Vibrating alarm clock

1. Learning objectives

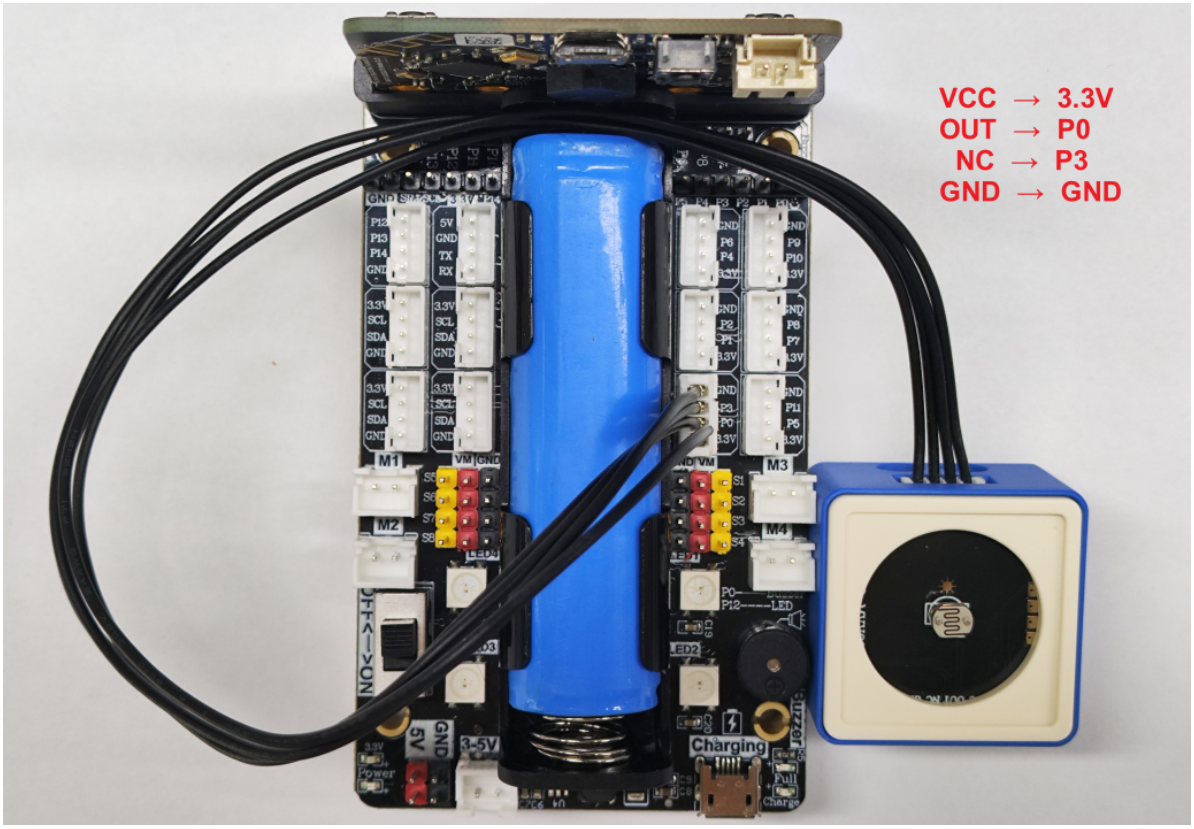
In this course, we mainly learn how to use MakeCode graphical programming to display how to turn lights on and off according to the external light intensity.

2. Building blocks

For detailed steps of building blocks, please refer to the installation drawings of [Assembly Course]--[Smart alarm clock] in the materials or the building block installation album.

3. Sensor wiring

The photosensitive module is connected to the P0P3 interface.



