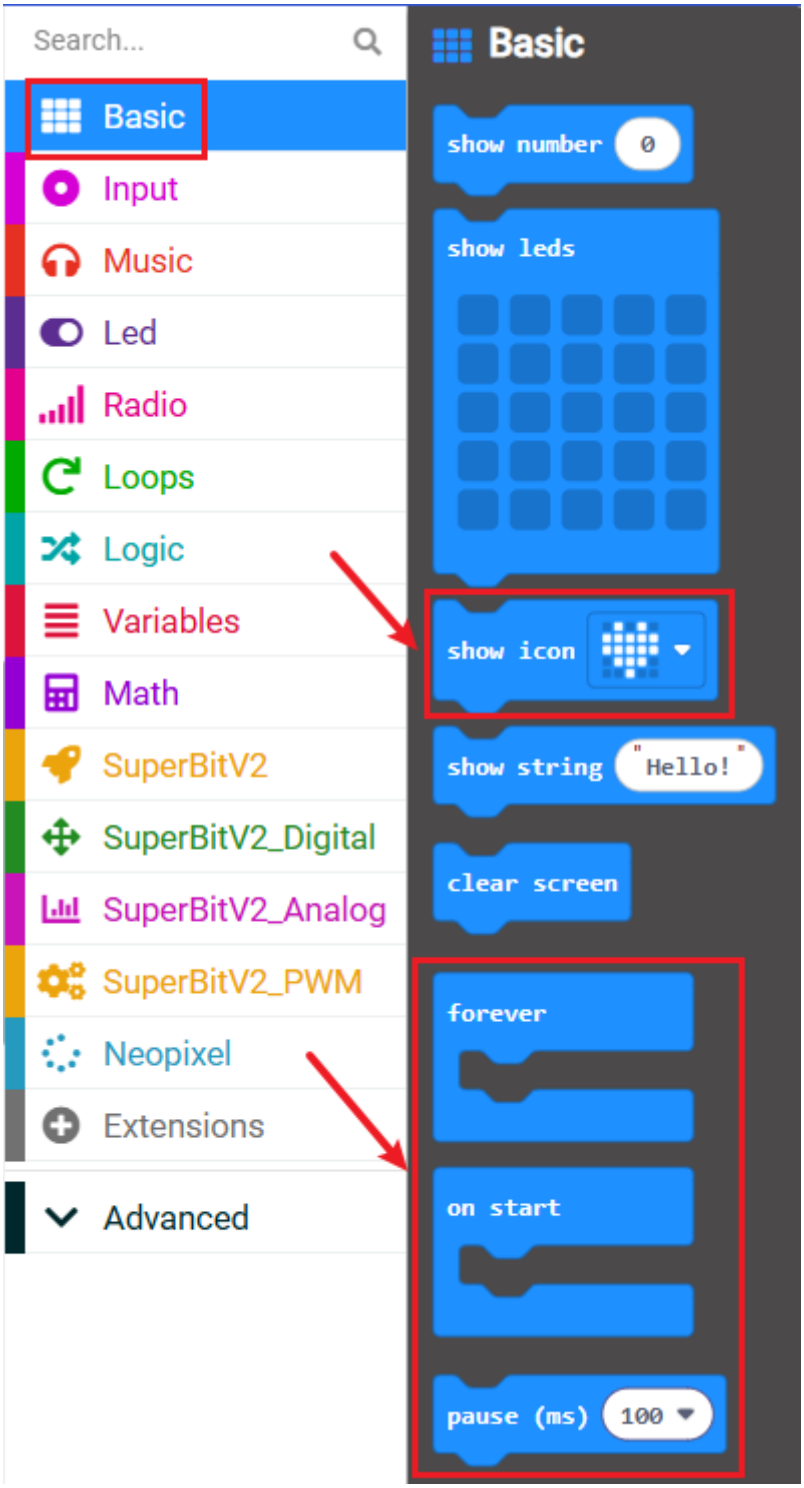
## 3.1 Add expansion package

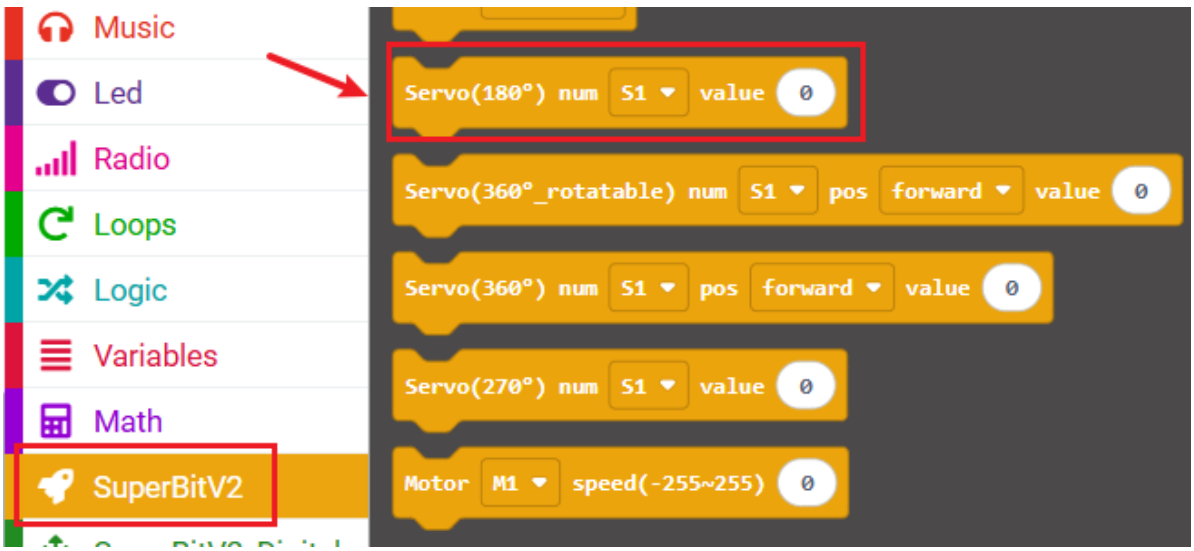



## 3.2 Building blocks used

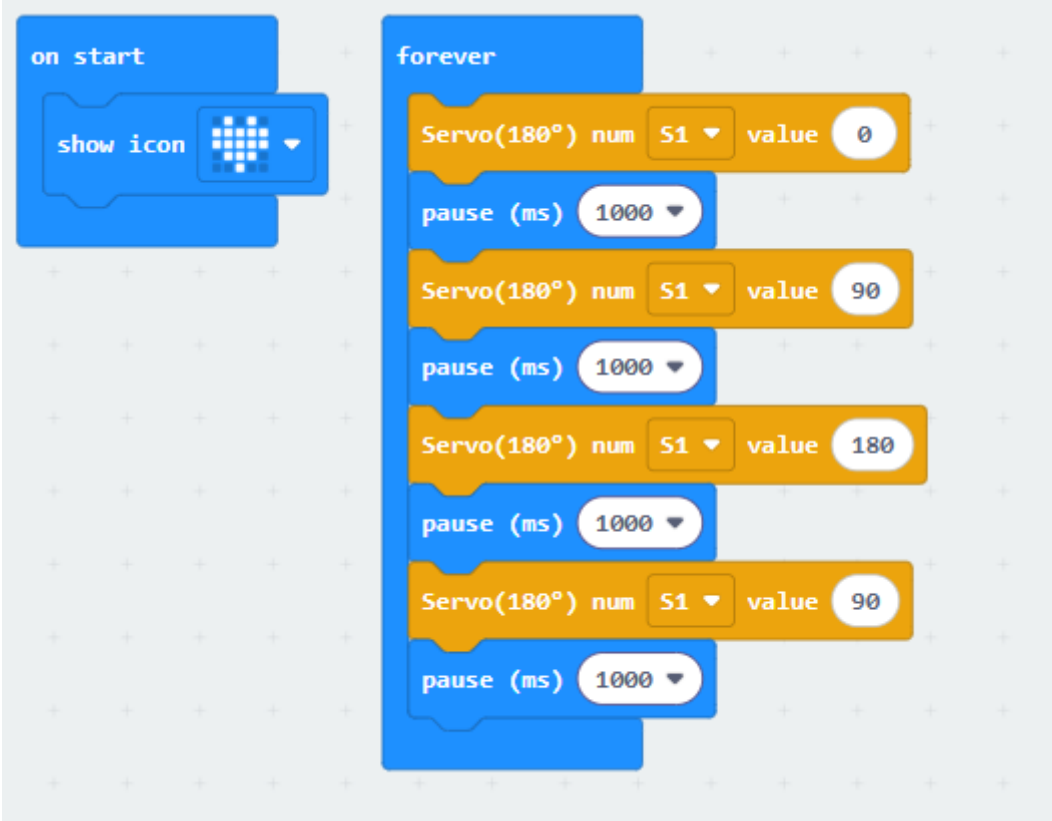
The location of the building blocks required for this programming is shown in the figure below.


Search...
Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
SuperBitV2_PWM
Neopixel
Extensions
Advanced
Basic
show number 0
show leds
show icon
show string "Hello!"
clear screen
forever
on start
pause (ms) 100


Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
Servo(180°) num S1 value 0
Servo(360°_rotatable) num S1 pos forward value 0
Servo(360°) num S1 pos forward value 0
Servo(270°) num S1 value 0
Motor M1 speed(-255~255) 0

## 3.3 Combining blocks

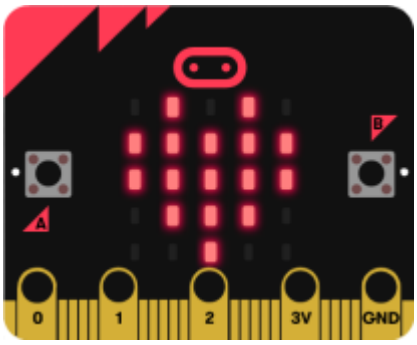
The summary program is shown in the figure below.




You can also directly open the **microbit-Servo180Driver.hex** file provided in this experiment and drag it into the browser that opens the URL, and the program diagram of this project source code will be automatically opened

# 4. Experimental phenomenon

After the program is successfully downloaded, the micro:bit dot matrix will display a heart pattern, as shown in the figure below. Then we can see that the servo starts to rotate, 0°->90°->180°->90°, with a time interval of 1 second.




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