Monkey_pick_fruit

1.Learning goal

In this course, we learn how to make a monkey pick fruit game.

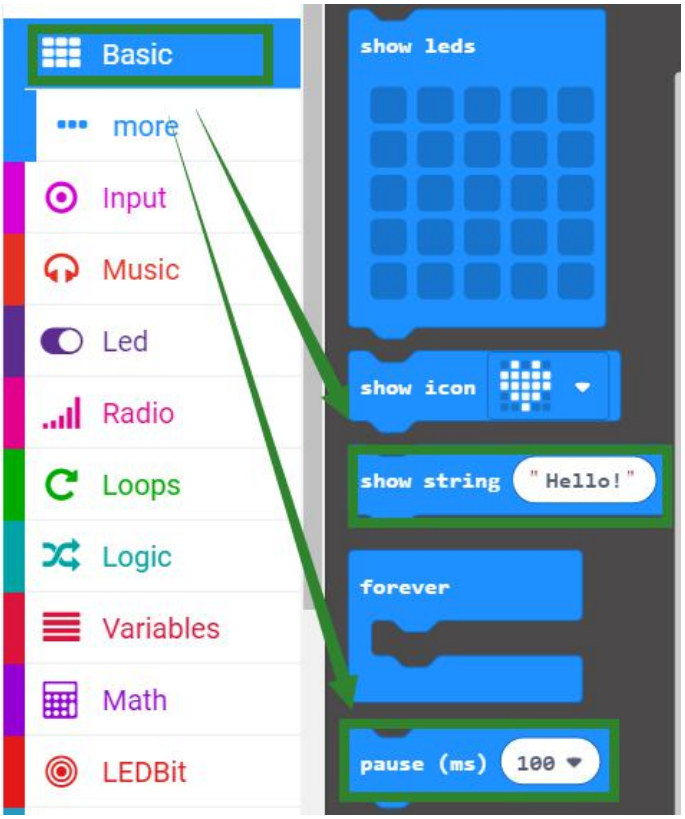
2.Programming method

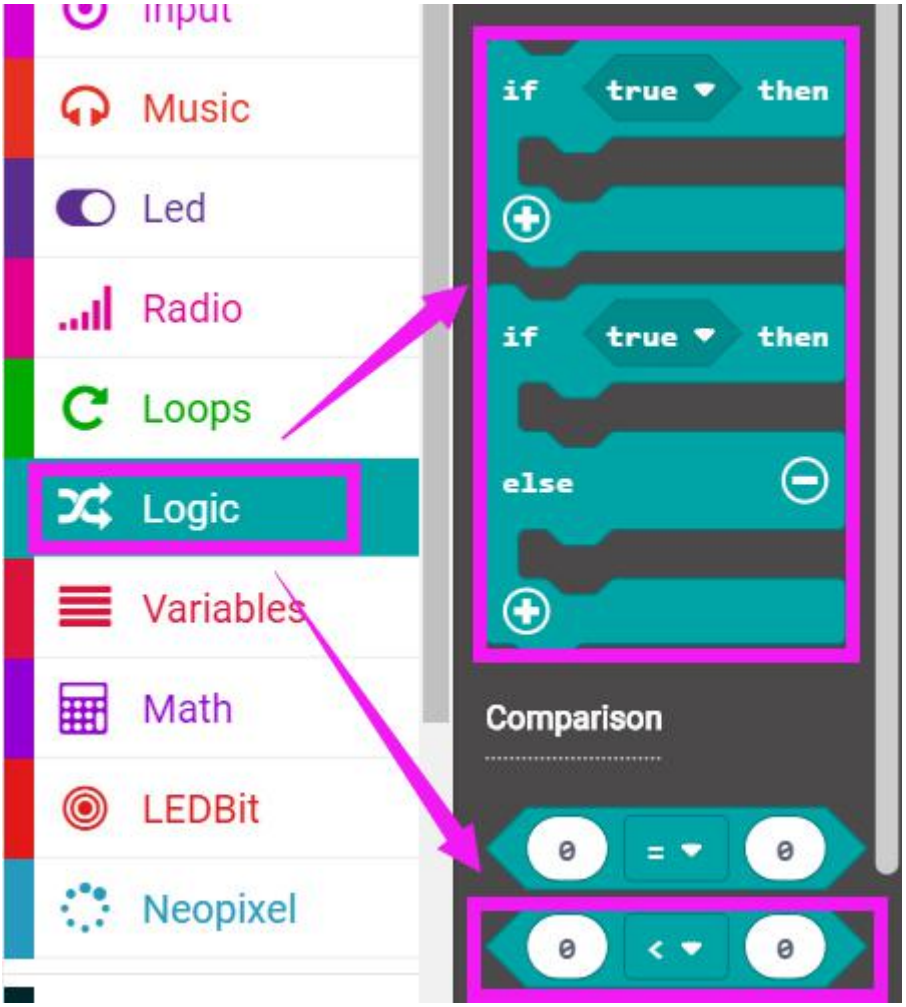
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: **http://microbit.org/** to enter the programming interface. Add the Yahboom package **https://github.com/lzty634158/LED-Bit**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