4. Programming

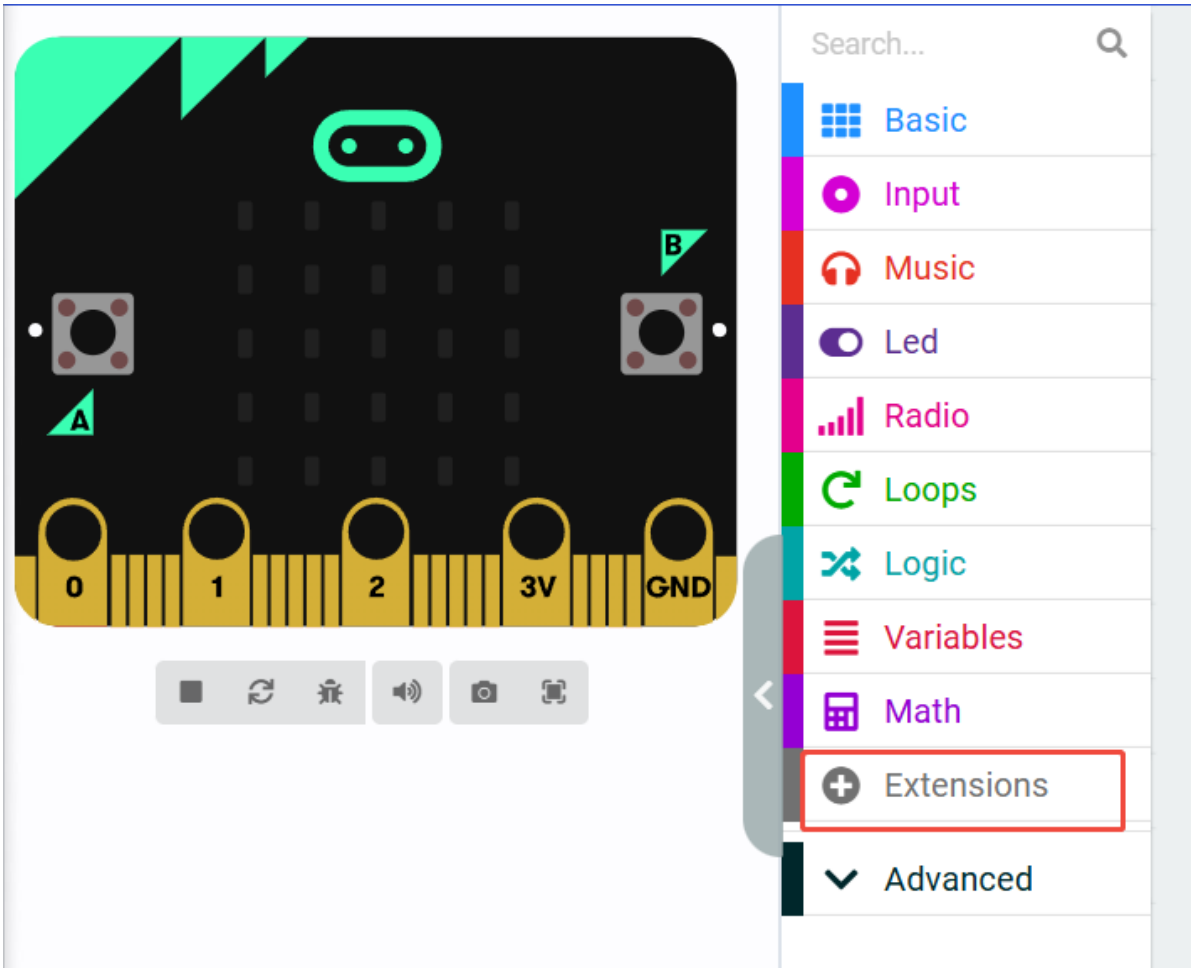
Method 1 Online programming:

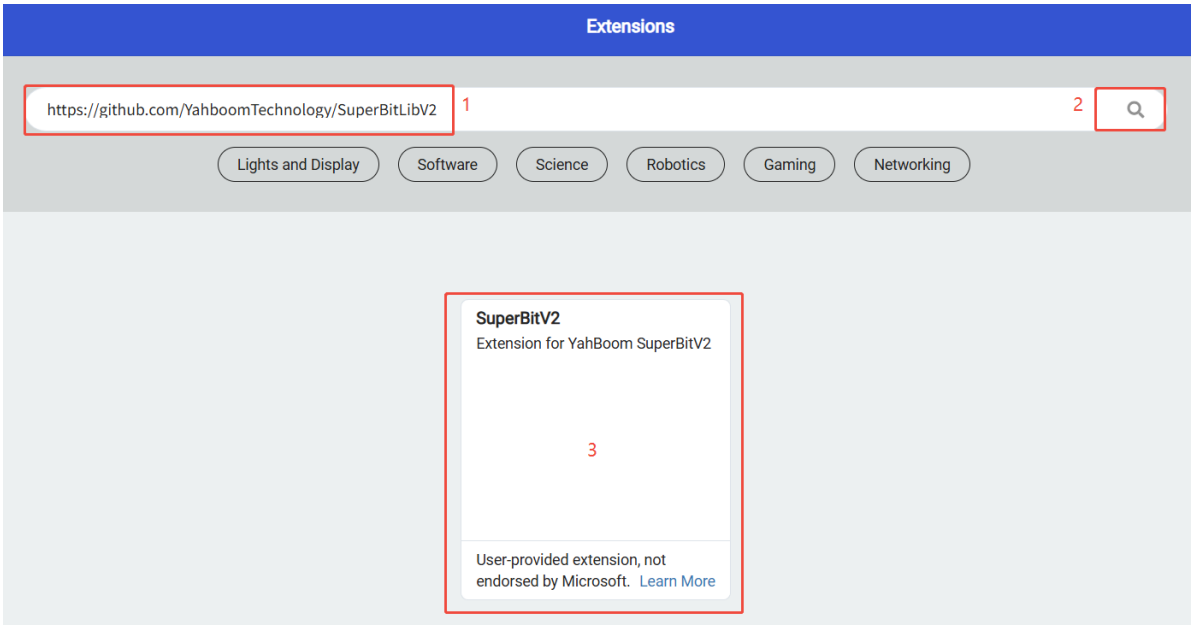
First, connect micro:bit to the computer via a USB cable, a USB flash drive will pop up on the computer, click the URL in the USB flash drive: https://makecode.microbit.org/ to enter the programming interface. Then, add the Yahboom software package **https://github.com/YahboomTechnology/SuperBitLibV2** to start programming.

Method 2 Offline programming:

