Course 3 ---Analog value

The purpose of the experiment:

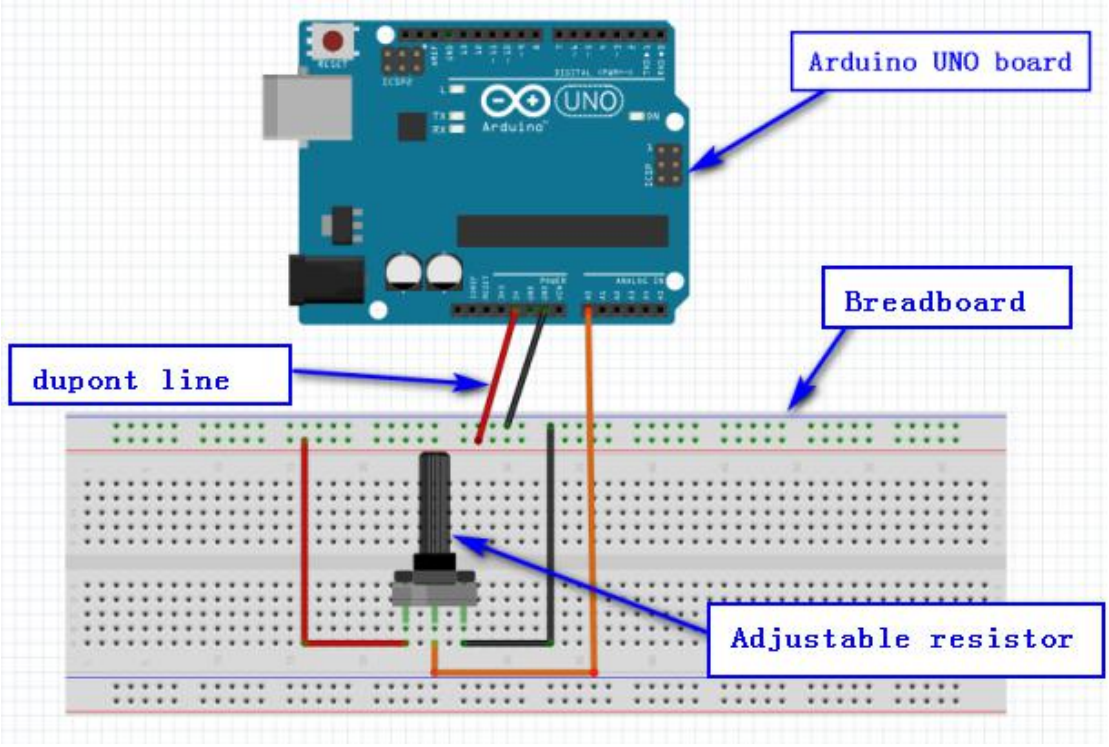
In this course, we learn how to use of simulate I/O interface by combining adjustable resistor. Arduino is equipped with 6 analog interfaces, port 0~part 5. They can be reused. In addition to the analog interface function, these 6 interfaces can be used as digital interfaces, No 14-19.

List of components required for the experiment:

Arduino UNO board *1
USB cable *1
Adjustable resistor *1
Breadboard *1
Dupont line *1bunch

Actual object connection diagram:

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



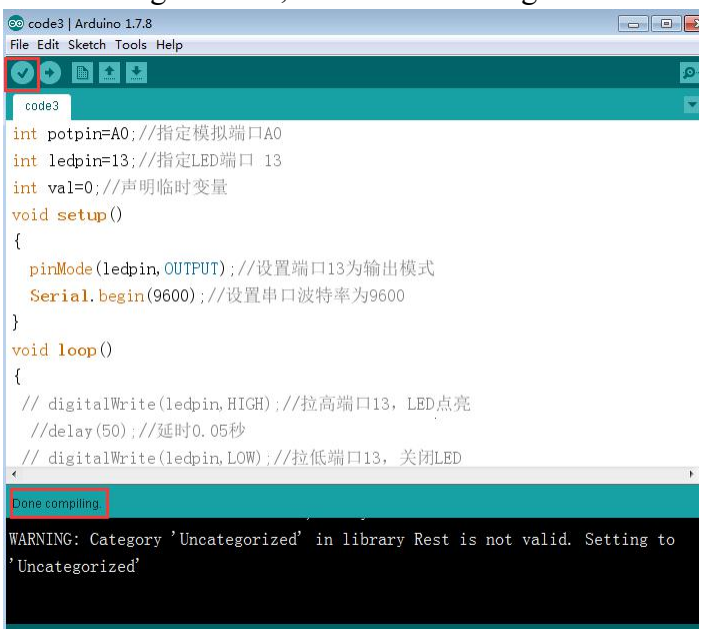
Experimental code analysis:

```
int potpin=A0;    //Defining the analog port A0
int ledpin=13;    //Defining the led port 13
int val=0;    //Declarations of temporary variables
void setup()
{
   pinMode(ledpin,OUTPUT);    //Defining the light port for the output port
   Serial.begin(9600);    //The baud rate is 9600
```

