Shake-control-light

1.Learning goals

In this lesson, we mainly use micro:bit and basic expansion boards, and learn how to use the input building block to determine if the micro:bit is being shaken. We will control the color of the RGB light by micro:bit shaken.

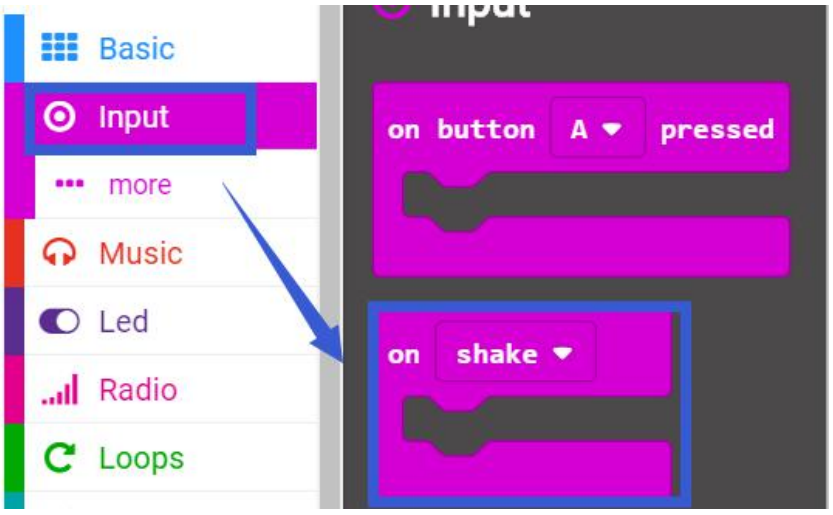
2.Programming method:

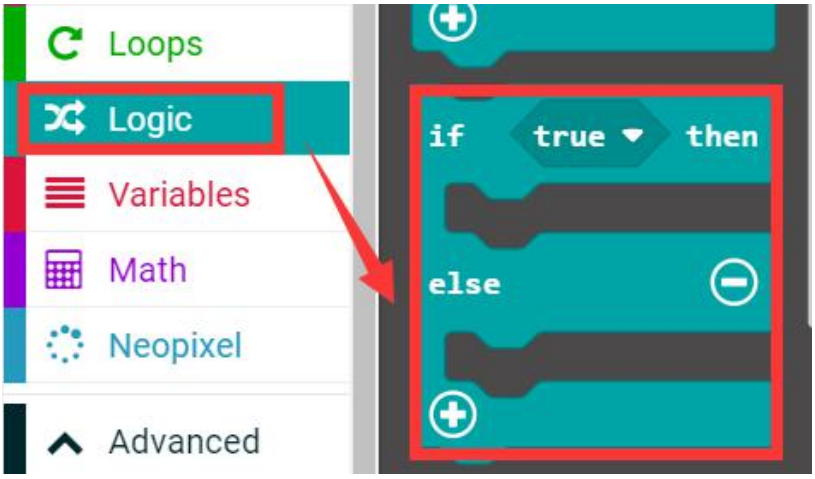
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: **http://microbit.org/** to enter the programming interface to program.

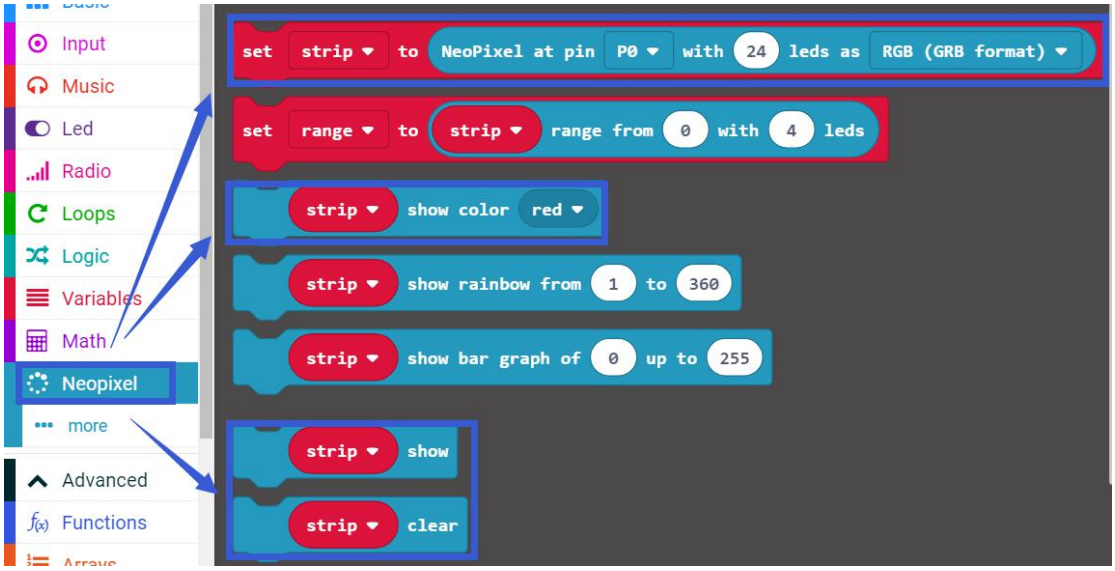
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】to program.