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

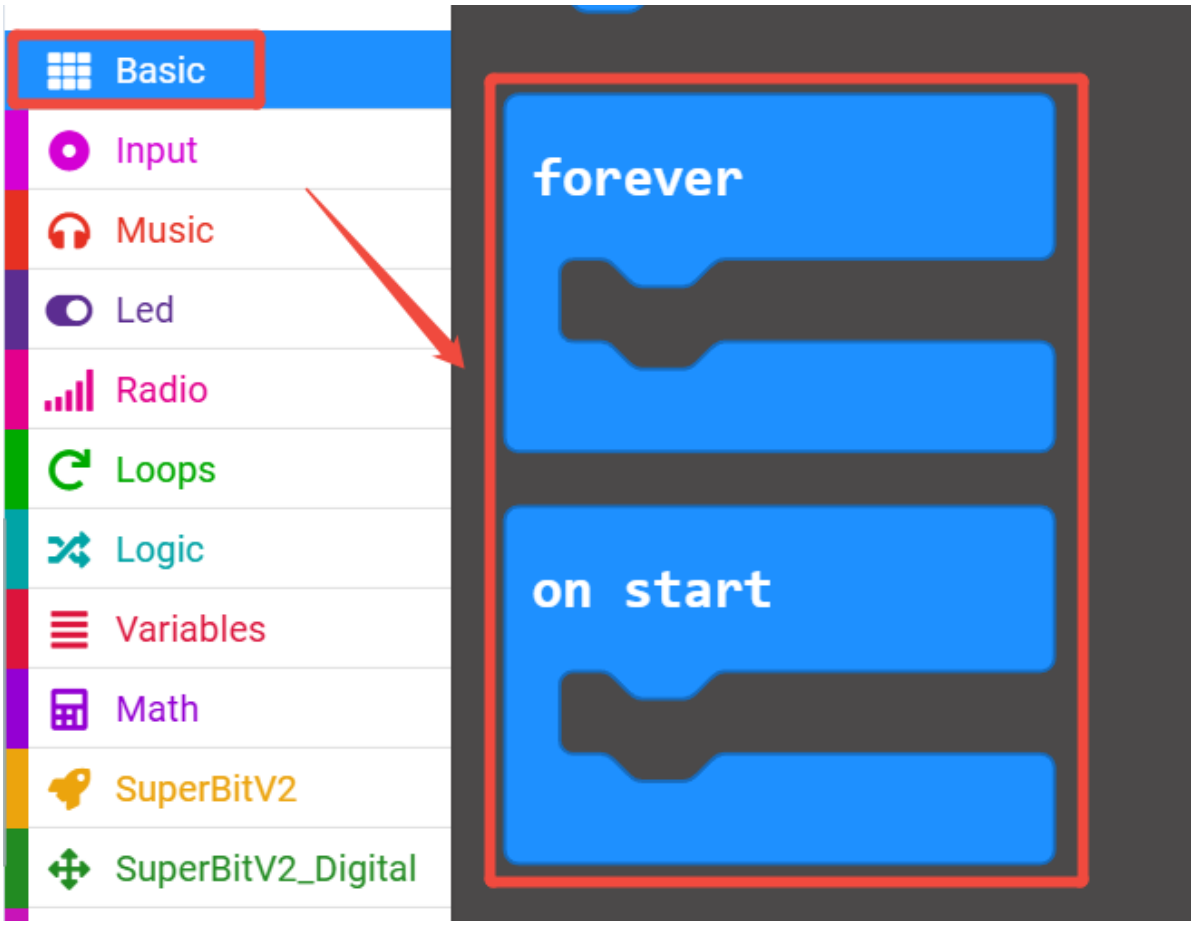
4.1 Adding extension packages

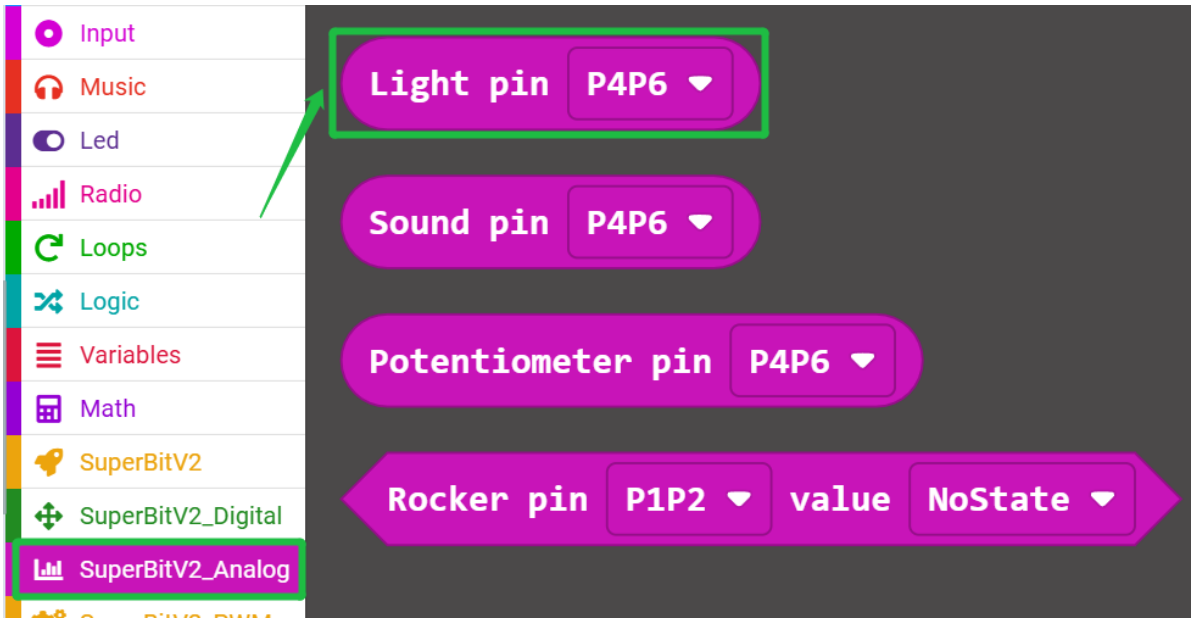


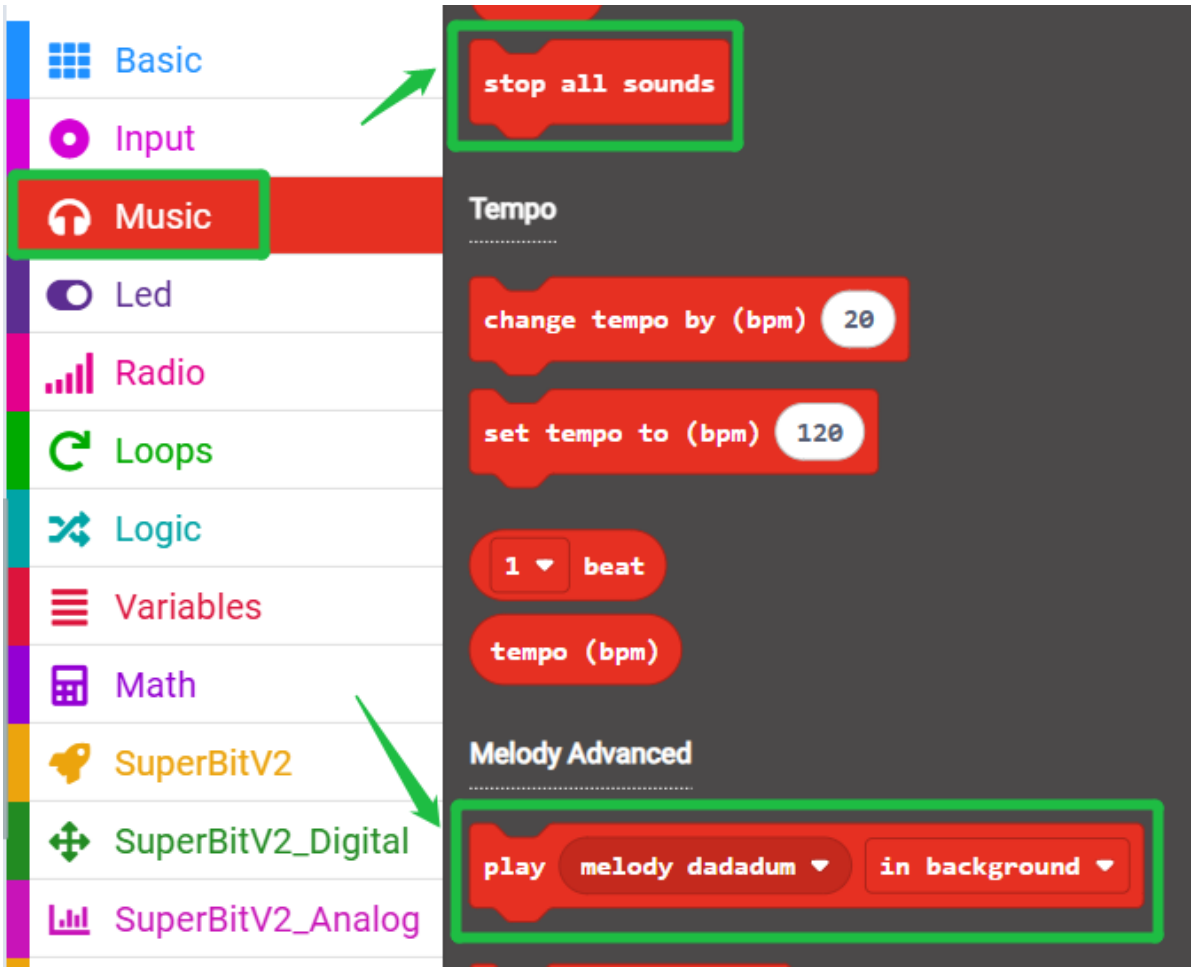


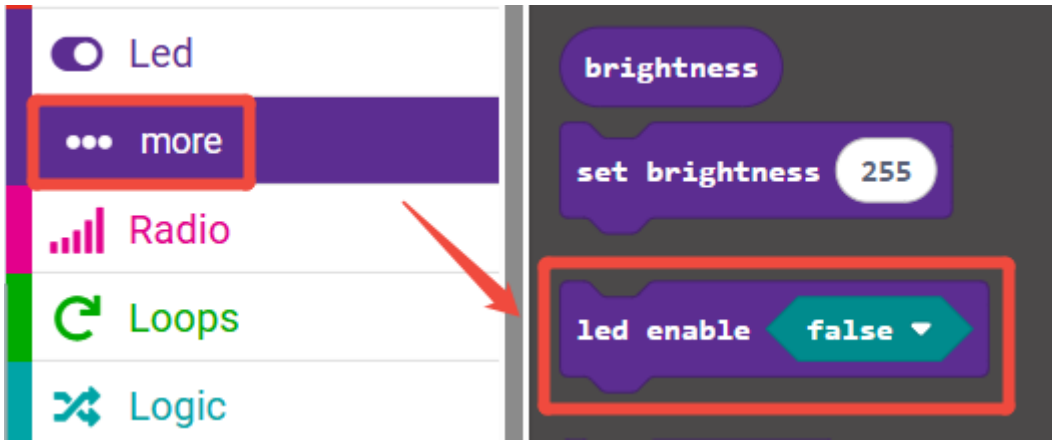
4.2 Bricks used

