Extinguishing system design

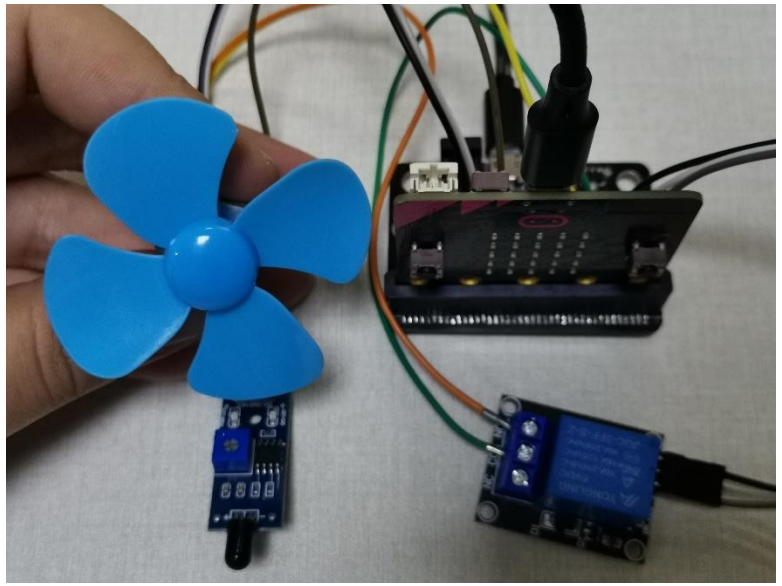
1、Achieve the goal

2、Preparation before class

3、Wiring

4、Block programming

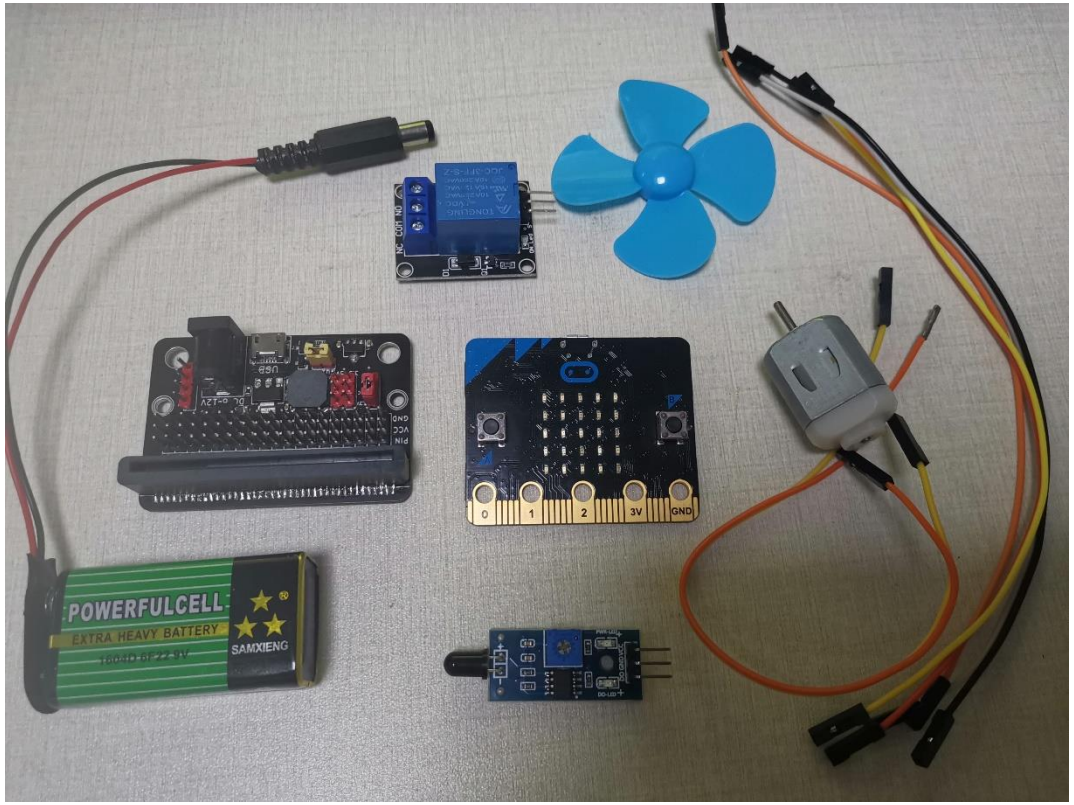
Extinguishing system design



1、Achieve the goal

When the flame sensor detects the flame, the relay controls the motor to rotate, the expression screen shows the alarm expression, and the buzzer gives an alarm sound. If the flame is not detected, the relay will be closed. (when using the motor, please be careful not to allow the motor to rotate for too long, otherwise it will get hot and burn out)

Extinguishing system design



2、Preparation before class

Prepare microbit mainboard, USB cable, battery, flame sensor module, relay, motor, expansion board, dupont line.

Extinguishing system design

3、Wiring

The flame sensor VCC pin is connected to the extension plate VCC, the GND pin is connected to the extension plate GND, and the DO pin is connected to the extension plate P1

The motor is wired to the extension plate GND and relay NO pins

Relay COM pins are connected to the expansion board 5V, S to the expansion board P2, + to the expansion board VCC, - to the expansion board GND

Dual power supply, using usb to power the microbit on one hand, and a battery or another usb cable to power the extension board on the other

