Course 5 ---Traffic lights

The purpose of the experiment:

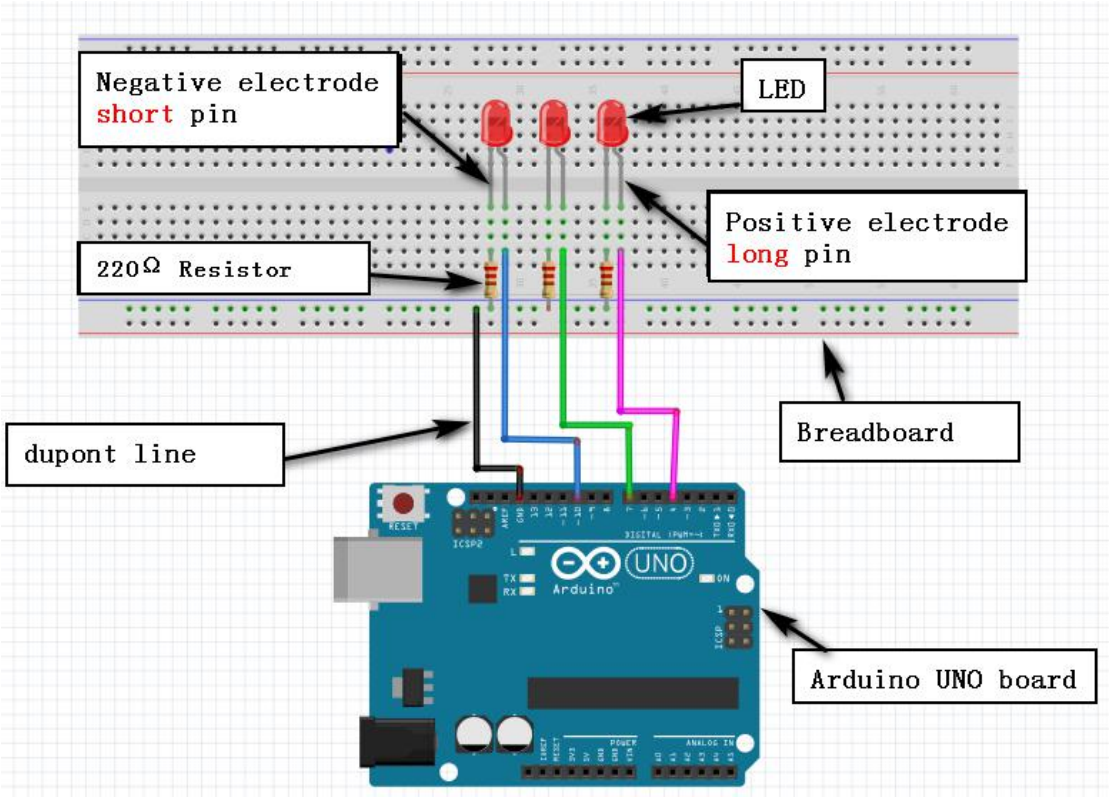
This course uses led lights programming to realize the effect of simulated traffic lights.

List of components required for the experiment:

Arduino UNO board *1
USB cable *1
LED*3（Color random）
220Ω Resistor *3
Breadboard *1
dupont line *1bunch

Actual object connection diagram:

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



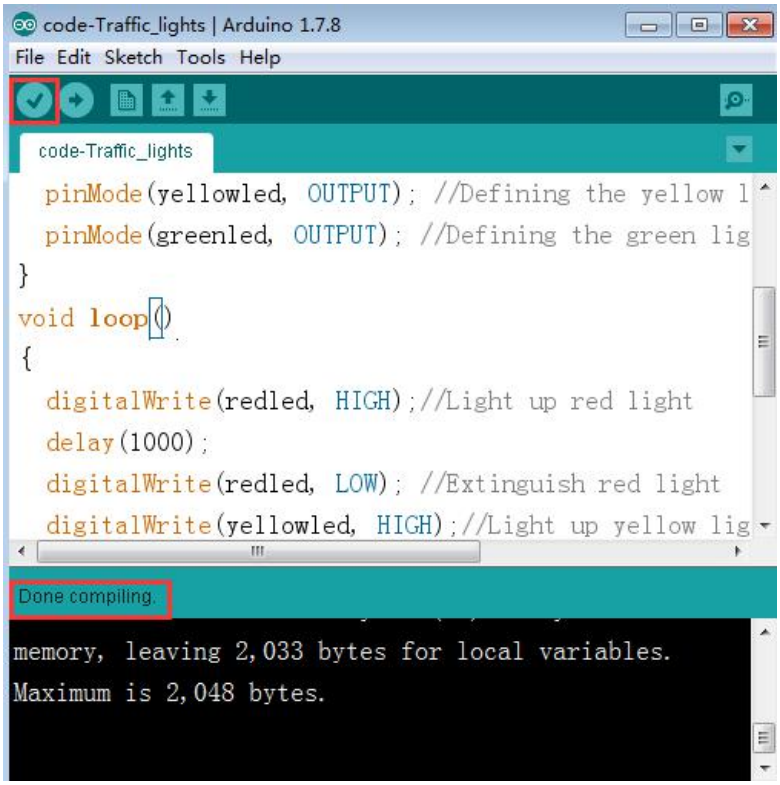
Experimental code analysis:

```
int redled =10; //Defining the digital port 10
int yellowled =7; //Defining the digital port 7
int greenled =4; //Defining the digital port 4
void setup()
{
```