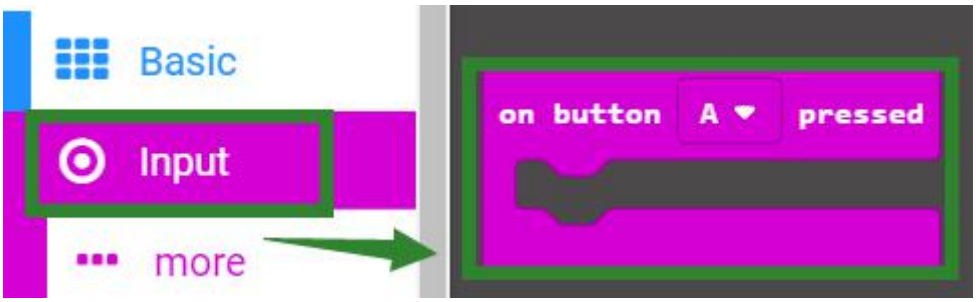
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: **https://github.com/lzty634158/LED-Bit ,** you can program.

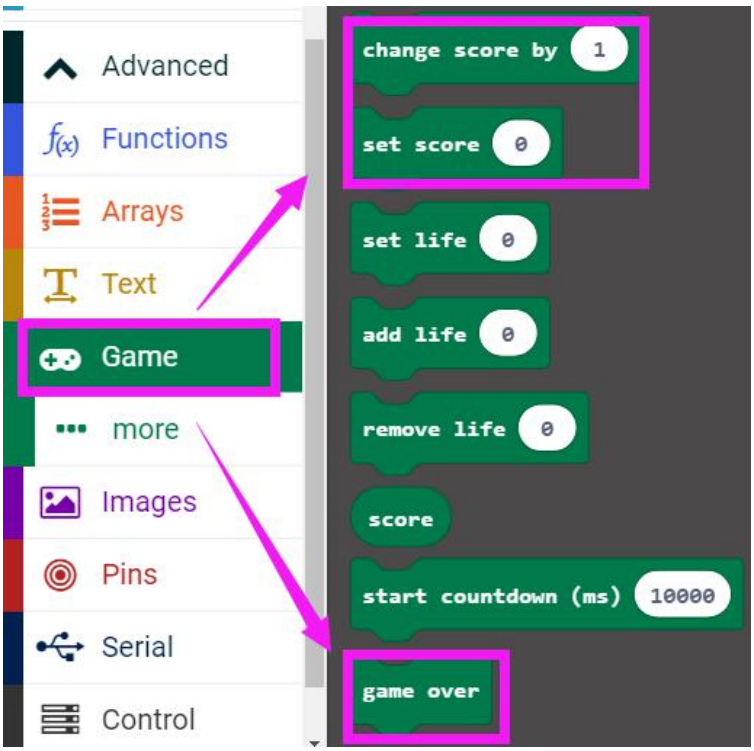
3.Looking for blocks

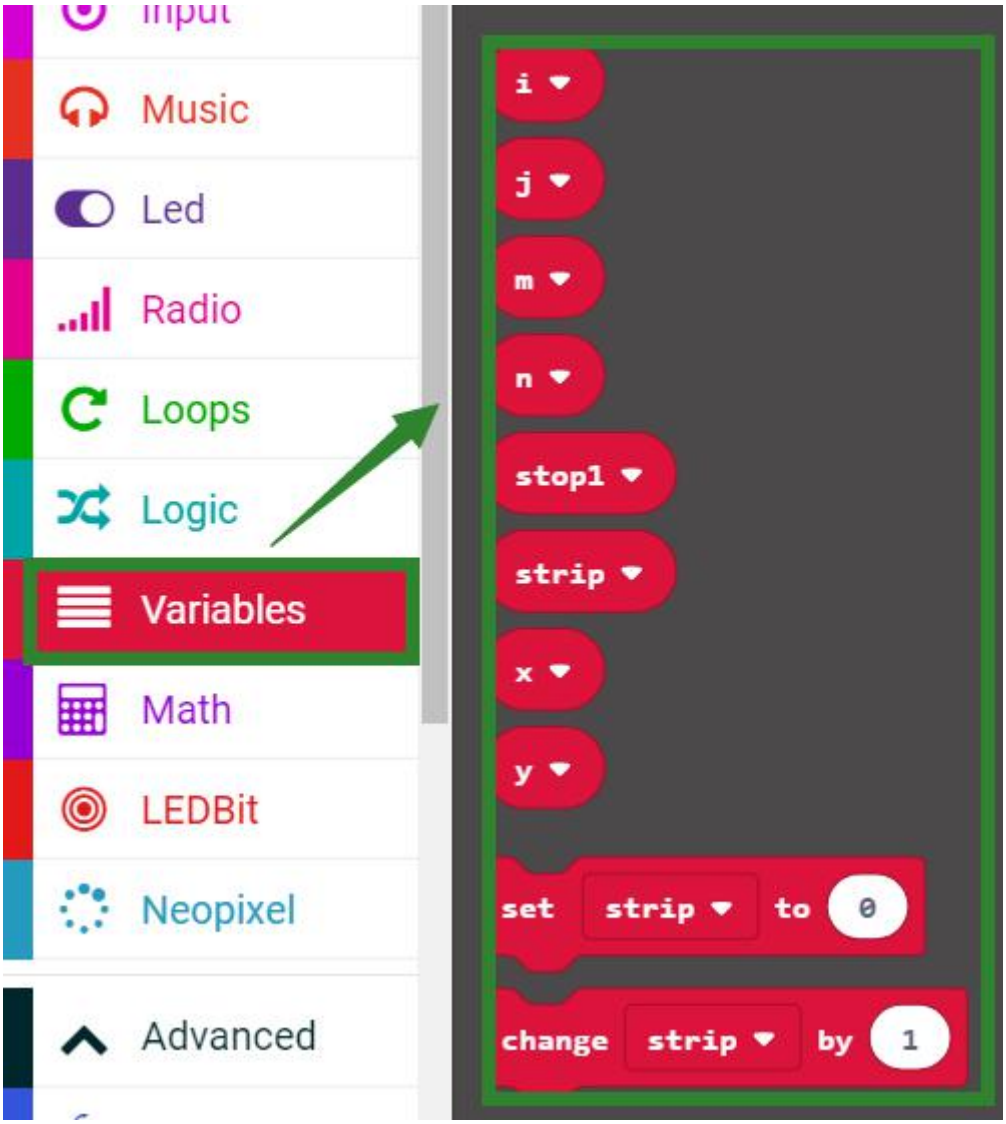
The following is the location of the building blocks required for this programming.

