Morning-noon-night-clock

1.Learning goals

In this lesson we mainly use micro:bit and base expansion boards, and learn how to use pin blocks to make micro:bit read the analog value of the P2 pin and control the servo rotation.

When the lighting environment is different, the servo in the different directions, and when it is at night, the RGB lights emit white light.

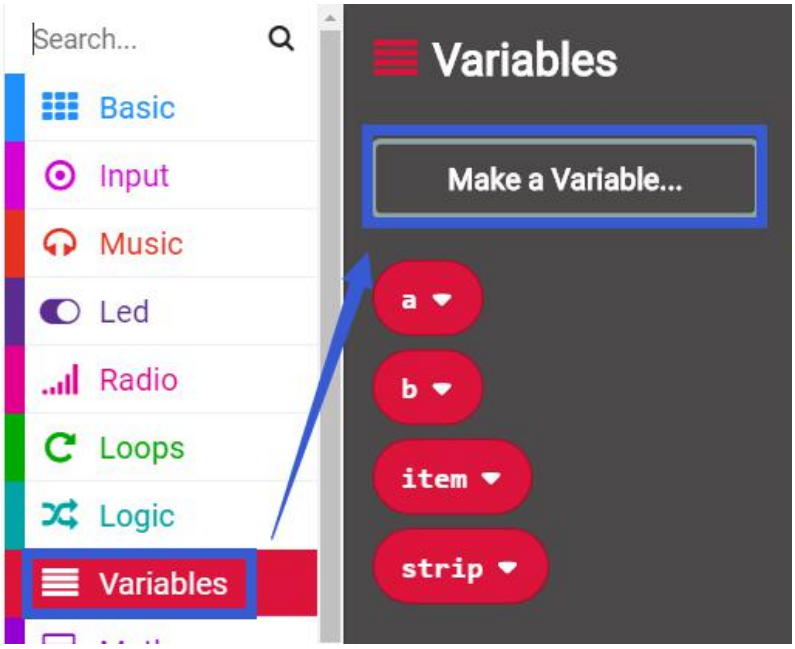
2.Programming method:

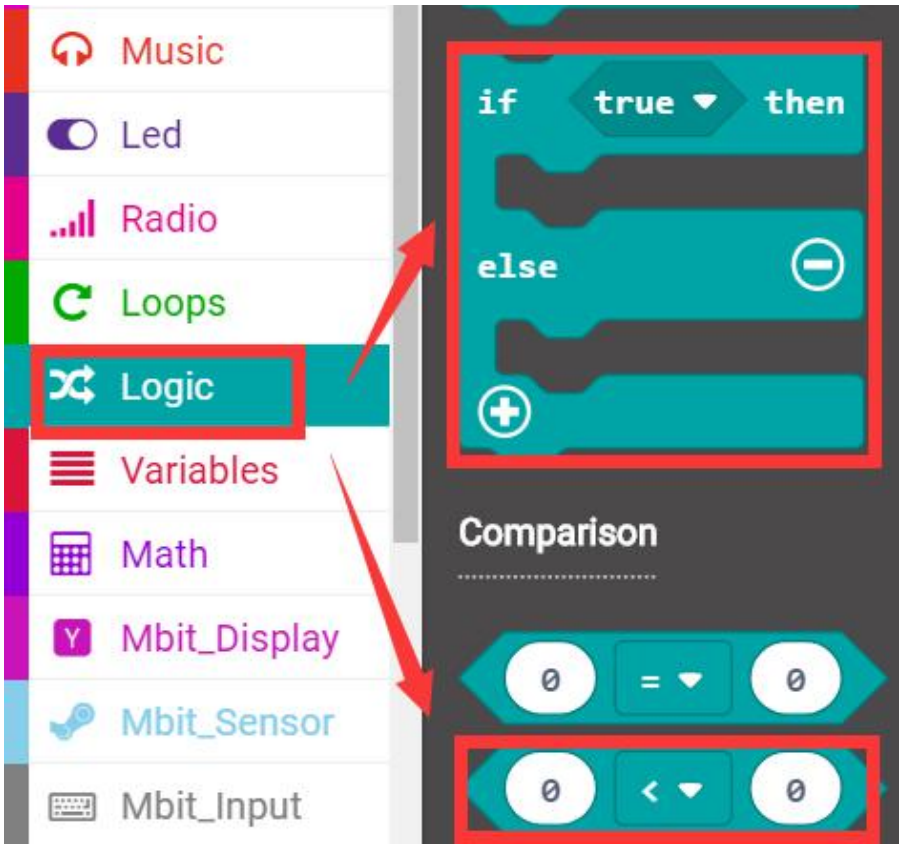
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: **http://microbit.org/** to enter the programming interface. Add the Yahboom package **https://github.com/lzty634158/yahboom_mbit_en** to program.

