Responder

1.Learning goals

In this session we mainly use alligator clips and tin foil, and learn how to use the input blocks to read whether pins P0, P1 and P2 are touched. Micro:bit quickly determines which of P1 and P2 triggers the responder first by programming.

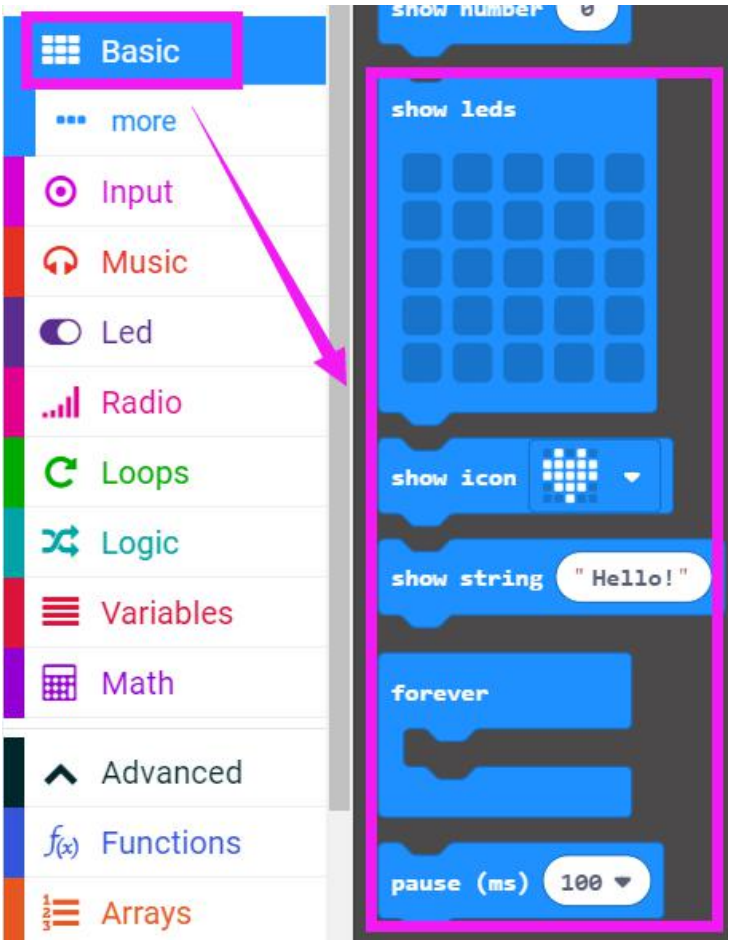
2.Programming method:

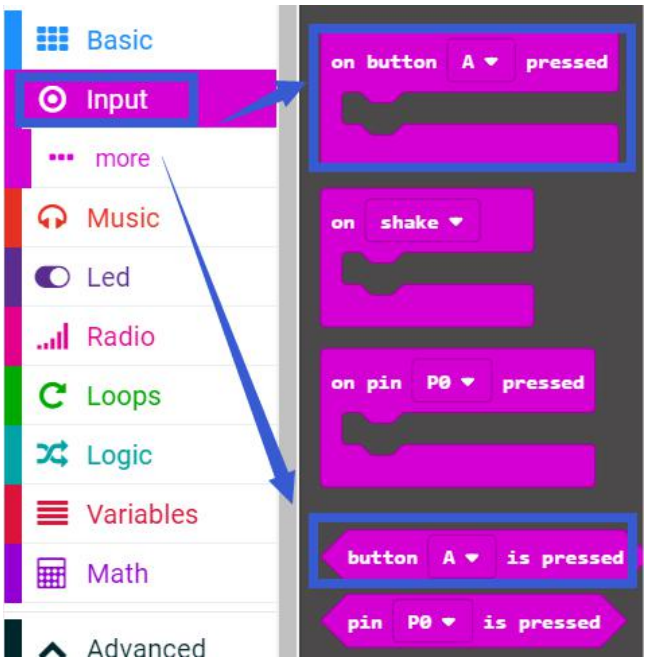
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: **http://microbit.org/** to enter the programming interface to program.