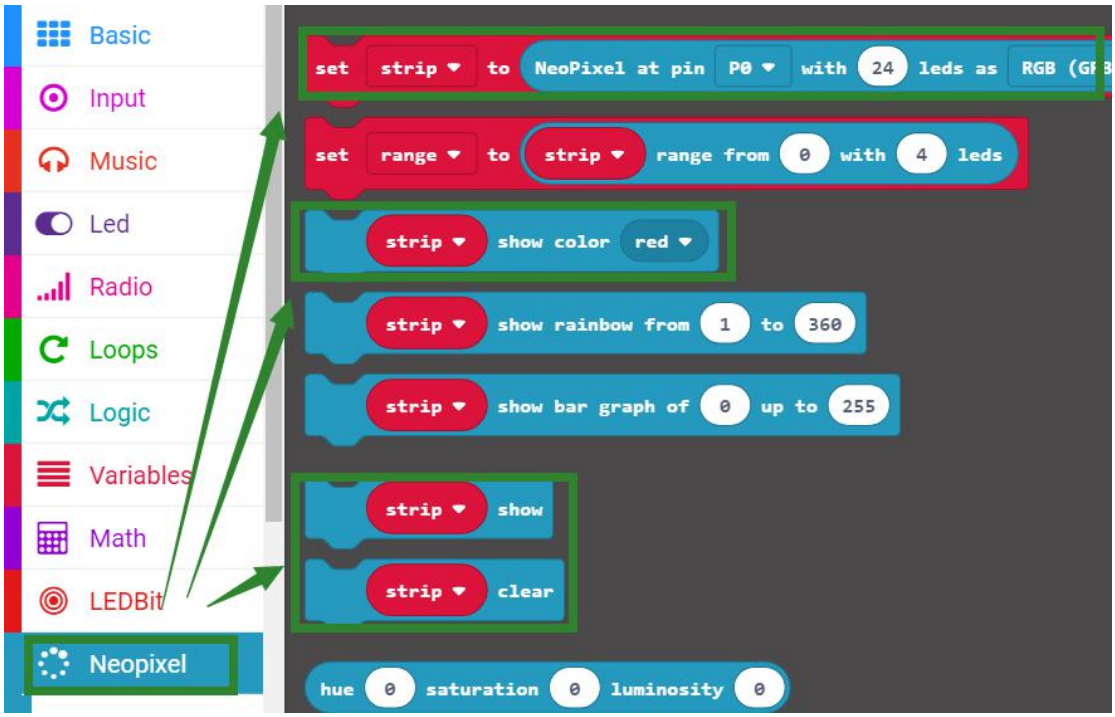


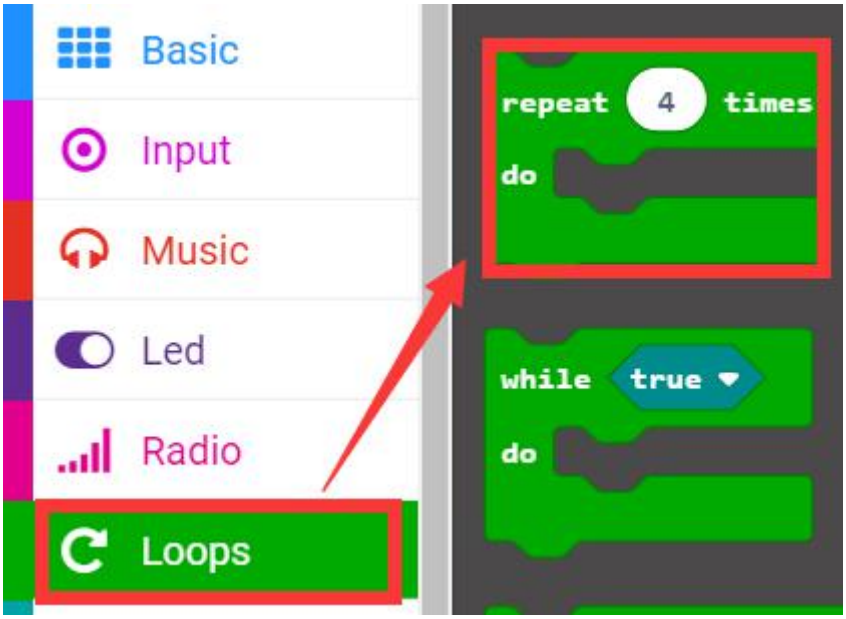

Music
Led
Radio
Loops
Logic
Variables
Math
LEDBit
Neopixel
if true then
if true then
else
Comparison
0 = 0
0 < 0

