key control LED

1. Learning purpose

1. Learn how to use pins on the Raspberry Pi Pico board.
2. Learn how to control LED light on the Raspberry Pi Pico board by button.

2. Hardware construction

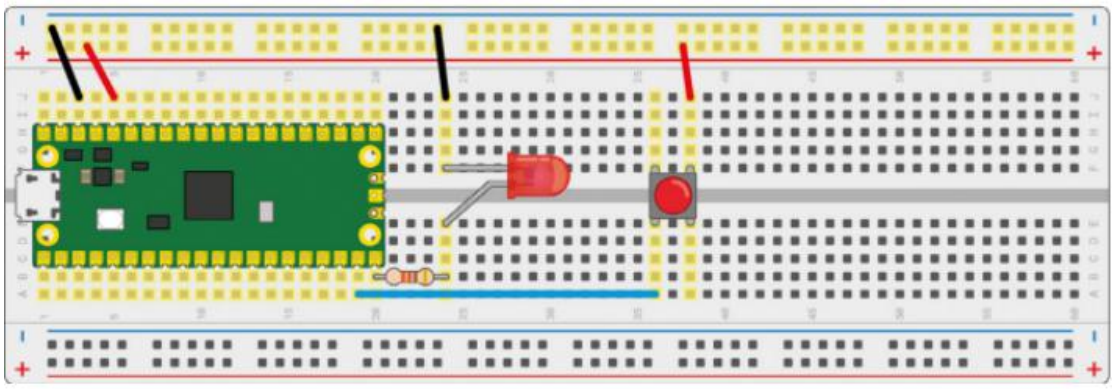
List:

LED light*1

Button*1

220Ωresistor *1

The circuit wiring diagram is shown below.



3. About code

Thonny programming

```
#include <stdio.h>
#include "pico/stdlib.h"
int main()
{
    const uint LED_PIN = 15;
     const uint KEY_PIN = 14;
    gpio_init(LED_PIN);
     gpio_init(KEY_PIN);
    gpio_set_dir(LED_PIN, GPIO_OUT);
    gpio_set_dir(KEY_PIN, GPIO_IN);
    while (true) {
        if(gpio_get(KEY_PIN) == 1)
        {
            gpio_put(LED_PIN, 1);
            sleep_ms(2000);
        }
          gpio_put(LED_PIN, 0);
    }
```

```
}
```

#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(LED_PIN)
gpio_init(KEY_PIN)
Initialize pin.

gpio_set_dir(LED_PIN, GPIO_OUT)
gpio_set_dir(KEY_PIN, GPIO_IN)
Set led pin to output mode and key pin to input mode.

gpio_get(KEY_PIN)
Get the status of a single specified button pin, 0 means low, !0 means high, that is, the button is pressed.

gpio_put(LED_PIN, 1)
Set the level state of a GPIO, the first parameter is the GPIO number, and the second parameter is the value 0 or 1.

4. Experimental phenomenon
After the program is downloaded, when we press the button and the LED will light up for 2s.