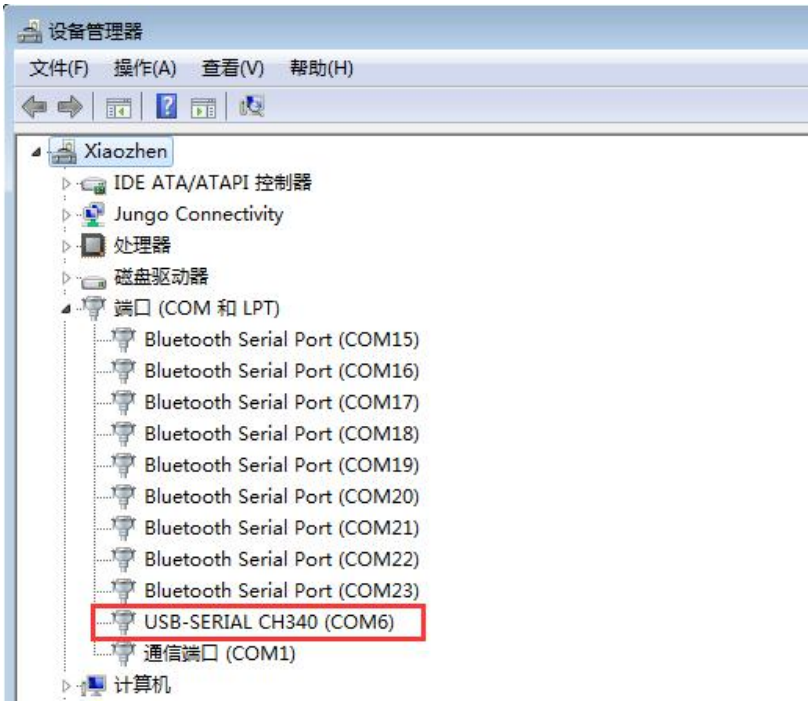
```
    pinMode(redled, OUTPUT);//Defining the red light port for the output port
    pinMode(yellowled, OUTPUT); //Defining the yellow light port for the output port
    pinMode(greenled, OUTPUT); //Defining the green light port for the output port
}
void loop()
{
    digitalWrite(redled, HIGH);//Light up red light
    delay(1000);
    digitalWrite(redled, LOW); //Extinguish red light
    digitalWrite(yellowled, HIGH);//Light up yellow light
    delay(200);
    digitalWrite(yellowled, LOW);//Extinguish yellow light
    digitalWrite(greenled, HIGH);//Light up green light
    delay(1000);
    digitalWrite(greenled, LOW);//Extinguish green light
}
```

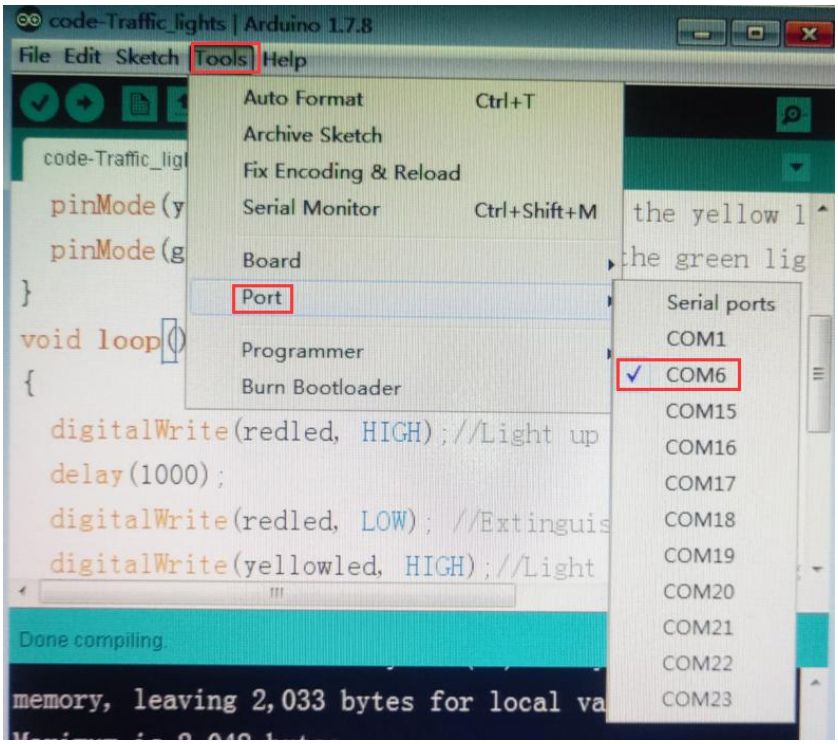
Experimental steps:

1. We need to open the code of this experiment: **code-Traffic_lights.ino**, click " √ " under the menu bar to compile the code, and wait for the word "**Done compiling** " in the lower right corner, as shown in the figure below.