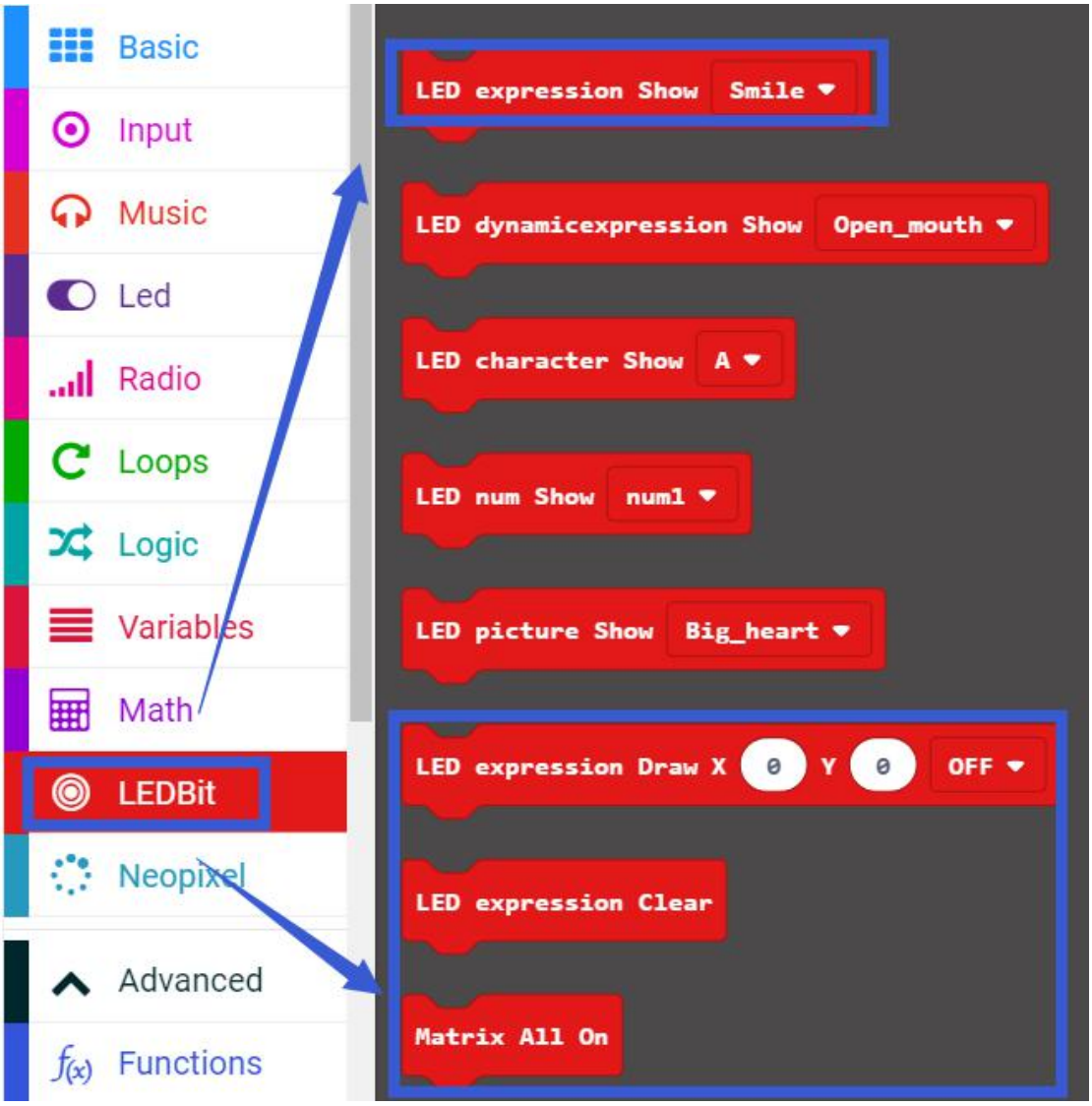

Basic
Input
more
on button A pressed


Advanced
Functions
Arrays
Text
Game
more
Images
Pins
Serial
Control
change score by 1
set score 0
set life 0
add life 0
remove life 0
score
start countdown (ms) 10000
game over


Music
Led
Radio
Loops
Logic
Variables
Math
LEDBit
Neopixel
Advanced
i
j
m
n
stop1
strip
x
y
set strip to 0
change strip by 1


Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
LEDBit
Neopixel
set strip to NeoPixel at pin P0 with 24 leds as RGB (GR
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
hue 0 saturation 0 luminosity 0