The locations of the building blocks required for this programming are shown in the figure below.


Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
SuperBitV2_Digital
forever
on start

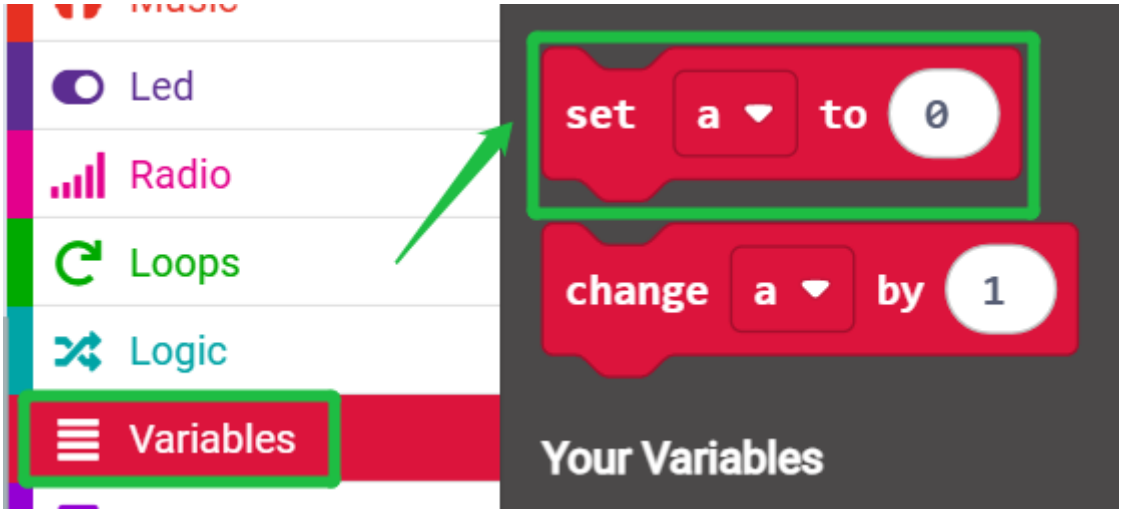

Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
Light pin P4P6
Sound pin P4P6
Potentiometer pin P4P6
Rocker pin P1P2 value NoState


Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
SuperBitV2
SuperBitV2_Digital
SuperBitV2_Analog
stop all sounds
Tempo
change tempo by (bpm) 20
set tempo to (bpm) 120
1 beat
tempo (bpm)
Melody Advanced
play melody dadadum in background


