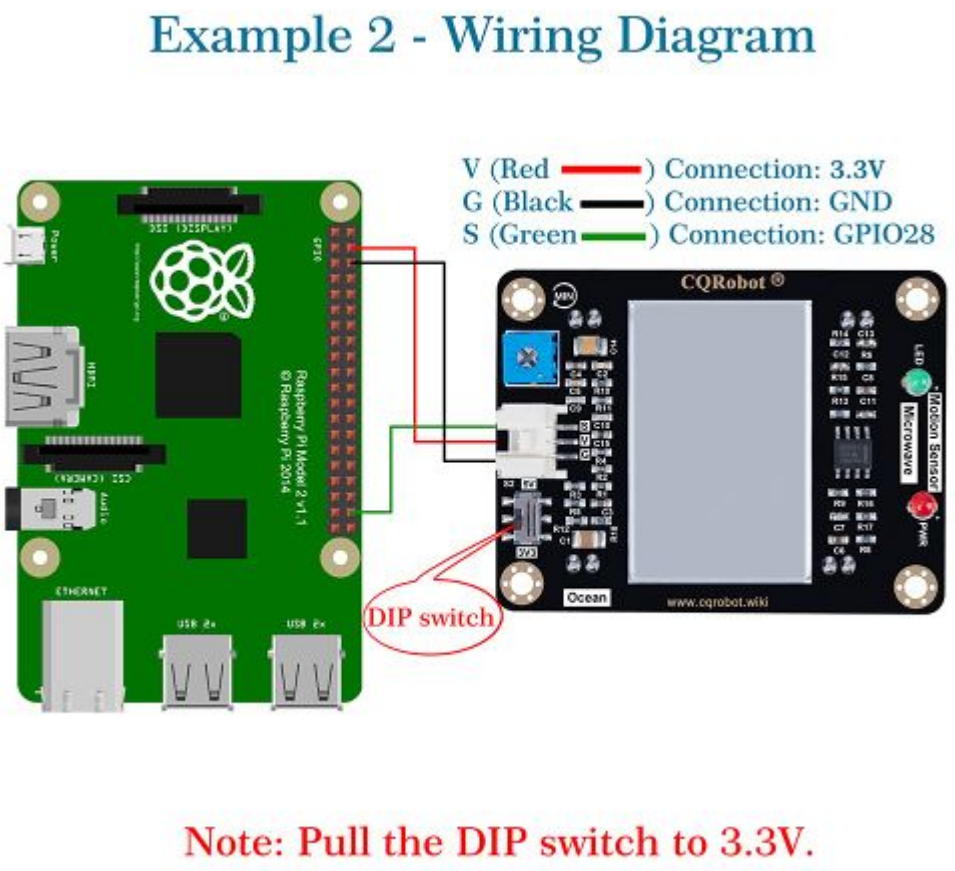
Demo code for Raspberry Pi

This tutorial was written using the official operating system on a Raspberry Pi 5.



Refer to the diagram above for wiring connections. Connect the signal pin to GPIO28.

Experimental Procedures

1. First, ensure that the necessary libraries are installed.

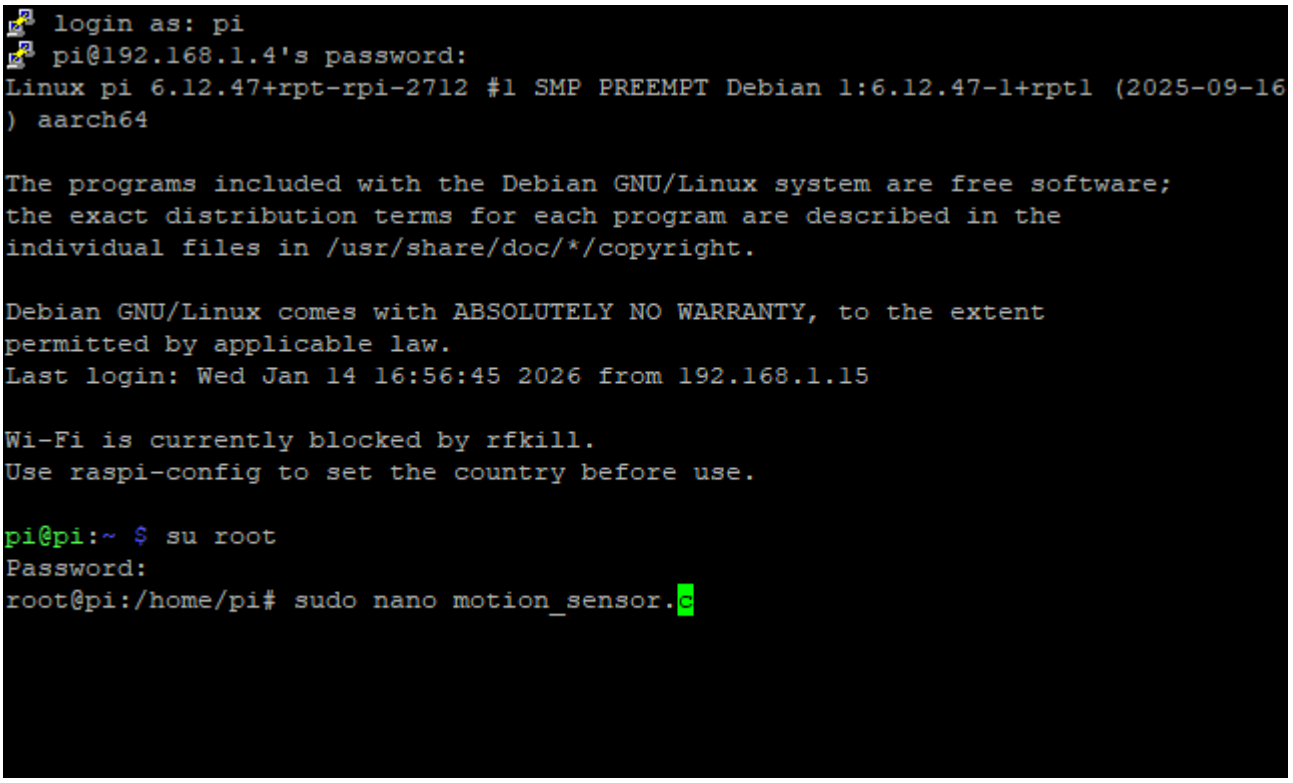
```
# Update package list
sudo apt update

# Install the GCC compiler (if not already installed)
sudo apt-get install gcc

# Install the wiringPi library
sudo apt-get install wiringpi
```

After installing the library files, we need to create a file named motion_sensor.c using nano and write the following code into it. Before doing so, please enable root privileges.

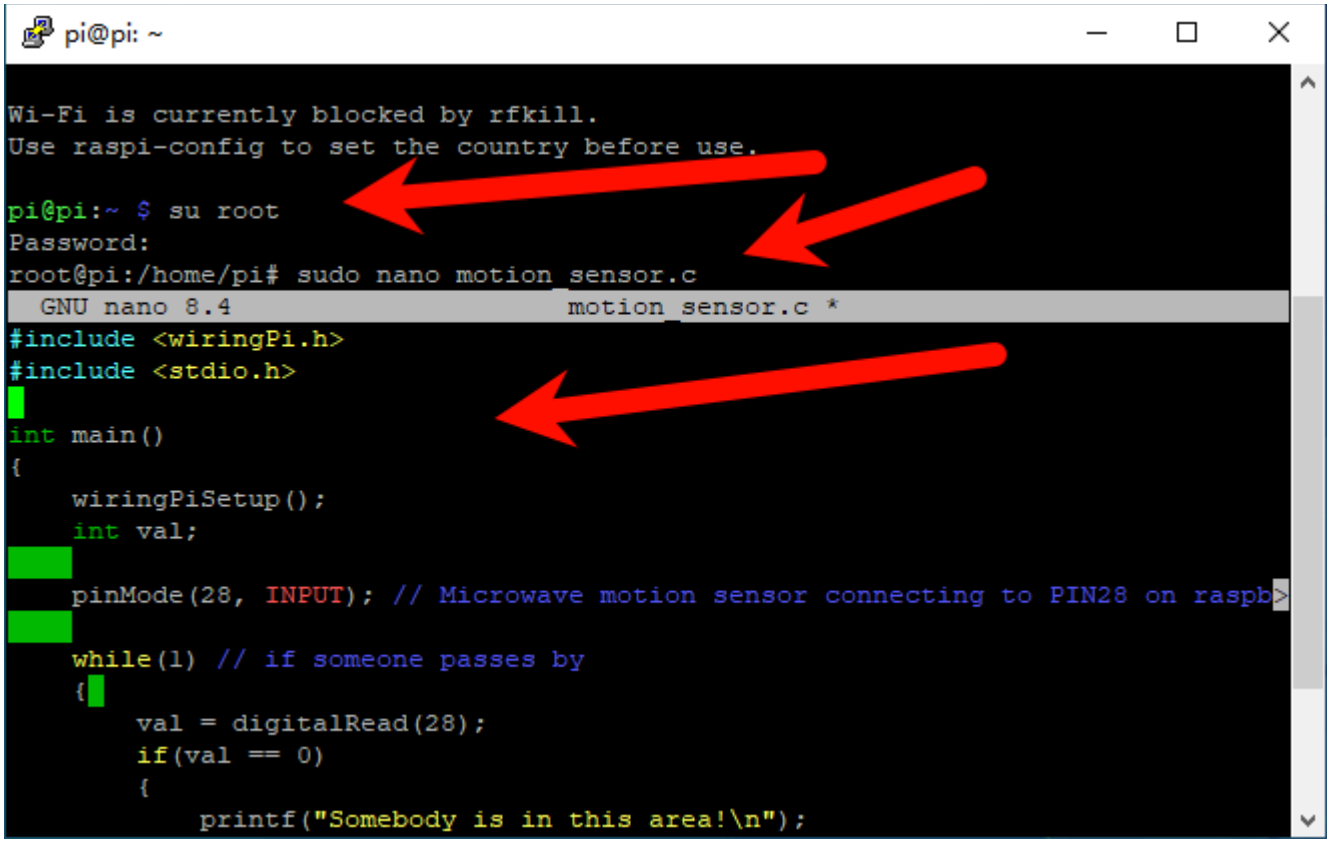
Temporarily switch to the root user

Note: Entering a password on the Raspberry Pi is impractical; simply press Enter after typing.

```
su root
```

