Advance

The purpose of the experiment:

The purpose of the experiment in this lesson is to open the power switch of the BatCar after the program is uploaded, and the BatCar starts to move forward after 2 seconds of stationary.

List of components required for the experiment:

BatCar*1

USB data cable*1

Experimental code analysis:

```
int Left_motor_back = 9;
int Left_motor_go = 5;
int Right_motor_go = 6;
int Right_motor_back = 10;
int Right_motor_en = 8;
int Left_motor_en = 7;
void setup()
{
  //Initialize motor drive for output mode
  pinMode(Left_motor_go,OUTPUT);
  pinMode(Left_motor_back,OUTPUT);
  pinMode(Right_motor_go,OUTPUT);
  pinMode(Right_motor_back,OUTPUT);
}
void run(int time) // go ahead
{
  digitalWrite(Left_motor_en,HIGH);   // set left motor enable
  digitalWrite(Right_motor_en,HIGH);   // set right motor enable
  digitalWrite(Right_motor_go,HIGH);   // right motor go ahead
```
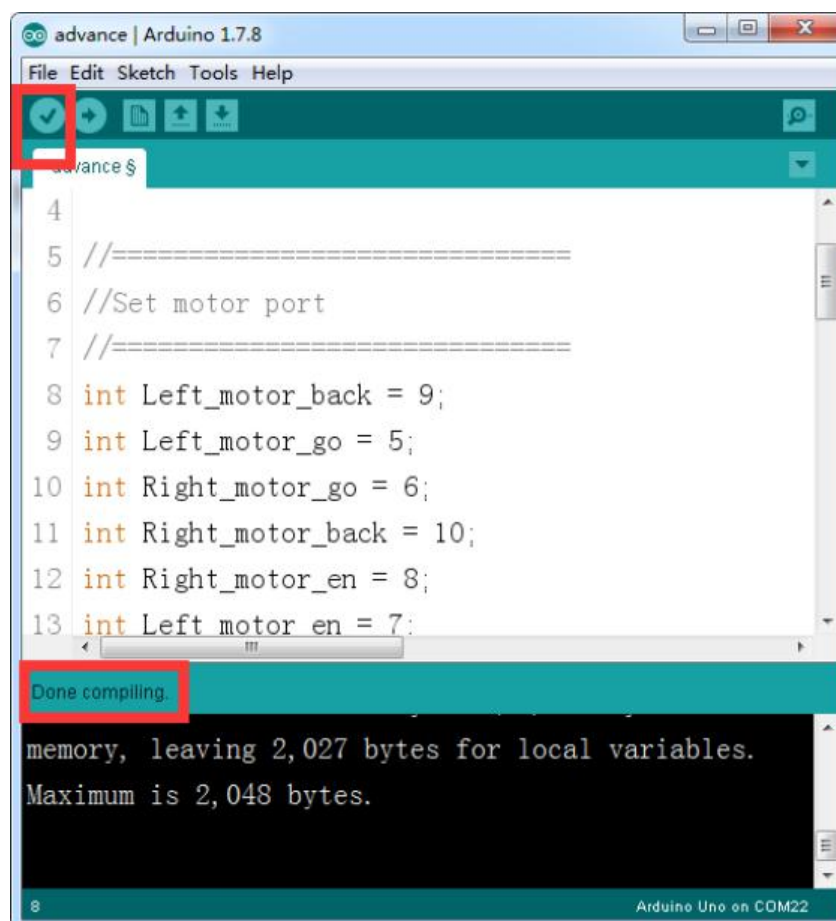
```
digitalWrite(Right_motor_back,LOW);
 analogWrite(Right_motor_go,200);//PWM--Pulse Width Modulation(0~255). It can
be adjusted to control speed.
 digitalWrite(Left_motor_go,HIGH);   // set left motor go ahead
 digitalWrite(Left_motor_back,LOW);
 analogWrite(Left_motor_go,200);//PWM--Pulse Width Modulation(0~255).It can be
adjusted to control speed.
 delay(time * 100);    //Running time can be adjusted
}
void loop()
{
  delay(2000); //delay 2s
  run(10);   //Run
}
```
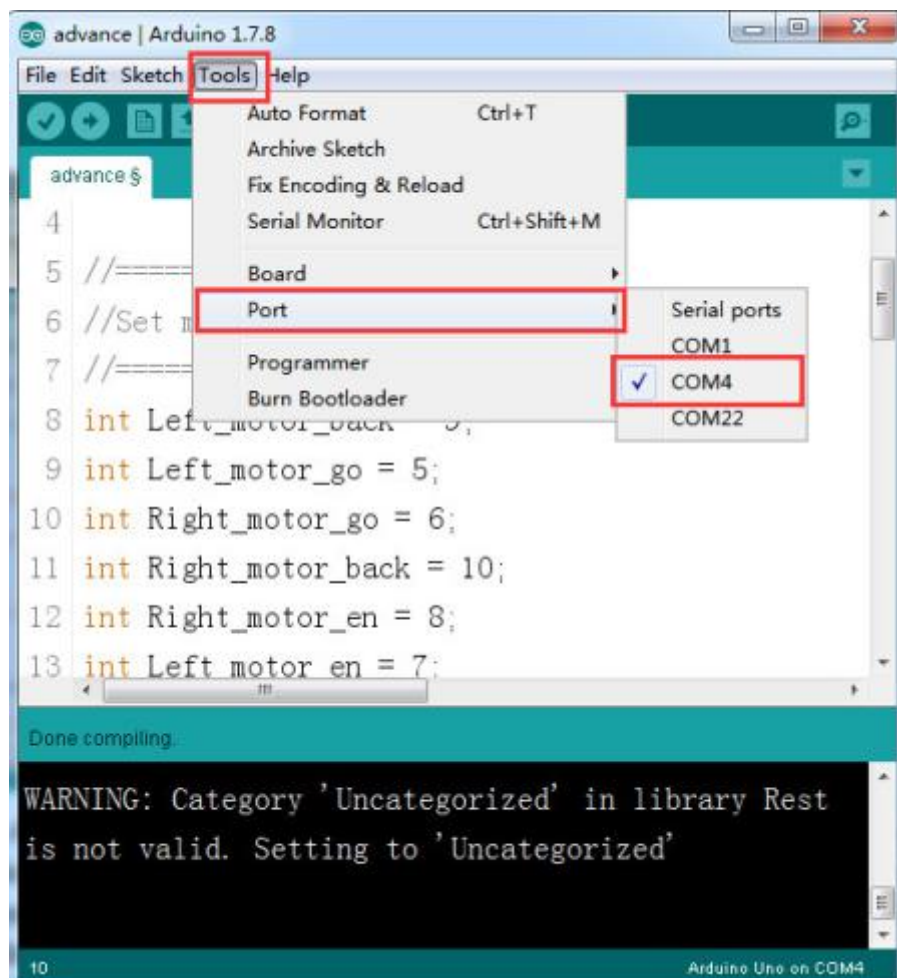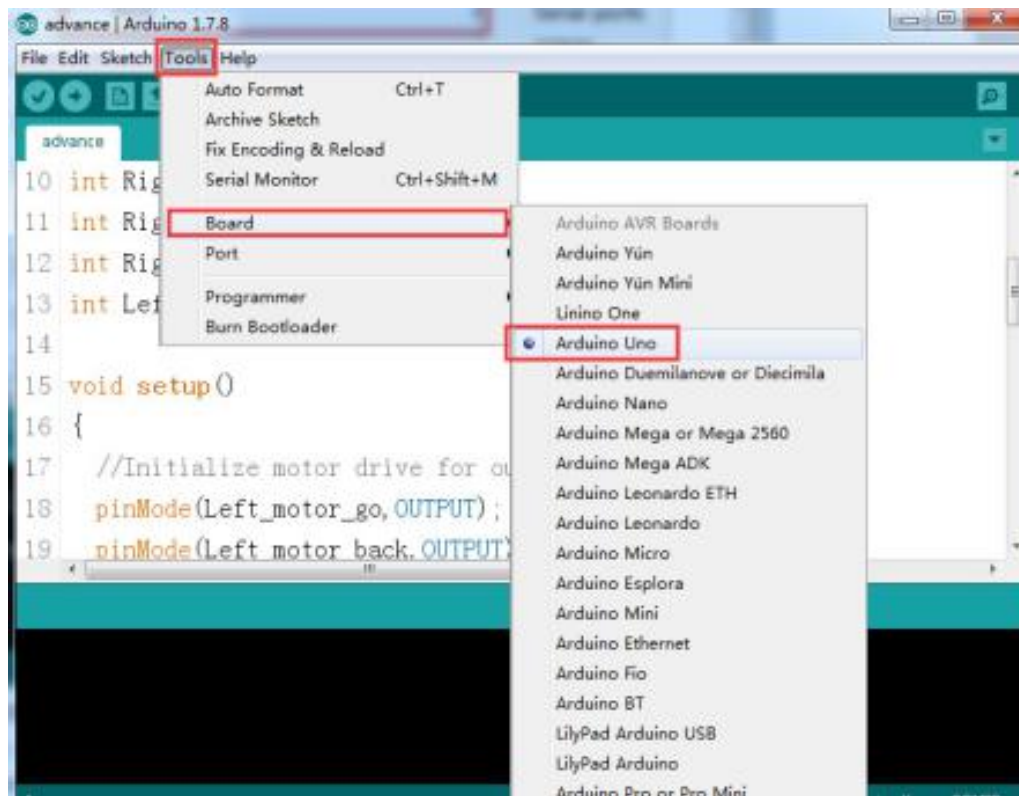
Experimental steps:

1. We need to open the code of this experiment: **advance.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.
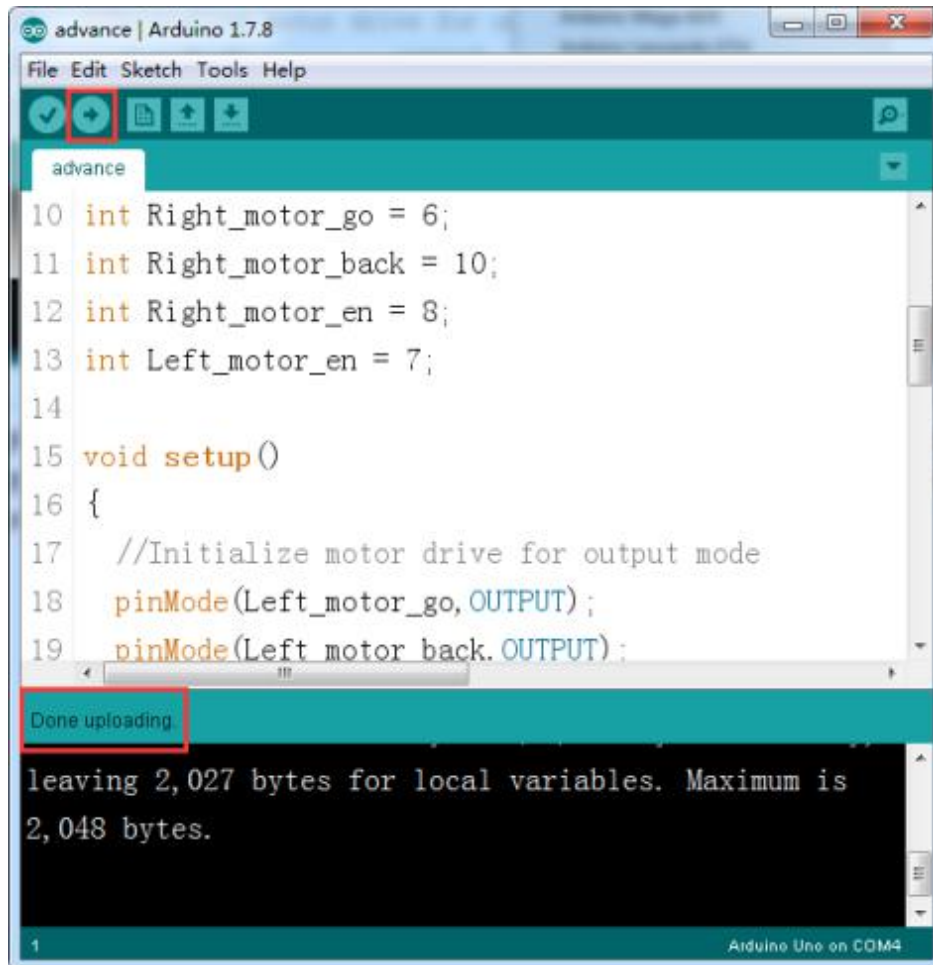
2. In the menu bar of Arduino IDE, we need to select 【Tools】---【Port】
--- selecting the port that the serial number displayed by the device manager just now, as shown in the figure below.

3.Click **[Tools]**---**[Board]**---Select Arduino Uno as shown 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.

```
advance | Arduino 1.7.8
File Edit Sketch Tools Help

  advance
10  int Right_motor_go = 6;
11  int Right_motor_back = 10;
12  int Right_motor_en = 8;
13  int Left_motor_en = 7;
14
15  void setup()
16  {
17    //Initialize motor drive for output mode
18    pinMode(Left_motor_go, OUTPUT);
19    pinMode(Left_motor_back, OUTPUT);

Done uploading.

leaving 2,027 bytes for local variables. Maximum is
2,048 bytes.

                                    Arduino Uno on COM4
```

