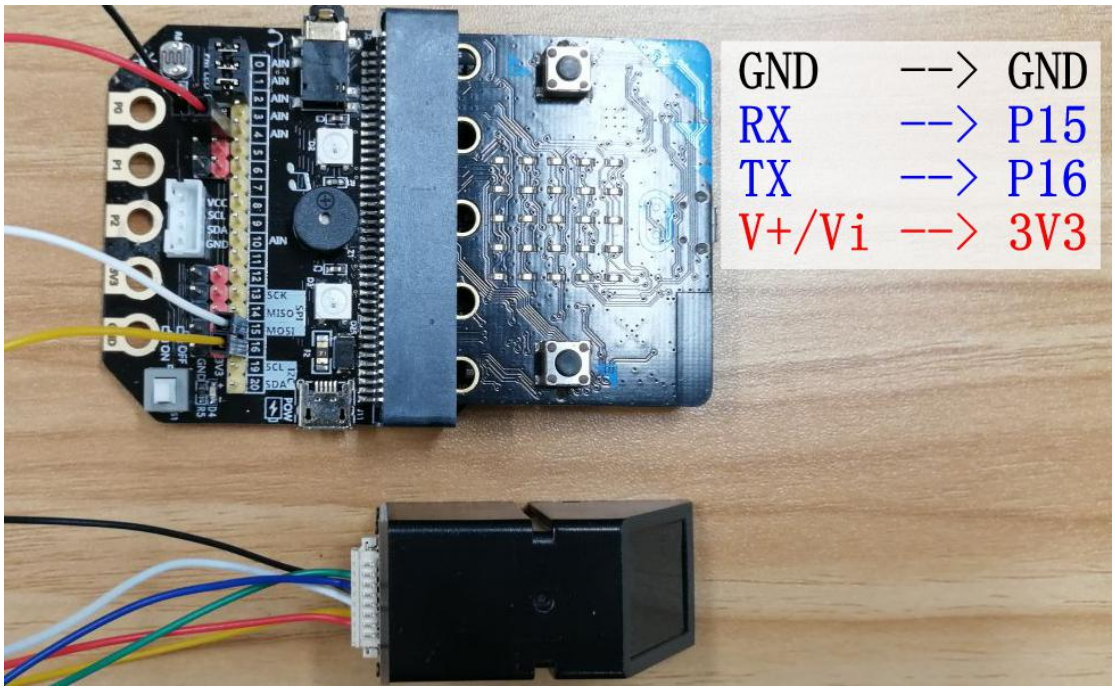
Fingerprint control light

1. Learning target

In this course, we will learn how to use Micro:bit, fingerprint recognition module and Basic:bit GPIO board to achieve fingerprint control music.

2. Preparation

Connect the module to Micro:bit board by expansion board, as shown below.



3.Programming method

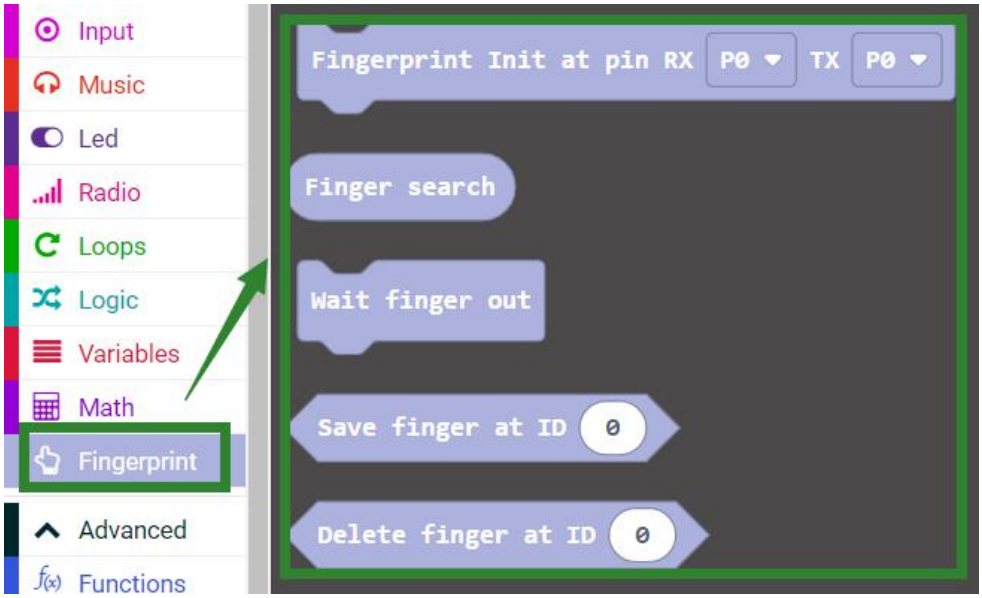
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface. Add the Yahboom package https://github.com/YahboomTechnology/Fingerprint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

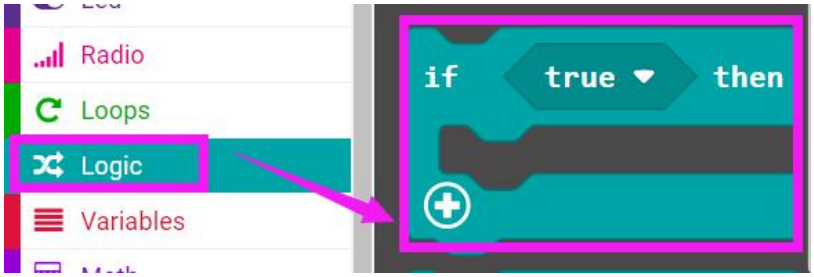
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: https://github.com/YahboomTechnology/Fingerprint, you can start programming.

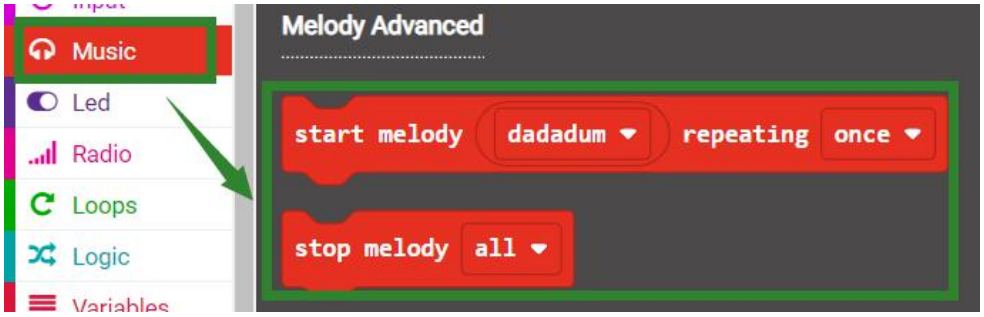
4.Looking for blocks

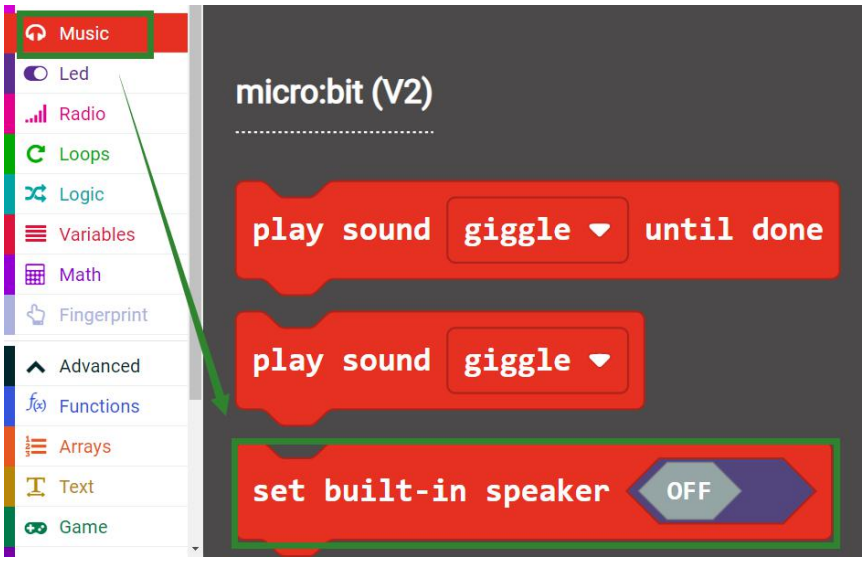
The following is the location of the building blocks required for this programming.


Basic
Input
Music
Led
show icon


Input
Music
Led
Radio
Loops
Logic
Variables
Math
Fingerprint
Advanced
Functions
Fingerprint Init at pin RX P0 TX P0
Finger search
Wait finger out
Save finger at ID 0
Delete finger at ID 0

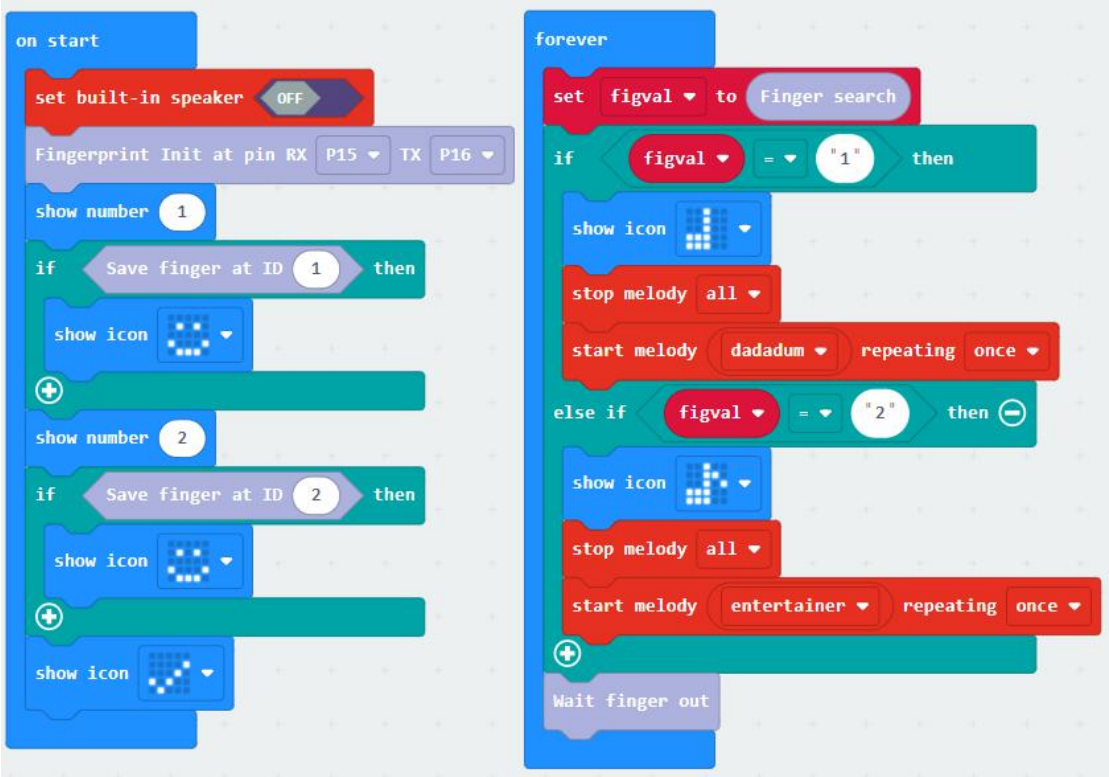

Radio
Loops
Logic
Variables
if true then


Music
Led
Radio
Loops
Logic
Melody Advanced
start melody dadadum repeating once
stop melody all



5.Combine block

The summary program is shown below.



6. Experimental phenomena

After the program is downloaded successfully, configure the fingerprint recognition module pins when booting, dot matrix 1 will be displayed.

If it fails, check the connection or reset the micro:bit. Then start to register fingerprint ID1, press the finger to be recognized on the sensor, and display a smile after saving successfully, and display 2 to start registering fingerprint ID2, press the finger to be recognized on the sensor, and display a smile after saving successfully,

and display √ on micro:bit matrix. Press the finger you just saved, and press different finger buzzers to sound different music. After each recognition, you need to release your finger. If the finger is not recognized, the buzzer does not sound.