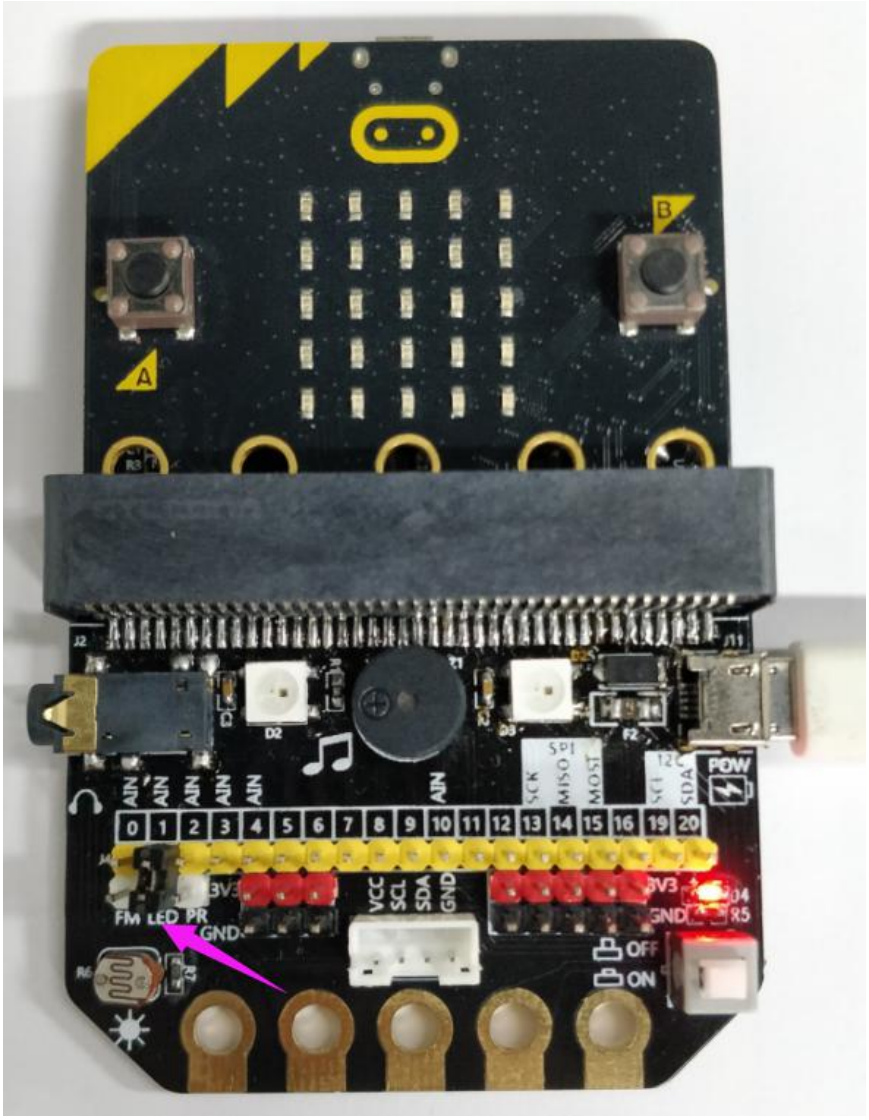

Basic
Input
Music
Led
Radio
Loops
repeat 4 times
do
while true
do


Basic
Input
Music
Led
Radio
Loops
Logic
Variables
Math
LEDBit
Neopixel
Advanced
Functions
LED expression Show Smile
LED dynamicexpression Show Open_mouth
LED character Show A
LED num Show num1
LED picture Show Big_heart
LED expression Draw X 0 Y 0 OFF
LED expression Clear
Matrix All On

4.Combine building block

Please refer to the hex file for the procedure of this experiment.

Note: The jumper cap needs to be connected to the P1 and LED pins. As shown below.



5. Game rules

After the program is successfully downloaded,

LED: bit will be illuminated for 1 second in full screen, then the full screen will be off, and the coordinates (7, 7) will be illuminated, indicating "Monkey".

The Micro:bit dot matrix will scroll “Picking up fruit”. After the scrolling is completed, the two programmable RGB on the Basic:bit expansion board will emit white light, and it will be off after 200ms.

Next, LED: bit will randomly drop a small dot, indicating "fruit",

We can control the "Monkey" to move left and right by pressing the A and B buttons, and catch the "fruit" that falls. When the two meet together, it means that the "Monkey" has received the "fruit". At this time, LED:bit will appear

smile, and the two programmable RGB on the Basic:bit expansion board will light red and game score increased by 1.
When the two don't touch together, it means that the "Little Monkey" has not received the "fruit". At this time, the LED:bit will show crying, and the two programmable RGB on the Basic:bit expansion board will light green and game score no change.

!!!Note: This game is a group of ten times, which means that the “frui”t will randomly drop ten times. After ten times, the game will end. LED: bit is off in full screen, micro:bit dot matrix will display the animation of the end of the game, "GAME OVER "," SCORE" and scores.

If you need to restart the game, press the micro:bit reset button.