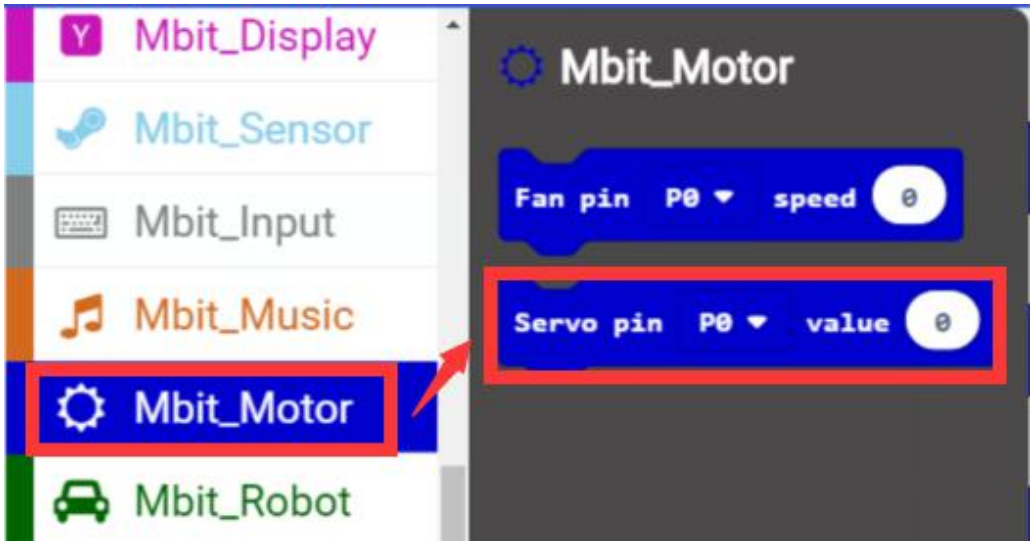
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: **https://github.com/lzty634158/yahboom_mbit_en** , you can program.