Led
more
Radio
Loops
Logic
brightness
set brightness 255
led enable false

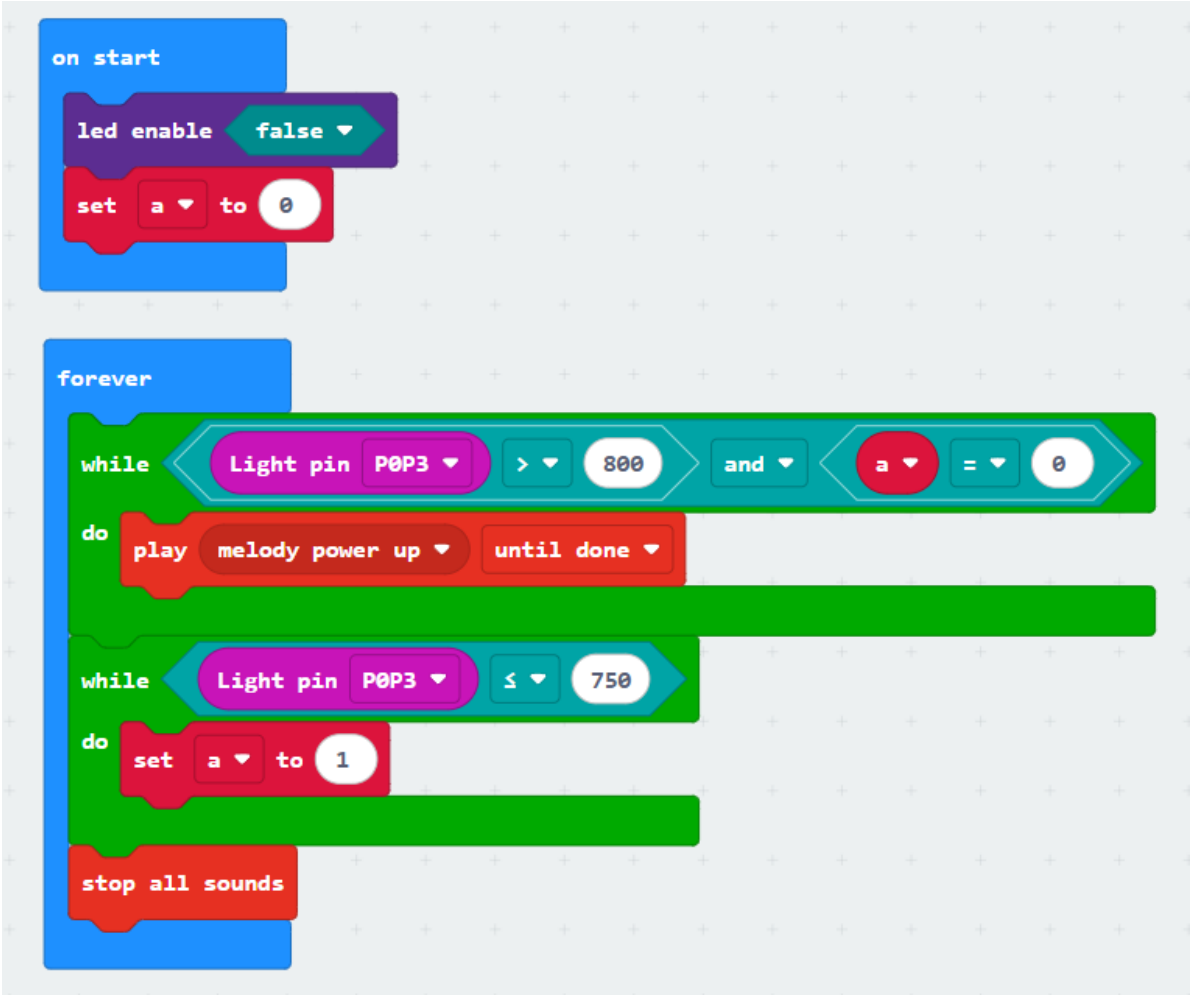

Led
Radio
Loops
while false
do


Logic
Variables
Math
0 = 0
0 < 0



4.3 Combining blocks

The summary procedure is shown in the figure below.



You can also directly open the **Vibrating-alarm-clock.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.

5. Experimental Phenomenon

After the program runs successfully, the alarm will sound when there is light, and the alarm will stop when there is no light.