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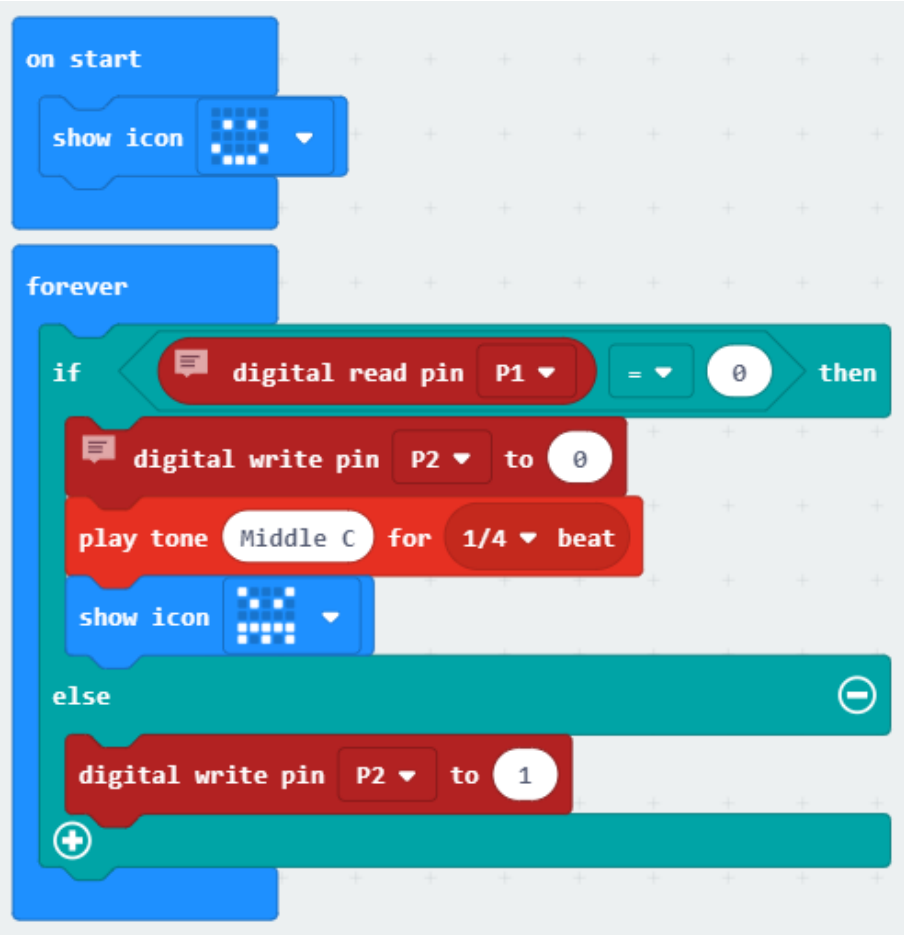
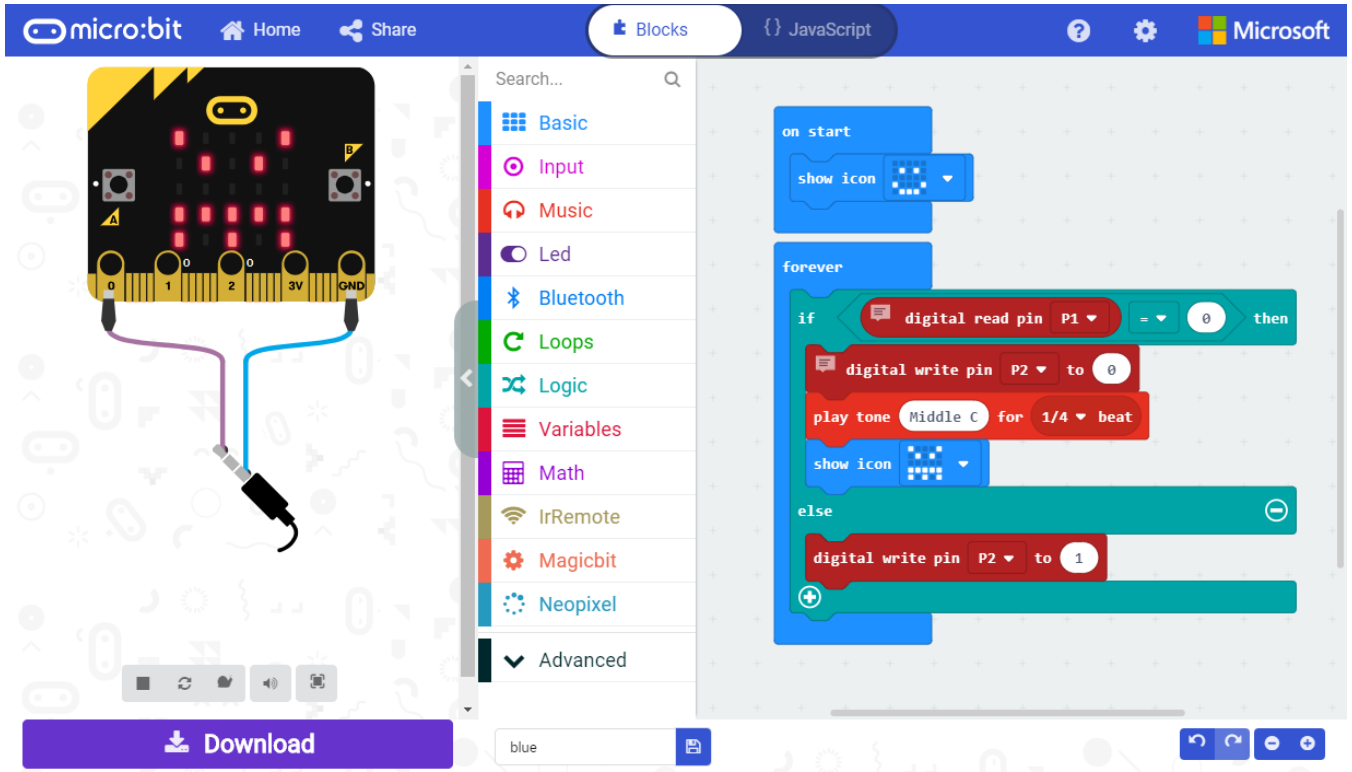


4、Block programming

1. When turned on, the microbit screen displays a smiley face
2. In the infinite loop, judge and read the pin level of the flame sensor connected to P1 pin, and determine whether to open or close the relay, so as to control the motor rotation or stop. When a flame is detected, an alarm sound is made and a frightened expression is displayed

Extinguishing system design



5、Download experience

1. Click "download", download the program to the microbit, connect the circuit, and you can see the result of your programming