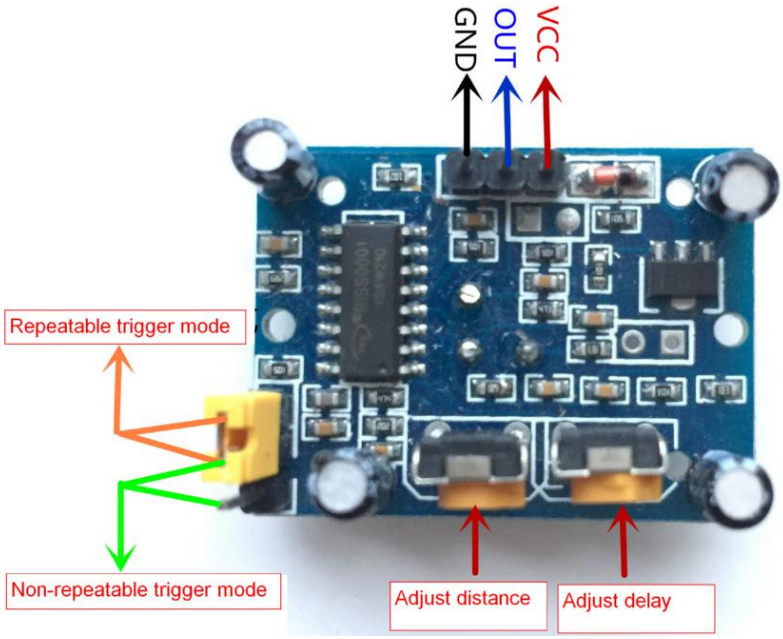
The purpose of the experiment:

In this course we mainly study the use of Human Body infrared sensor.

Introduction of Dual axis XY rocker module:

The actual object is shown below.

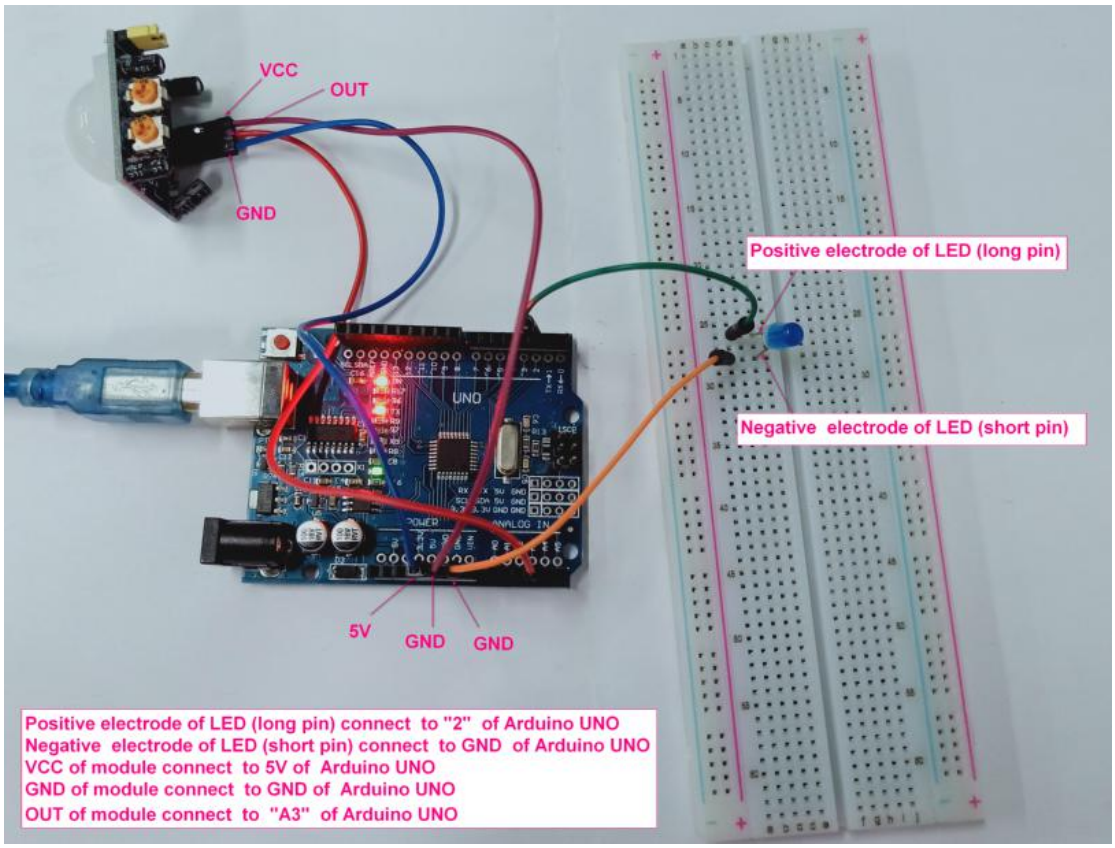


List of components required for the experiment:

Arduino UNO board *1
USB cable *1
Human Body infrared sensor *1
LED *1
Breadboard *1
Dupont line *1 bunch

Actual object connection diagram:

We need to connect the circuit as shown in the figure below.



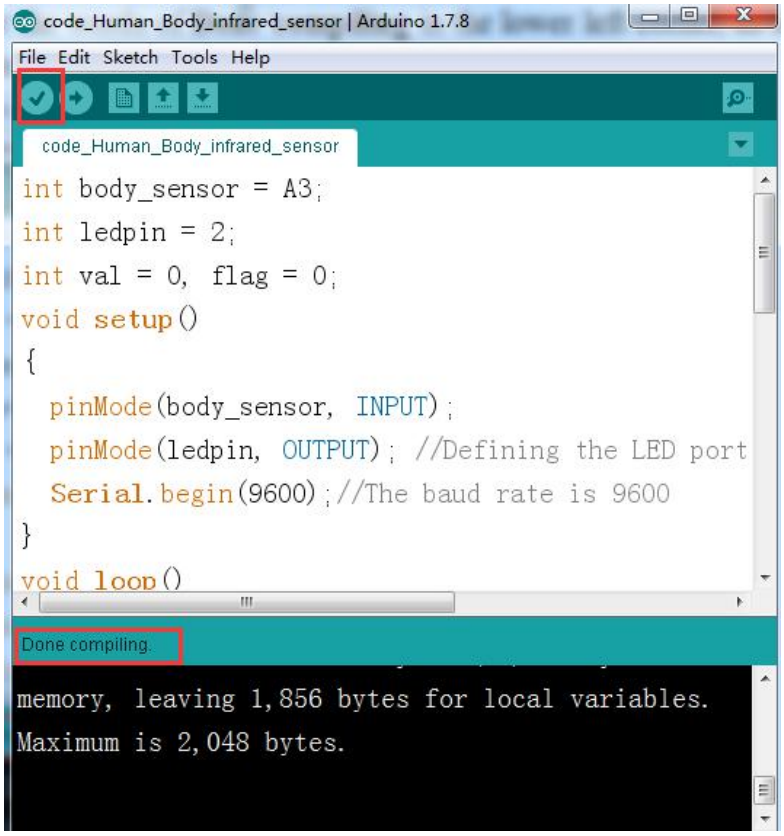
Experimental code analysis:

```
int body_sensor = A3;
int ledpin = 2;
int val = 0, flag = 0;
void setup()
{
   pinMode(body_sensor, INPUT);
   pinMode(ledpin, OUTPUT); //Defining the LED port for the output port
   Serial.begin(9600);//The baud rate is 9600
}
void loop()
{
   val = analogRead(body_sensor); //Read the voltage at port A0 and assign it to val
   Serial.println(val);
   if (val > 150)
   {
      digitalWrite(ledpin, HIGH);
      flag = 1;
   }
   else if (flag)
   {
      digitalWrite(ledpin, HIGH);
```

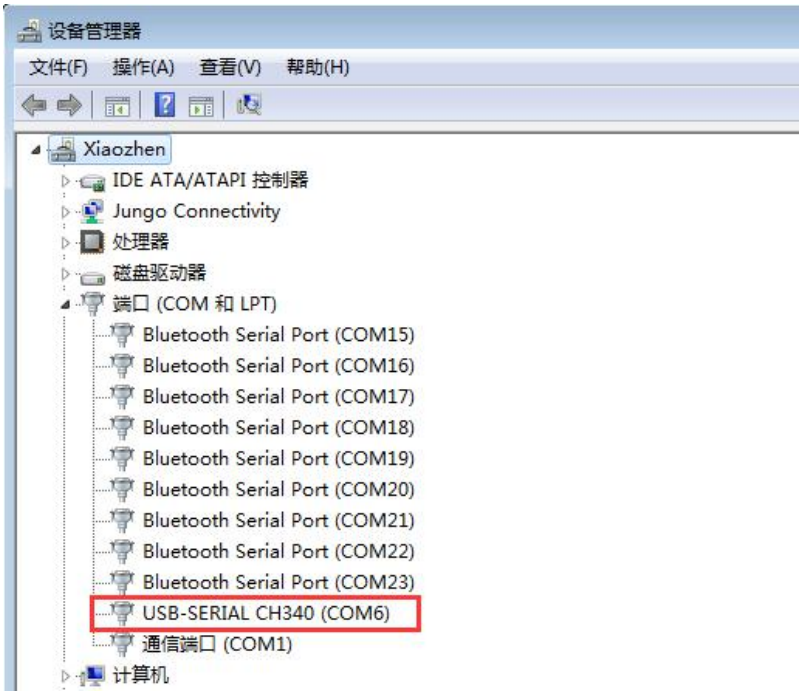
```
        delay(2500);
        flag = 0;
    }
    else
        digitalWrite(ledpin, LOW);
}
```

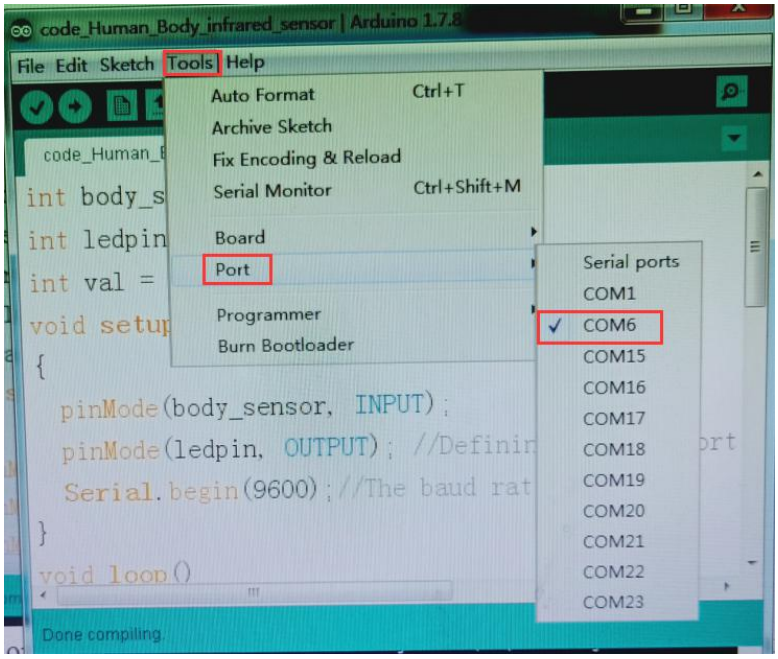
Experimental steps:

1. We need to open the program for this experiment: **code_Human_Body_infrared_sensor.ino**, click "√"under the menu bar,compile the program, and wait for the words of **Done compiling** in the lower left corner, as shown in the following figure.

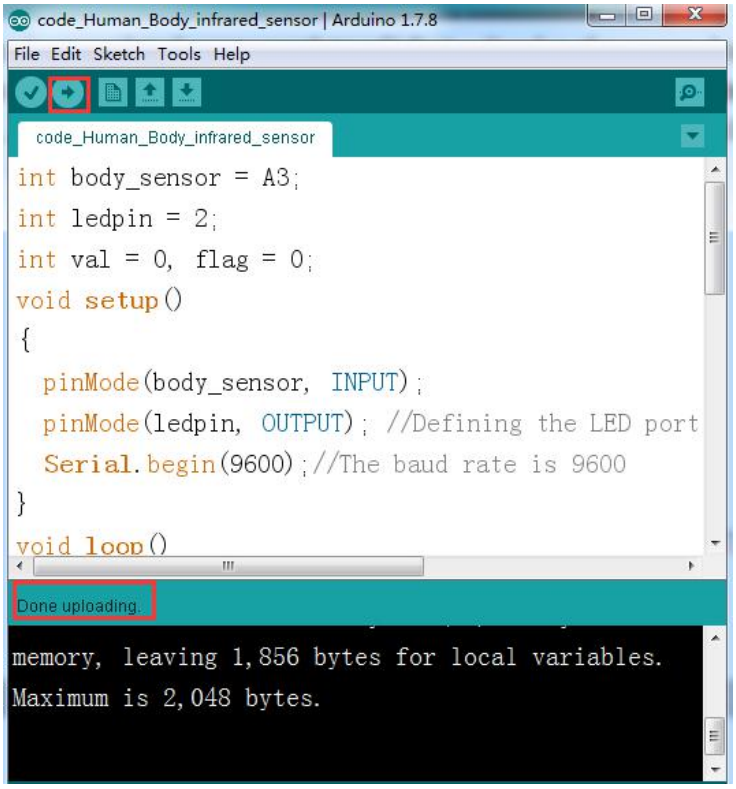


2. In the menu bar of Arduino IDE，you need to select the【Tools】---【Port】--- select the port that the serial number displayed by the device manager just now.for example:COM6,as shown in the following figure.





3. After the selection is completed, you need to click "→"under the menu bar,and upload the program to the Arduino UNO board, when appears to **Done uploading** on the lower left corner , that means that the program has been successfully uploaded to the Arduino UNO board, as shown in the following figure.



4. After the program upload is completed. When someone approaches, the LED will light up, as shown in the following figure.
(Note: If you do not achieve normal experimental results, you need to adjust the adjustable resistor on the module.)