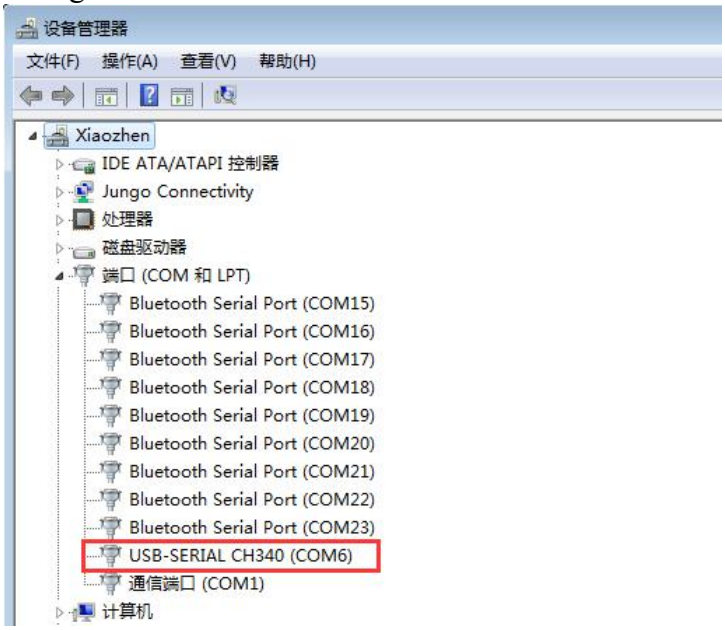
```
}
void loop()
{
   val=analogRead(potpin); //Reading the voltage value of the A0 port and assign it to val
   Serial.println(val);    //Sending Val value by serial port
}
```

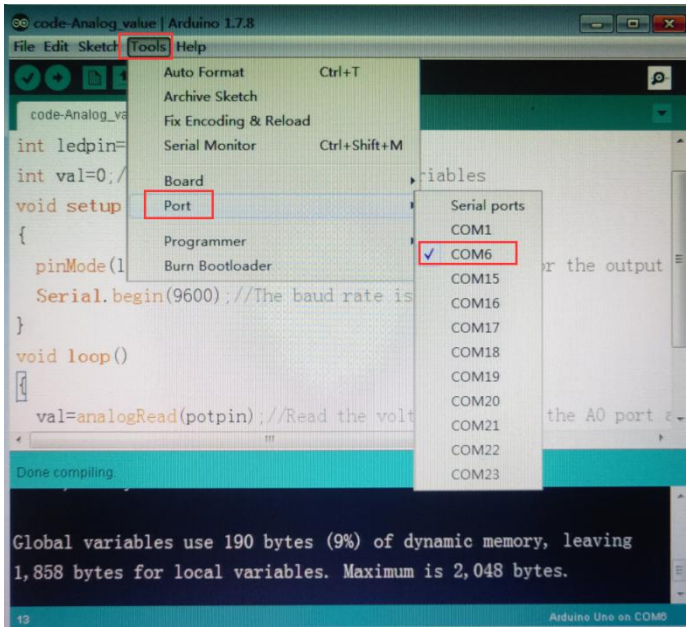
Experimental steps:

1. We need to open the code of this experiment: **code-Analog_value.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.

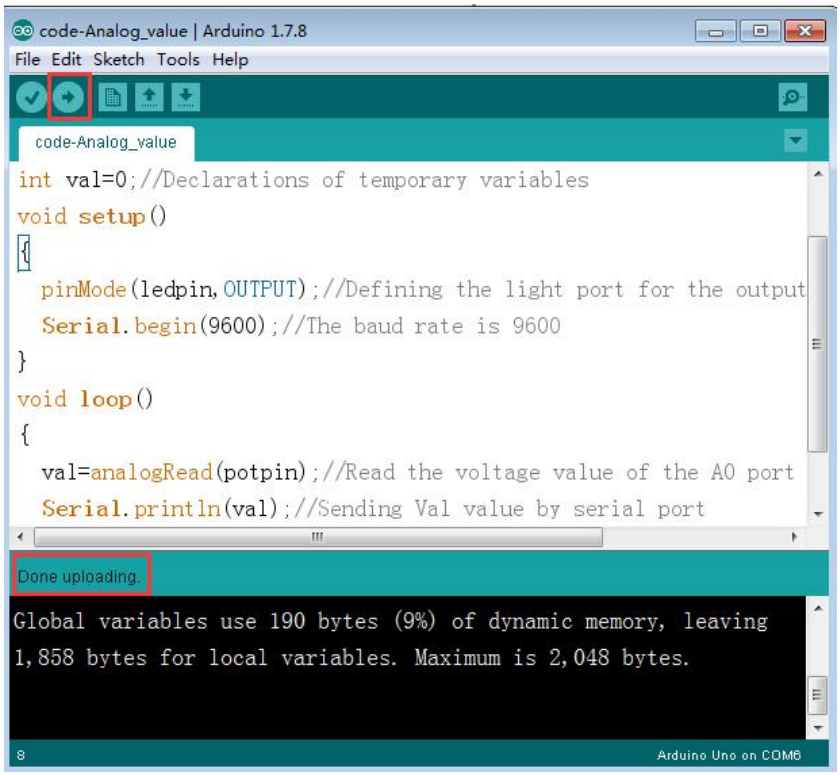


2. In the menu bar of Arduino IDE, we need to select 【Tools】---【Port】--- selecting the port that the serial number displayed by the device manager just now, as shown in the figure below.