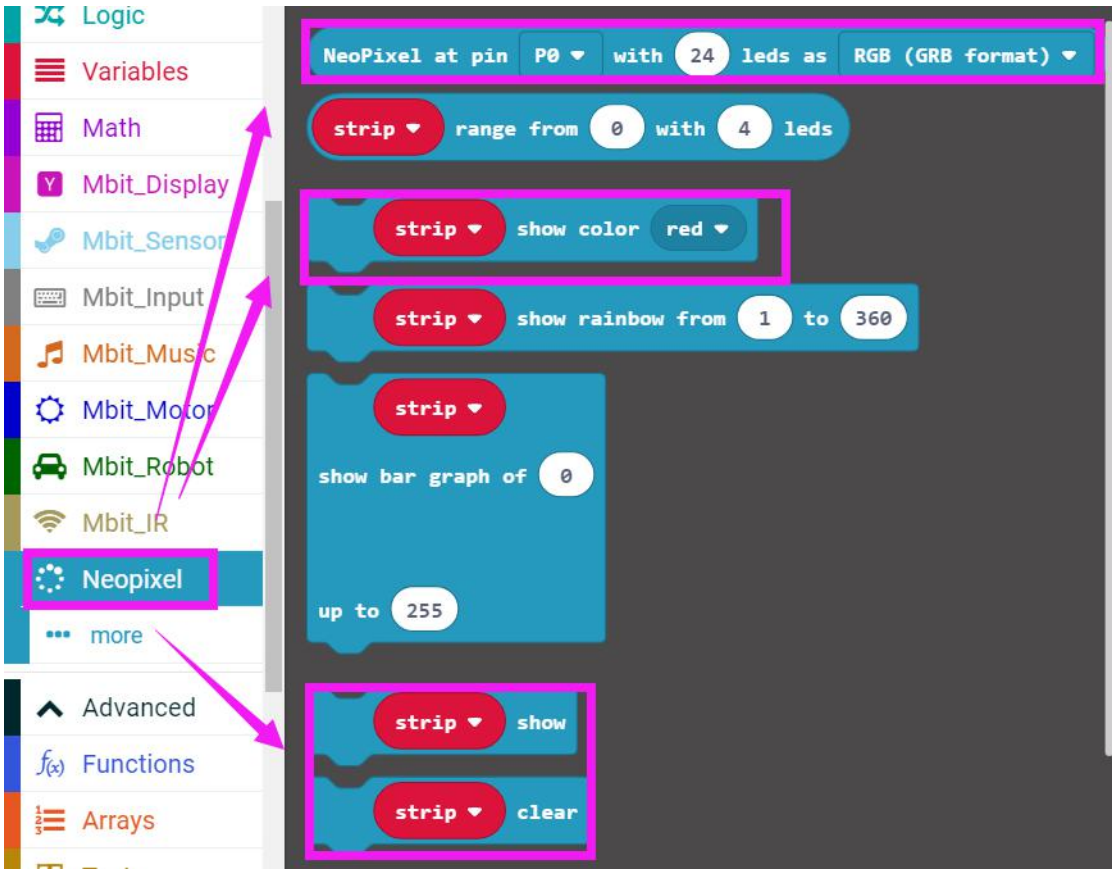
3.Looking for blocks

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



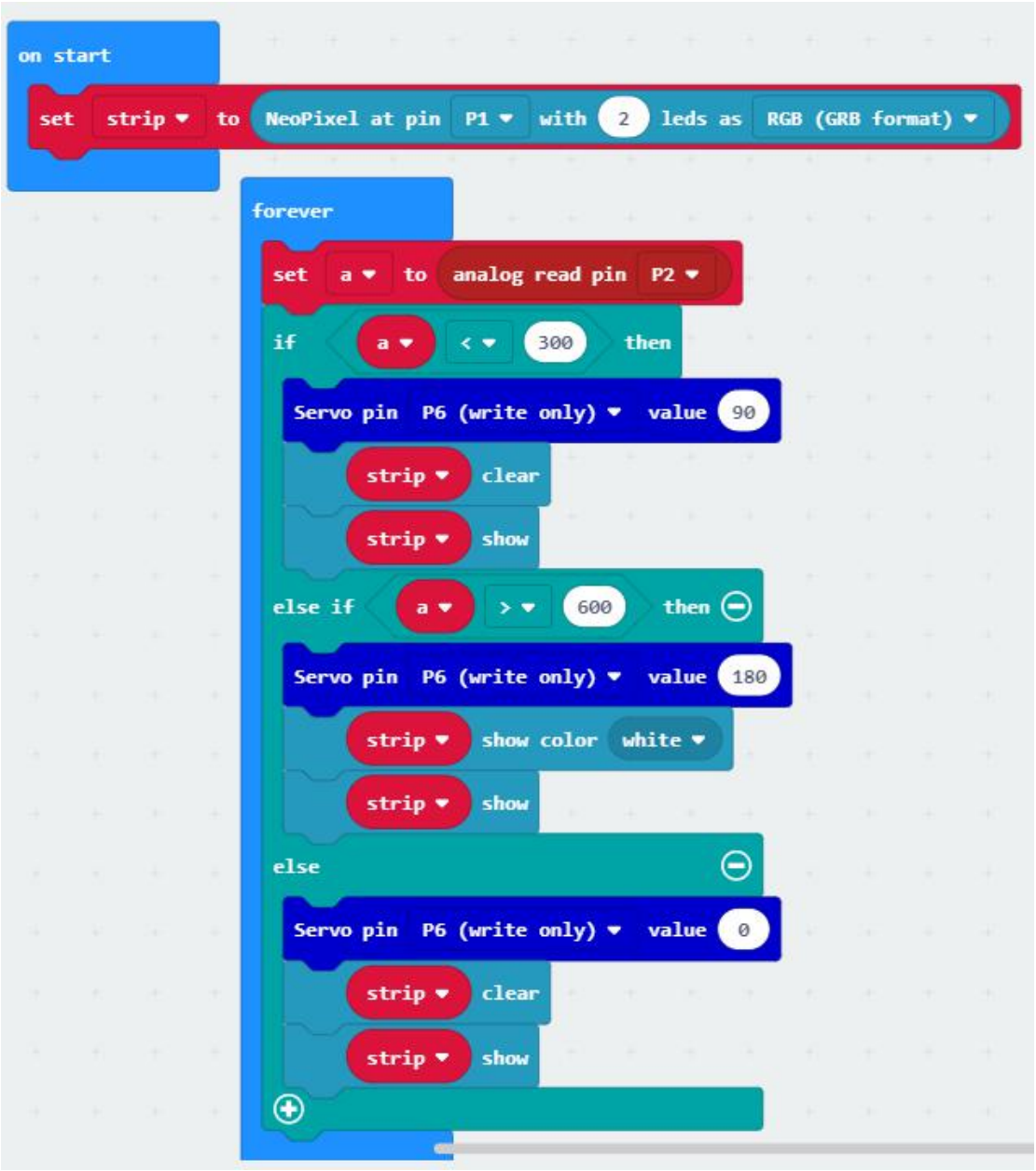

Music
Led
Radio
Loops
Logic
Variables
Math
Mbit_Display
Mbit_Sensor
Mbit_Input
if true then
else
Comparison
0 = 0
0 < 0


Mbit_Display
Mbit_Sensor
Mbit_Input
Mbit_Music
Mbit_Motor
Mbit_Robot
Mbit_Motor
Fan pin P0 speed 0
Servo pin P0 value 0

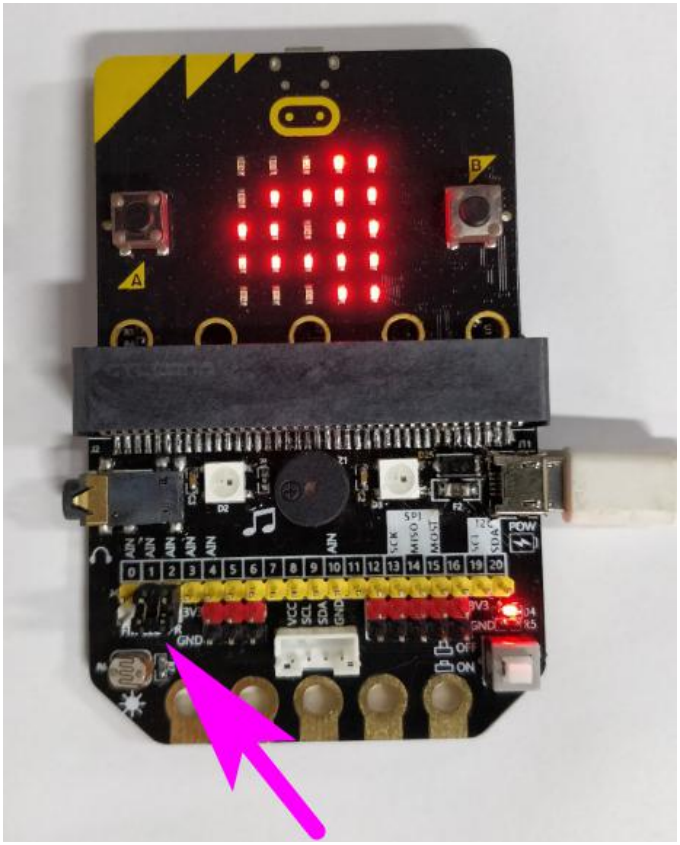


4.Combine building block

The summary program is shown below:



Note: The jumper cap needs to be installed on the P1 and LED, P2 and PR pins on the basic expansion board. As shown below.



5. Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix is not displayed. When the light intensity is not strong in the morning, the servo points to 0° RGB light is not bright; the noon light intensity is high, the servo points to 90° RGB light is not bright; the light intensity is weak and the servo points to the 180° RGB light to light up white.