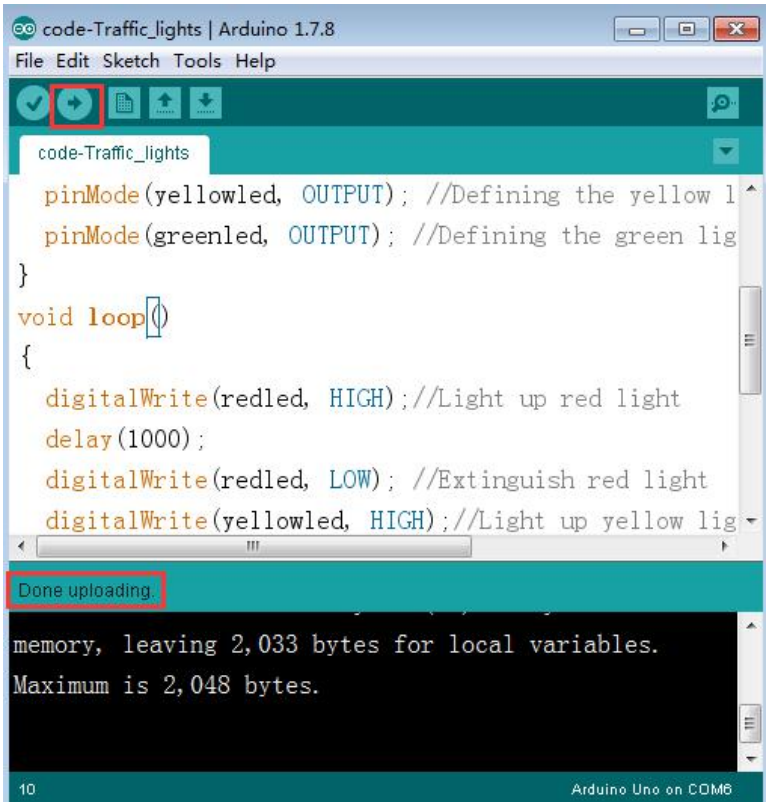


2. In the menu bar of Arduino IDE, we need to select 【Tools】---【Port】--- selecting the port that the serial number displayed by the device manager just now, as shown in the figure below.

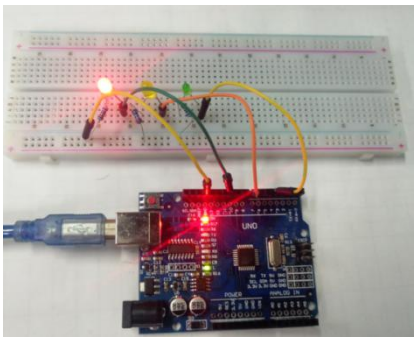


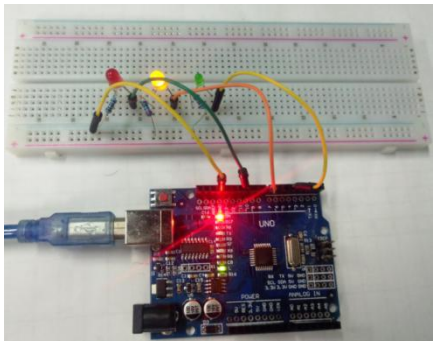


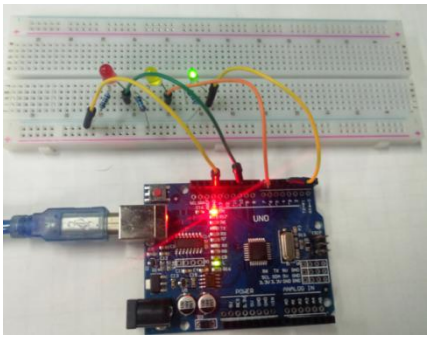
3. After the selection is completed, you need to click "→"under the menu bar to upload the code to the Arduino UNO board. When the word "**Done uploading**" appears in the lower left corner, the code has been successfully uploaded to the Arduino UNO board, as shown in the figure below.



4.After the code is uploaded, we can see that the red light is on for 1 second, the yellow light is on for 0.2 seconds, and the green light is on for 1 second, as shown in the figure below.







The code of the experiment: