Buzzer

1. Learning purpose

1.1 Learn how to use buzzer and Raspberry Pi Pico board.

1.2 Learn how to use active buzzer.

2. Hardware construction

List:

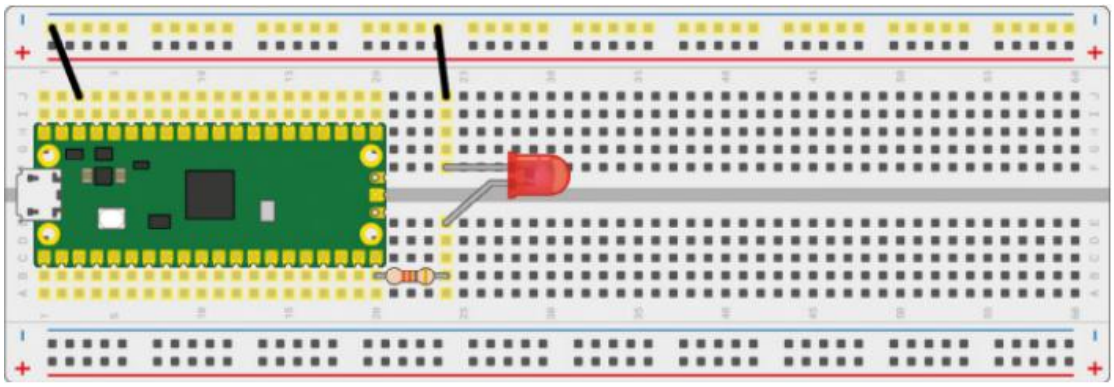
LED light*1

Button*1

220Ωresistor *1

The circuit wiring diagram is as shown below.

(Replace the LED light with a buzzer, and connect the buzzer with “+” to the resistor)



3. About code

```
#include <stdio.h>
#include "pico/stdlib.h"
int main()
{
    const uint BUZZER_PIN = 15;
    gpio_init(BUZZER_PIN);
    gpio_set_dir(BUZZER_PIN, GPIO_OUT);
    while (1) {
        for(int i = 0;i<80;i++)
        {
            gpio_put(BUZZER_PIN, 1);
            sleep_ms(1);
            gpio_put(BUZZER_PIN, 0);
            sleep_ms(1);
        }
        for(int i = 0;i<100;i++)
        {
            gpio_put(BUZZER_PIN, 1);
            sleep_ms(2);
```

```
            gpio_put(BUZZER_PIN, 0);
            sleep_ms(2);
        }
    }
}
```

#include "pico/stdlib.h"
This library contains common hardware libraries, hardware_gpio and pico_time advanced libraries, and it also introduces components like pico_standard_link.

gpio_init(BUZZER_PIN)
Initialize the buzzer pin.

gpio_set_dir(BUZZER_PIN,GPIO_OUT)
Set buzzer to output mode.

Two different for loops make the buzzer sound at different frequencies.

4. Experimental phenomenon

After the program is downloaded, we can heard buzzer play sounds of different frequencies.