Raspberry Pi - I2C Method

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- Experimental preparation
- Experimental purpose
- Experimental wiring
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Experimental preparation

1. Raspberry Pi motherboard
2. 8-channel line patrol module
3. Several Dupont cables

The Raspberry Pi board needs to download the I2C communication source code provided in the document, and the Raspberry Pi system needs to open the i2c communication interface through raspi-config

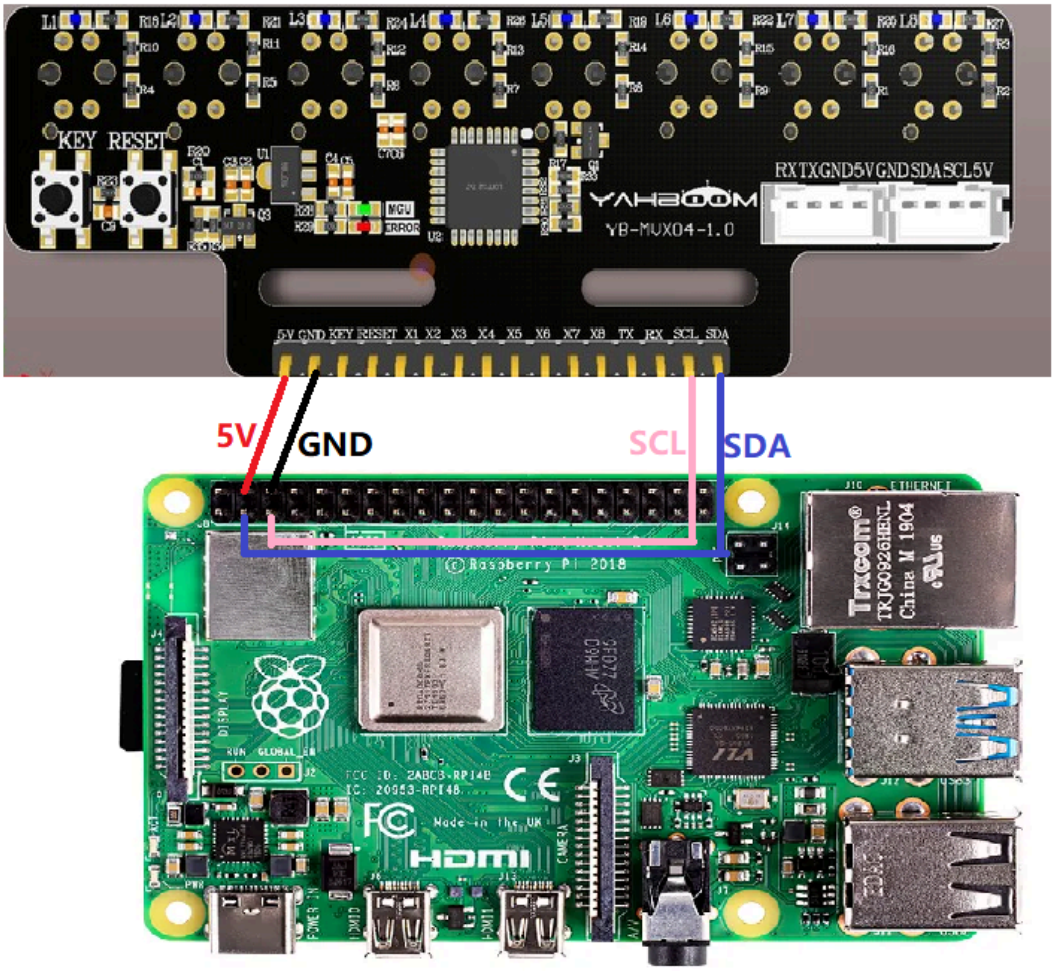
Experimental purpose

The content of this experiment is mainly to use the Raspberry Pi main control to receive the data of the 8-channel line patrol module through I2C.

Experimental wiring

Raspberry Pi	8-channel line patrol module
SCL	SCL
SDA	SDA
5v	5v
GND	GND

As shown in the figure:



Experimental steps and phenomena

1. After connecting the wires, run the script:

```
python3 IR_I2C.py
```

```
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:1  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
x1:1  x2:1  x3:0  x4:0  x5:0  x6:0  x7:0  x8:0
```

Experimental source code

```
#Reading Data
while True:
    time.sleep(0.5) #500ms
    data = read_from_i2c(0x30)
    #print("i2cdata:"+str(data))
    x1 = str((data>>7)&0x01)
    x2 = str((data>>6)&0x01)
    x3 = str((data>>5)&0x01)
    x4 = str((data>>4)&0x01)
    x5 = str((data>>3)&0x01)
    x6 = str((data>>2)&0x01)
    x7 = str((data>>1)&0x01)
    x8 = str((data>>0)&0x01)
    print("x1:"+x1+"  x2:"+x2+"  x3:"+x3+"  x4:"+x4+"  x5:"+x5+"  x6:"+x6+"
x7:"+x7+"  x8:"+x8)
```

The main function of the source code is very simple. It reads the probe pins of 8-way line patrol through I2C and prints them out.