

- **On start:** Different from **forever** block that loops your code forever, The **On start** block is a block of code that only runs once at the very beginning of your program. In this case, we use it to set the melody to play once.
- **Download the program to micro:bit to see what happens.**

Result

Once you upload the program to micro:bit, you can hear the buzzer playing the “dadadum” melody once and then stop.



How to make a buzzer play multiple melodies and control the previous and next song by pressing a button?

Experiment 4 – Do not touch

Instruction

There are so many dangerous areas that we can't touch with our hands directly, otherwise, we may be in danger. For example, we can't touch the power socket with our hands because the danger of electric shock! Therefore, this time we will make a touch alarm, put this alarm in a simulated danger area, and when someone touches it, make the buzzer shout loudly so that they will never touch this area again!



Note: Do not use it in a truly dangerous area, it can be dangerous!

Target

- Learn how the touch sensor work and use it to make a touch alarm with buzzer.

Required Parts

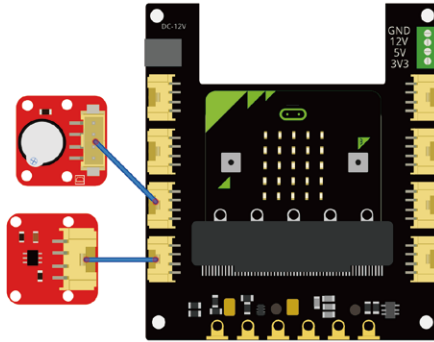
- Micro:bit x1
- Crowtail-Base shield for Micro:bit x1
- Crowtail-Touch Sensorx1
- Crowtail-Buzzer x1
- Crowtail-Cable x2
- USB cable x1

Hardware learning and connection

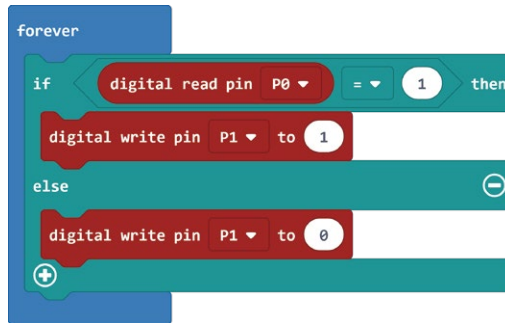
The touch sensor can detect the human touch by sensing changes in capacitance. When it detects a touch, it outputs a HIGH logic level signal. Based on the touch IC TTP223-B, this module can detect human finger in 0~3mm, that is, you can place this sensor on a non-metallic surface such as the glass or paper, with a thickness of less than 3MM, this would be useful for applications that waterproof is needed, or you want to keep the buttons secret.



Connect Crowtail-Touch Sensor and Crowtail-Buzzer to P0 and P1 ports of Crowtail-Base shield for Micro:bit. The hardware connections are as follows:



Programming and note



- **Digital Write:**
Different from the last experiment, this time we will use **digital write** block to set the buzzer 1(on), which can make the buzzer make a big bee noise to prevent touching. The buzzer will stop sounding until you stop touching.
- **Download the program to micro:bit to see what happens.**

Result

If you put your hand on the touch sensor, the buzzer will make a large beep to prevent touch. The buzzer will not stop sounding until you remove your hand from the touch sensor.



By learning this experiment, we know the touch sensor can sense our hand. So, if we have many touch sensors and a buzzer, We can make a touch-type musical instrument that allows us to play own melody?