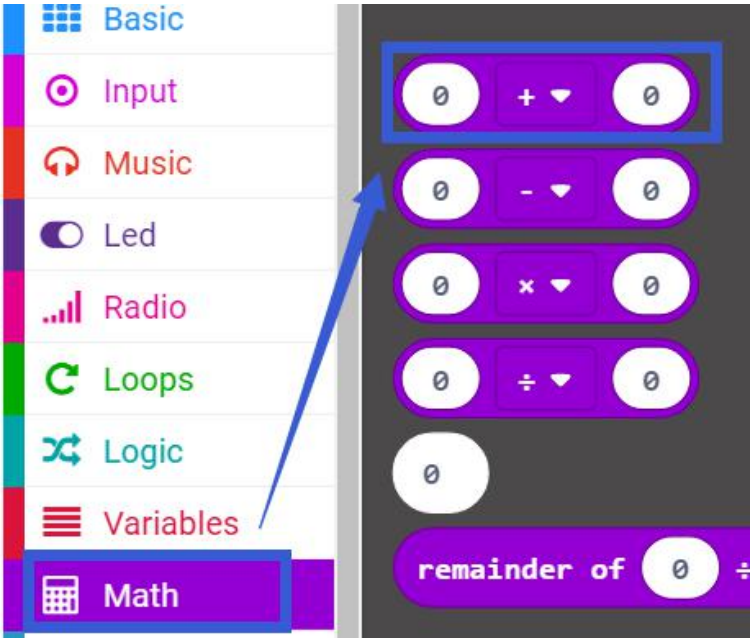
3.Looking for blocks

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





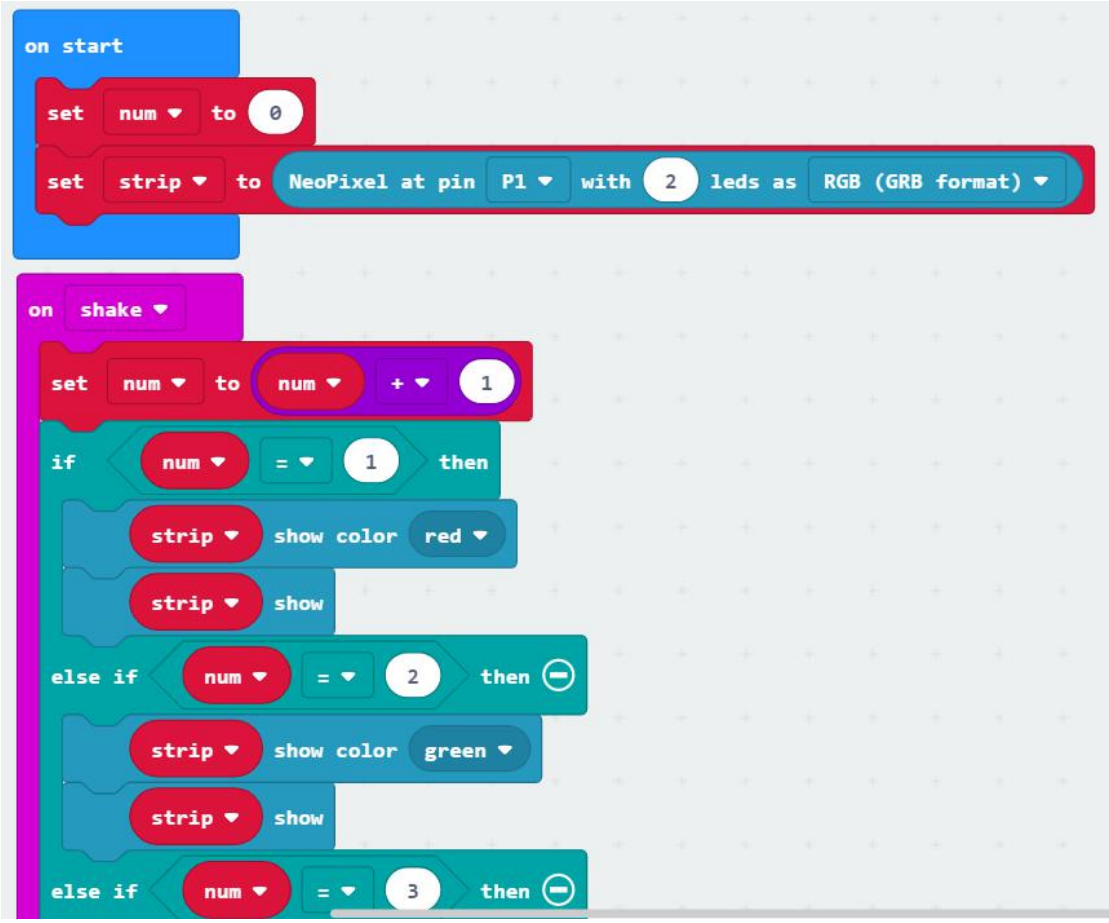

Input
Music
Led
Radio
Loops
Logic
Variables
Math
Neopixel
more
Advanced
Functions
set strip to NeoPixel at pin P0 with 24 leds as RGB (GRB format)
set range to strip range from 0 with 4 leds
strip show color red
strip show rainbow from 1 to 360
strip show bar graph of 0 up to 255
strip show
strip clear


Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
0 + 0
0 - 0
0 × 0
0 ÷ 0
0
remainder of 0


Input
Music
Led
Radio
Loops
Logic
Variables
Make a Variable...
strip
set strip to 0
