5. If the value of dis more than 10, clear the matrix LEDs, stop melody and turn two LEDs off.
6. Loop in forever block.

- **Download the program to micro:bit to see what happens.**

Result

When the distance detected by the ultrasonic sensor is less than 10cm, the matrix LEDs on the micro: bit will display a heart icon, the buzzer will play the melody, and two LEDs will light up. When the ultrasonic sensor detects a distance greater than 10cm, the micro: bit will clear the matrix LEDs display, immediately stop the buzzer to play the melody and turn off the two LEDs.

How can we use this project to make our own songs to welcome others or pranks?

Experiment 19 – Remote control fan

Instruction

When summer comes, you will find it great and convenient to have a remote control fan. With it, we no longer need to manually turn on and off the fans, especially when you are too hot to want to move. When you finish this experiment, you will get your own mini micro: bit remote fan! Let's get started.

Target

- Make your own mini remote control fan.

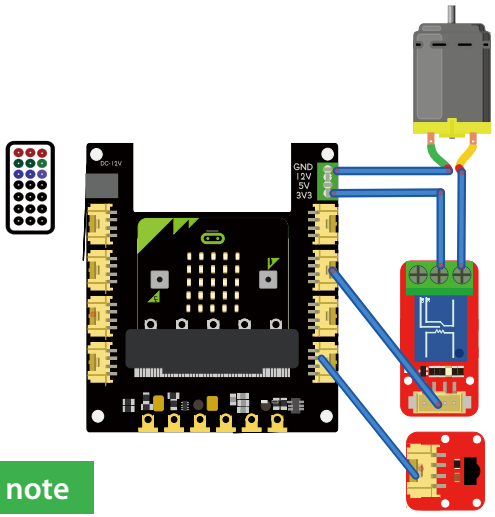
Required Parts

- Micro:bit x1
- Crowtail-Base shield for Micro:bit x1
- Crowtail-IR Receiver x1
- Crowtail-Relay x1
- Crowtail-Cable x2
- Infrared Remote Control x1
- DC Motor x1
- USB cable x1
- Jumper Wire x1

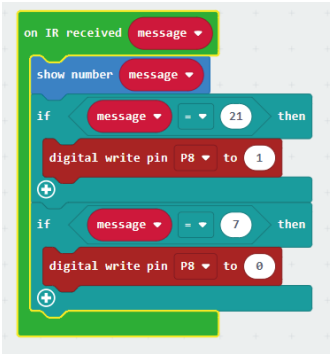
Hardware learning and connection

Connect Crowtail-IR Receiver to P16 port of Crowtail-Base shield for Micro:bit. Connect Crowtail-Relay to P8 port of Crowtail-Base shield for Micro:bit. Loosen the screws of the relay, connect one end of the jumper to the 3V3 port of the Base Shield and the other end of the jumper to the COM port of the Relay. Connect the two wires of the motor to the NO port of the relay and the GND port of the Base Shield. ***Note that the power consumed by the motor is large,***

you need to connect a 12V power supply to the Crowtail-Base shield for Micro:bit. The hardware connection are as follows:



Programming and note



- **On button pressed:** This block is to detect whether the key on the infrared remote control is pressed and which key is pressed. As soon as the key is pressed, this block detects and runs the code we want to run when the button is pressed. When the "+" key is pressed, turn the relay on; when the "-" key is pressed, turn the relay off.

- **Download the program to micro:bit and see what happens.**

Result

When you press "+" key, the fan will be turned on; when you press "-" key, the fan will be turned off.

The fan can now only be turned on or off, but the wind speed cannot be adjusted. Can we make a fan that can turn on and off and regulate the wind speed?