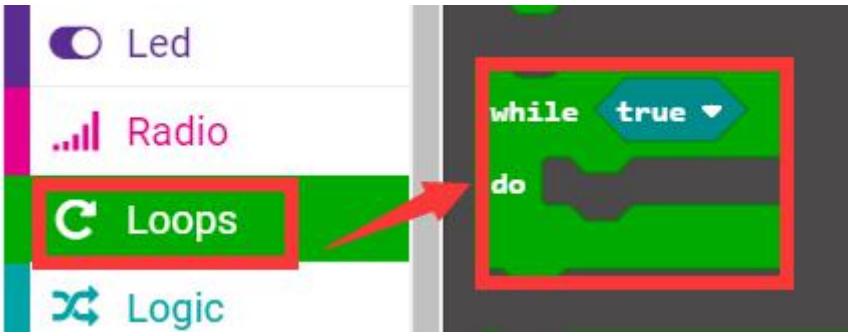
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】to program.

3.Looking for blocks

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



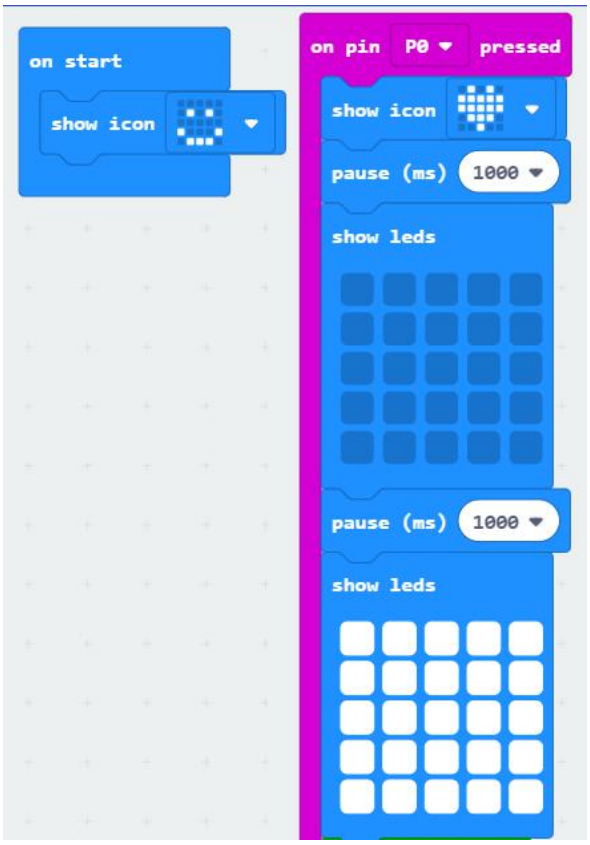

Basic
Input
more
Music
Led
Radio
Loops
Logic
Variables
Math
Advanced
on button A pressed
on shake
on pin P0 pressed
button A is pressed
pin P0 is pressed

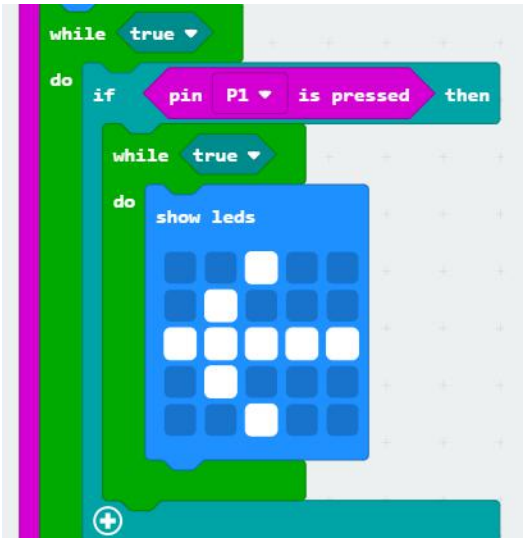

Led
Radio
Loops
Logic
while true
do

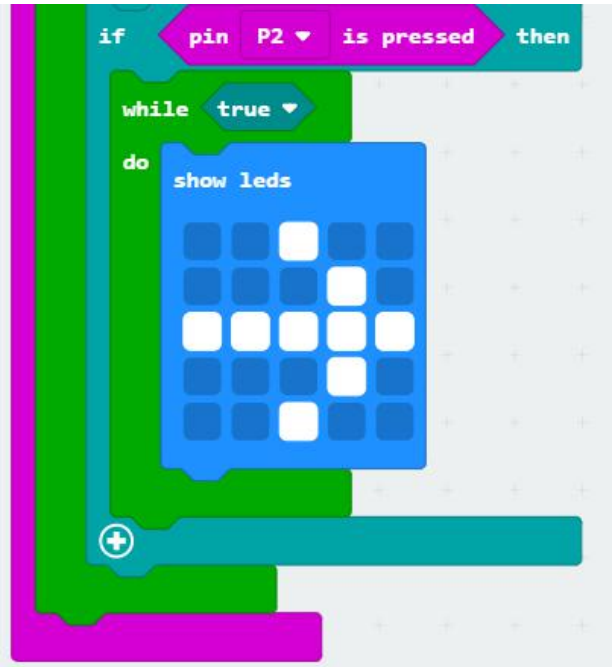
Music
Led
Radio
Loops
Logic
if true then
if true then
else

4.Combine building block

The summary program is shown below:







Note: we need to remove the jumper caps on P0 and FM, P1 and LED, P2 and PR pins on the basic expansion board.

You need to prepare 4 alligator clips.

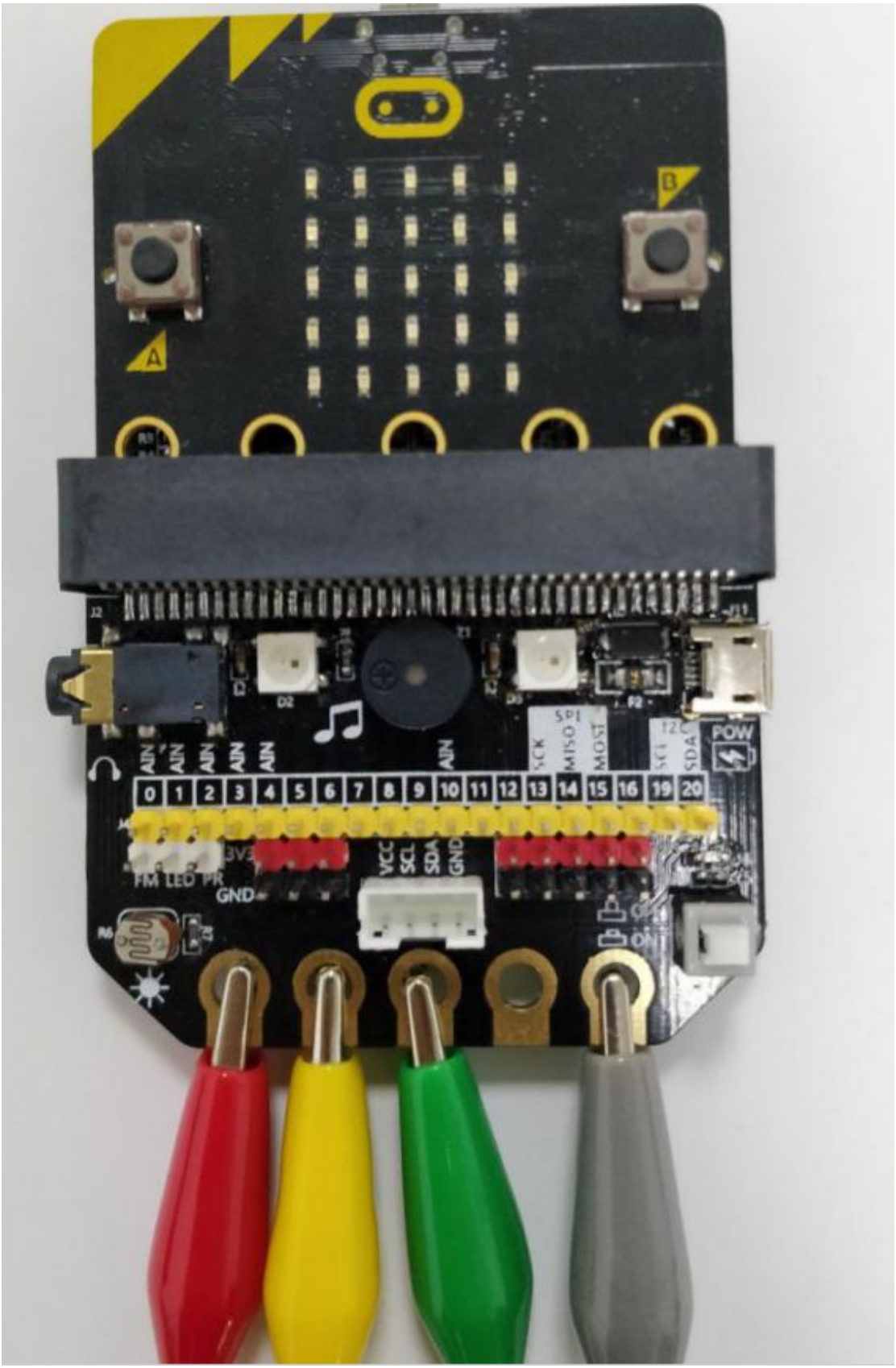
One end of the No.1 alligator clip is connected to the P0 interface of the basic expansion board, and the other end is connected to the tin foil.