change strip by 1

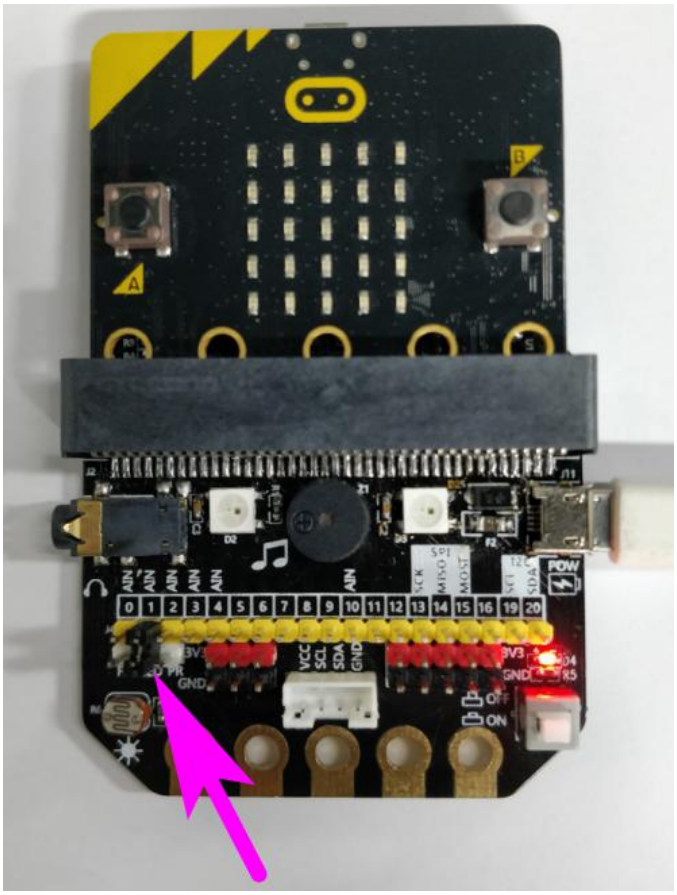
4.Combine building block

The summary program is shown below:




strip show color blue
strip show
else if num = 4 then
strip show color orange
strip show
else if num = 5 then
strip show color yellow
strip show
else if num = 6 then
strip show color indigo
strip show
else if num = 7 then

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



5. Experimental phenomena

After the program is successfully downloaded, the micro:bit basic expansion board will not light; When you shake micro:bit board, the RGB light will change color: red->green->blue->yellow->indigo-> oviolet-> purple -> orange -> white.