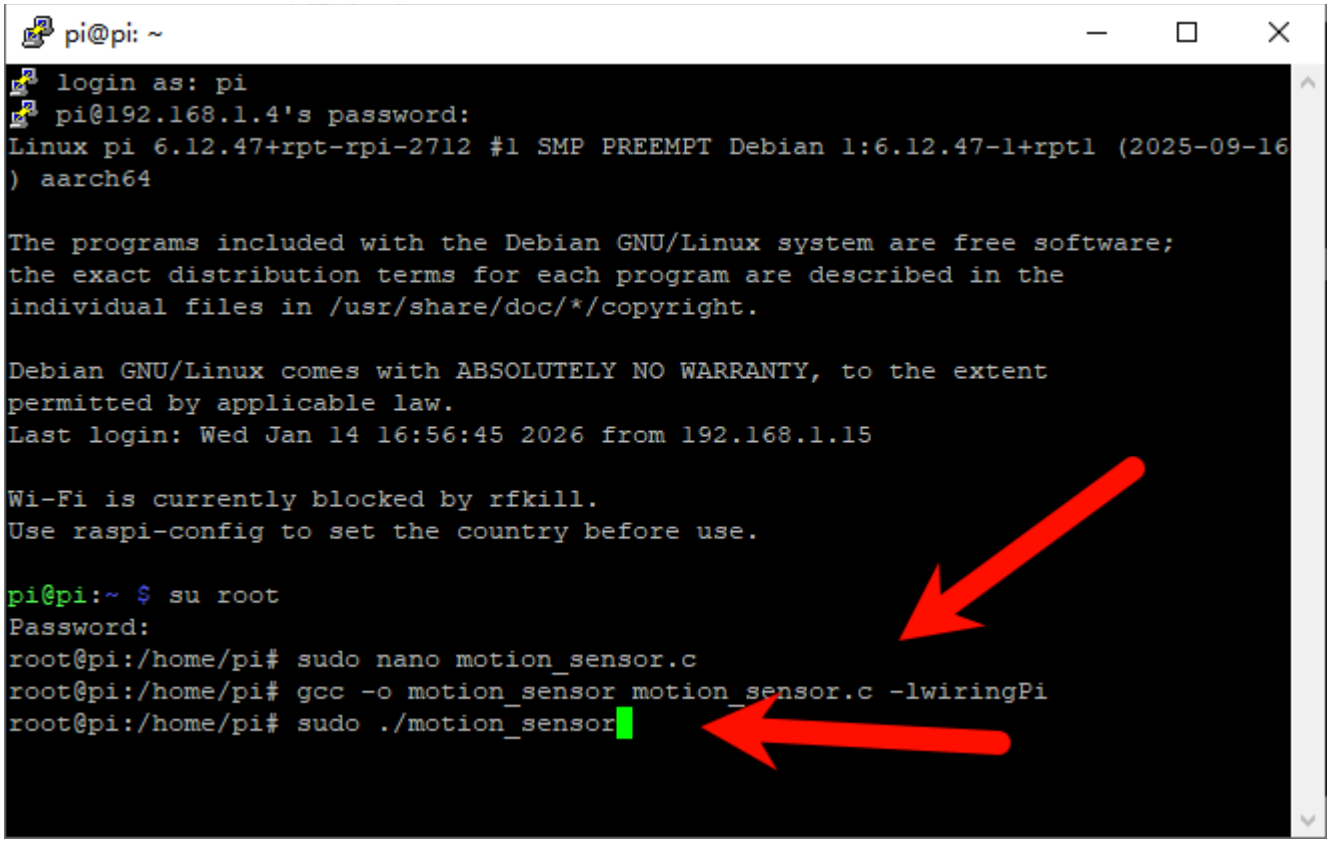



```c
#include <wiringPi.h>
#include <stdio.h>

int main()
{
    wiringPiSetup();
    int val;

    pinMode(28, INPUT); // Microwave motion sensor connecting to PIN28 on raspberry pi

    while(1) // if someone passes by
    {
        val = digitalRead(28);
        if(val == 0)
        {
            printf("Somebody is in this area!\n");
            delay(10); // delay 10ms
        }
        else // nobody passes by
        {
            printf("No one!\n");
            delay(10); // delay 10ms
        }
    }
    return 0;
}
```



Compile and run

```
# Compile
gcc -o motion_sensor motion_sensor.c -lwiringPi

# Run
sudo ./motion_sensor
```



After running the code, it displays “Somebody is in this area!” when someone is present and “No one!” when no one is present, as shown below.