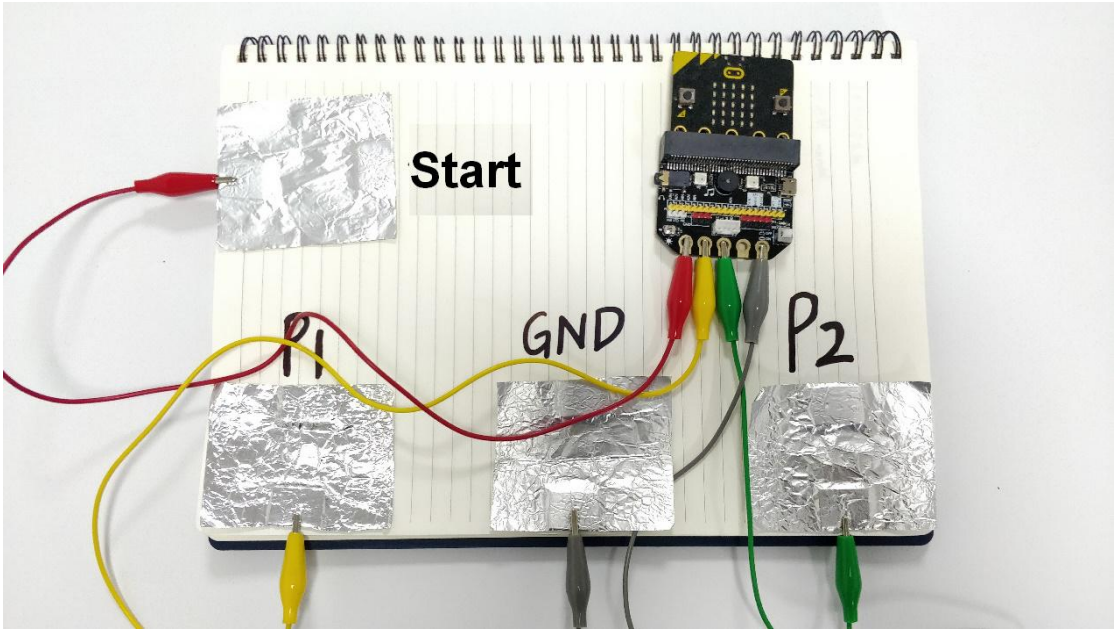
One end of the No.2 alligator clip is connected to the P1 interface of the base expansion board, and the other end is connected. P1 tin foil;

one end of the No.3 alligator clip is connected to the P2 interface of the base expansion board, and the other end is connected to the P2 tin foil;

one end of the No.4 alligator clip is connected to the GND interface of the base expansion board, and the other end is connected to the GND tin foil. As shown below.

As shown below.


A
B
AIN
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 19 20
SCK
MISO
MOSI
SCL
SDA
POW
3V3
GND
VCC
SCL
SDA
GND
FM LED PIR
ON



5. Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix will display a smile. When you touch P0 and GND, the micro:bit dot matrix will show love and start to prepare for answering.

After 1s, micro:bit will display the word “Ready GO”, after 1s, the micro:bit dot matrix is full. At this time, the two players need to touch the GND tin foil in their hands to press the P1 and P2 tin foil respectively to answer.

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