4. After the program is successfully uploaded, as shown in Figure 1, press the power switch, you can see that the BatCar starts moving forward after 2 seconds .
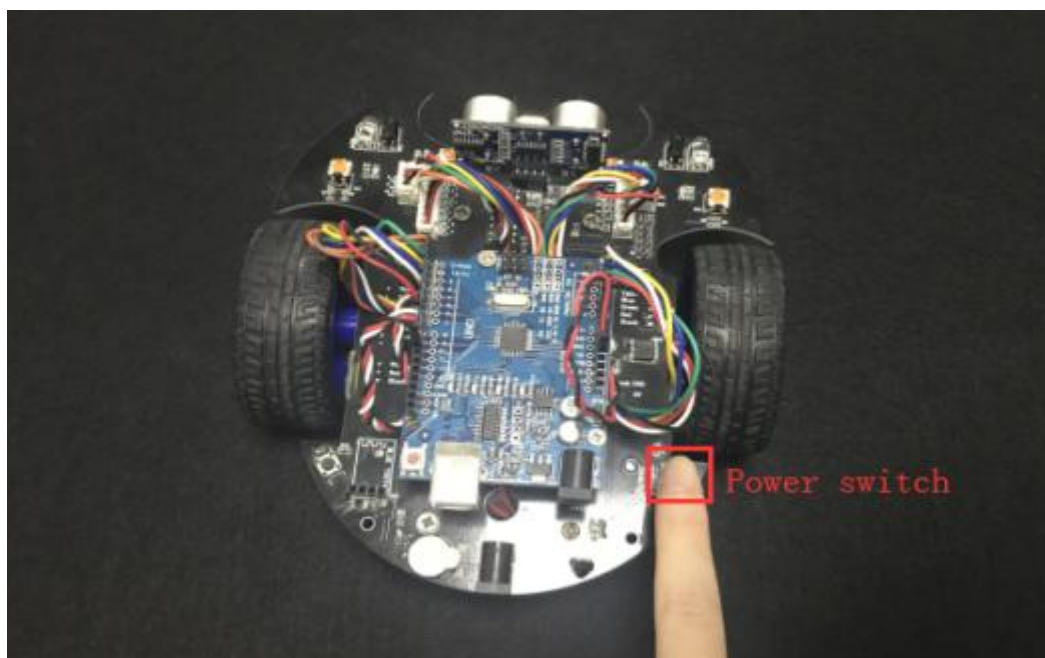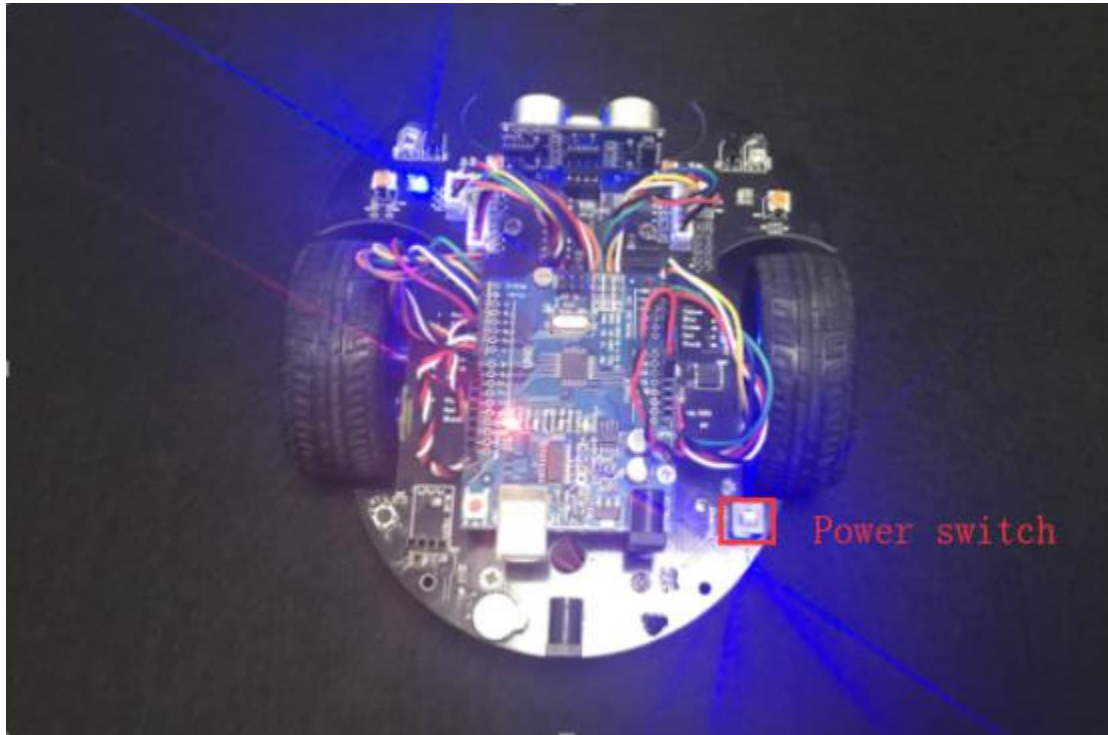

Figure 1

Figure 2