

4. Temperature detector

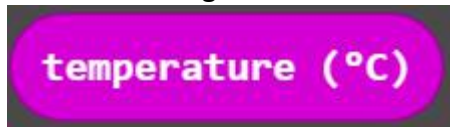
1. Learning goals

In this lesson, we will learn to use micro:bit and Wrist:bit make temperature detector.

2. Working principle

Micro:bit can only detect the temperature of its own chip, not to measure the ambient temperature.

In this course, we mainly use the building blocks shown in the figure below.



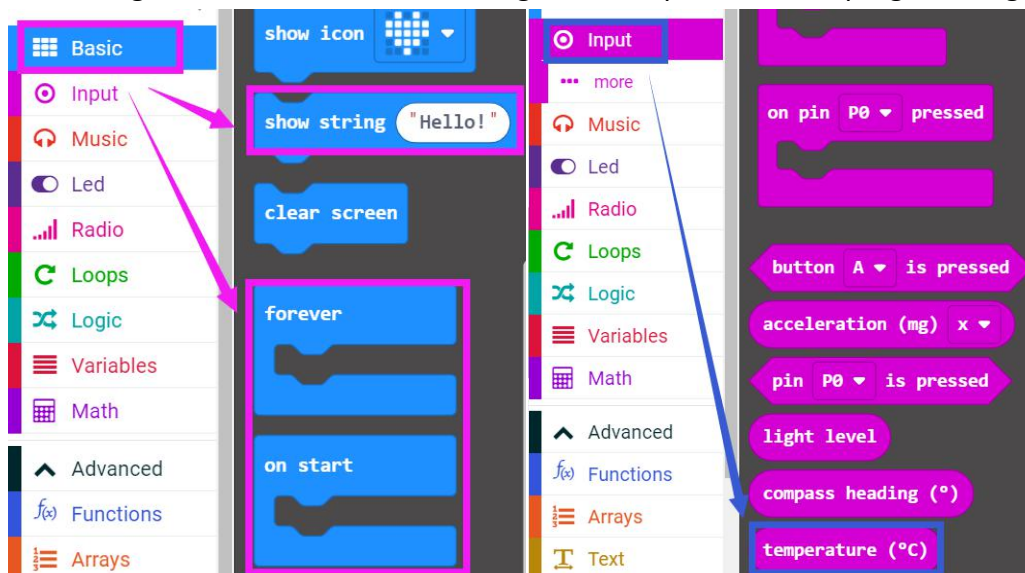
3. Programming method

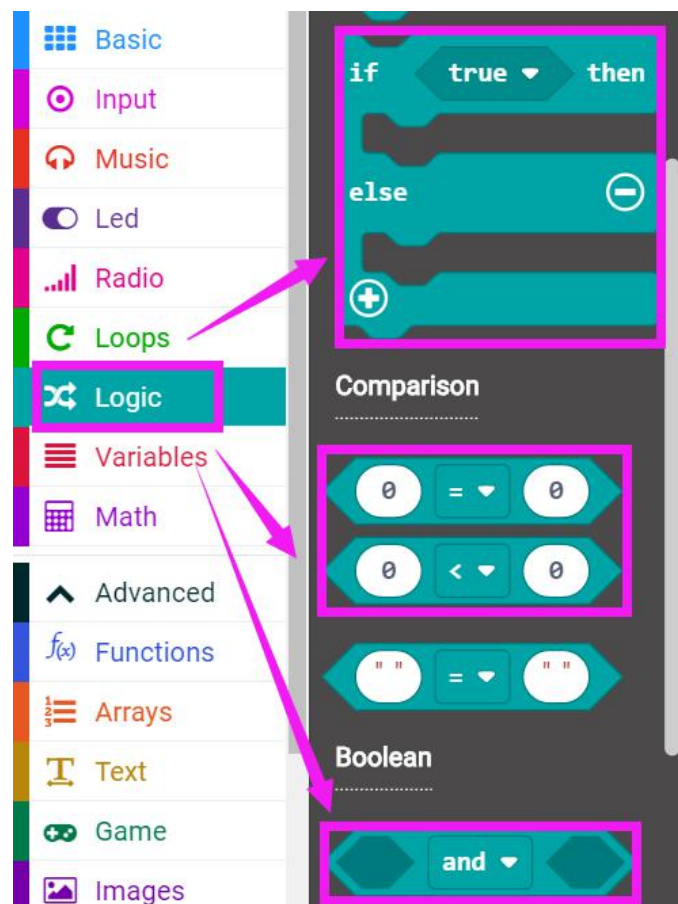
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: <http://microbit.org/> to enter the programming interface to program.

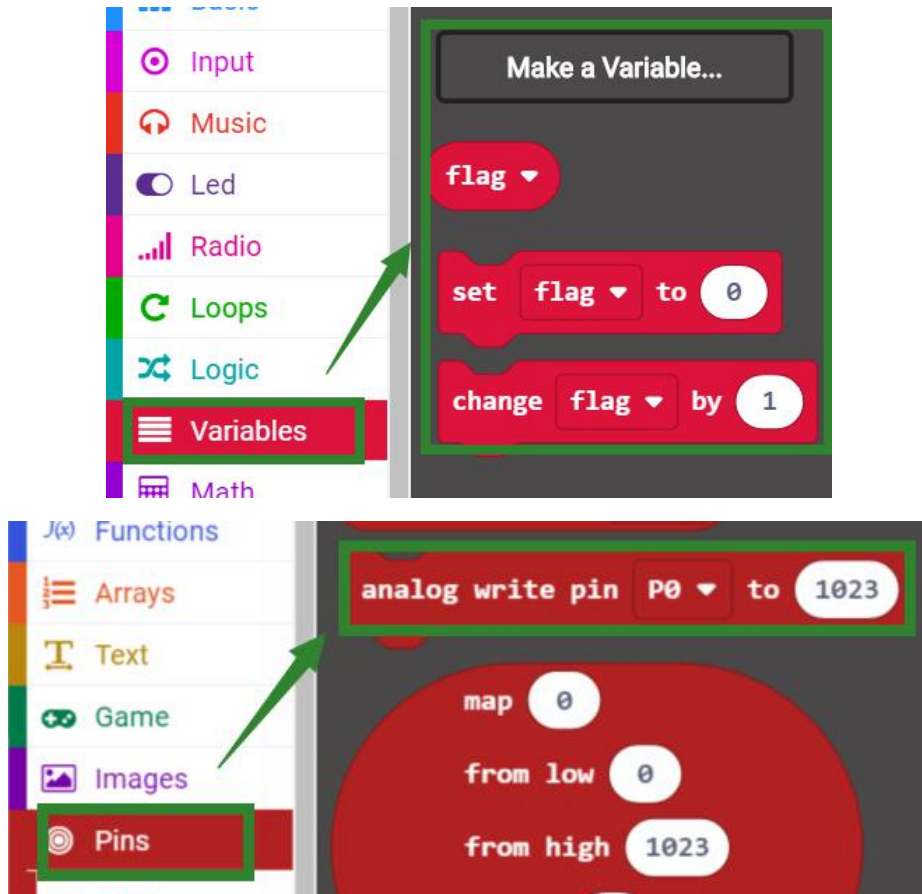
Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click 【New Project】, you can program.

4. Looking for blocks

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

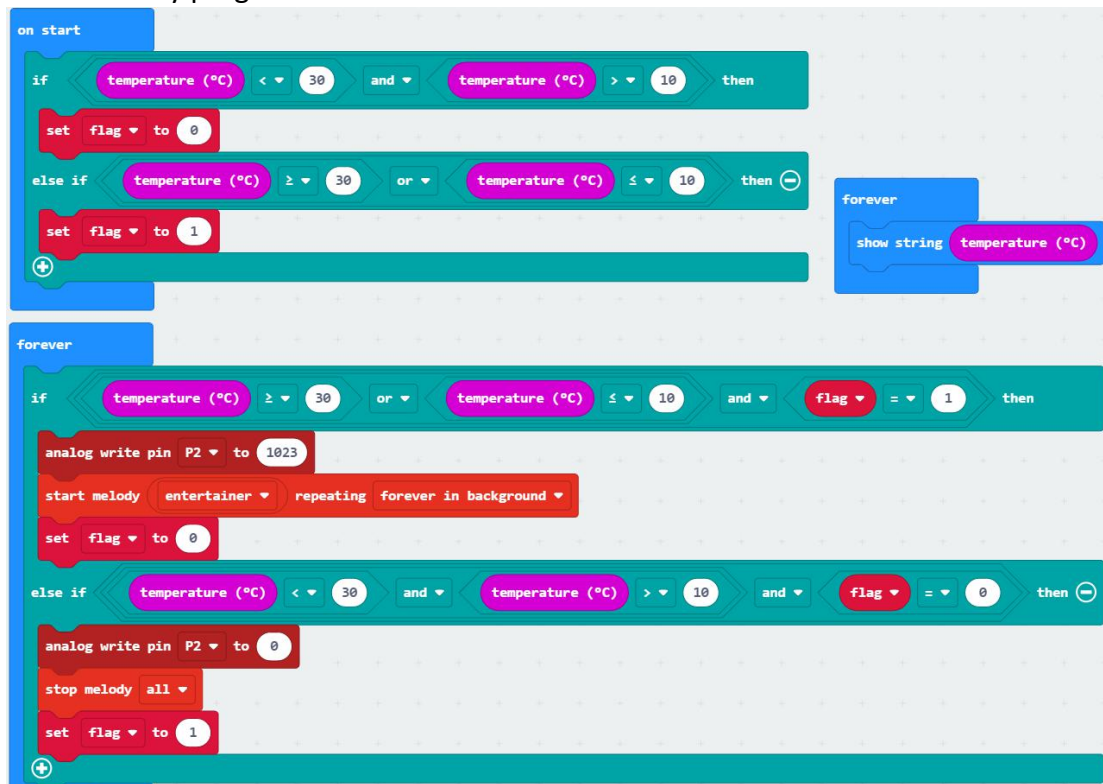






5. Combine block

The summary program is shown below.



Due to motor is connected to the P2 pin of the micro:bit on the hardware circuit.
If you need to control the vibration motor, you only need to write the P2 pin digitally to 1 or use P2 to write the analog quantity.
In this course, we use the analog quantity control the speed of the motor.

6. Experimental phenomena

After the program is successfully downloaded. Micro:bit dot matrix will scroll display temperature data.

When the ambient temperature is higher than 30°C or lower than 10°C, buzzer will play music and the vibration motor will rotate.

When the ambient temperature is between 10°C and 30°C, music and vibration motors will stop.