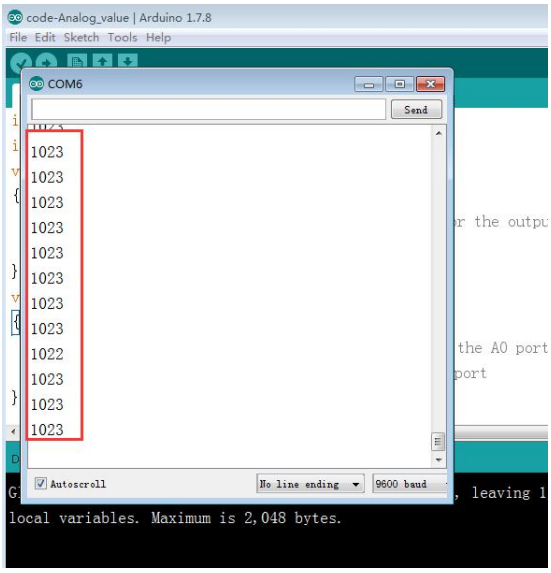


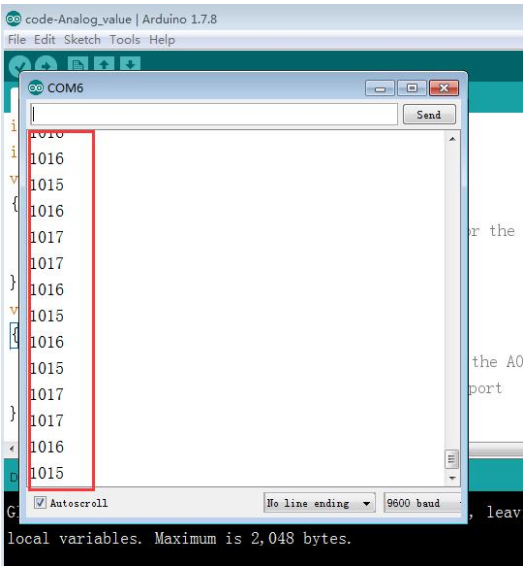
3. After the selection is completed, you need to click "→"under the menu bar to upload the code to the Arduino UNO board. When the word "**Done uploading**" appears in the lower left corner, the code has been successfully uploaded to the Arduino UNO board, as shown in the figure below.

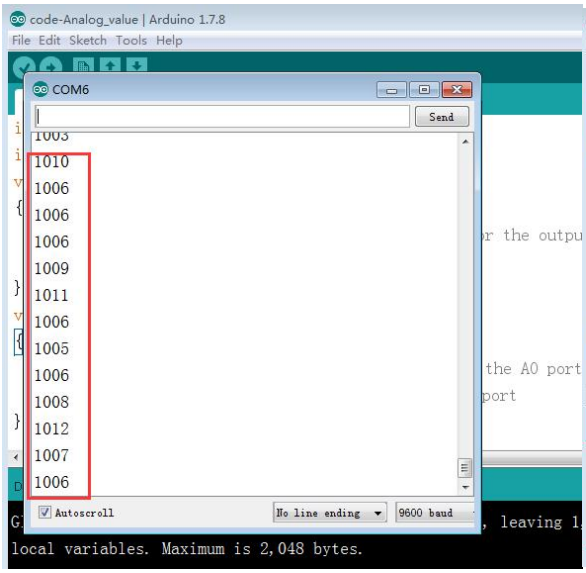


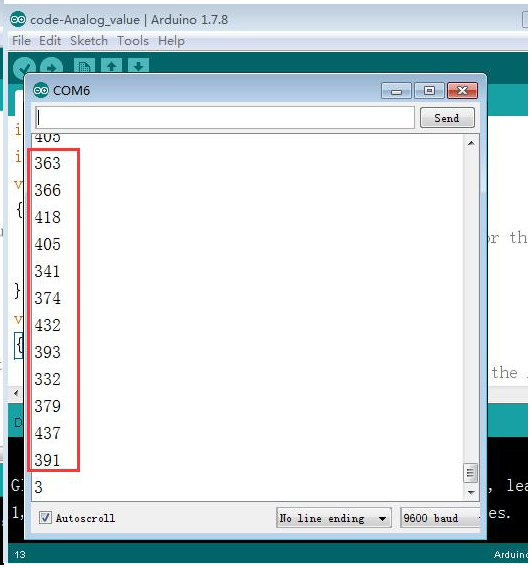
4.After the code is uploaded. You need to open the serial port monitor on the top right corner of Arduino IDE, A serial port of Arduino port will appear, as shown in the following figure.When we rotate the adjustable resistor, we can see that the data printed in the serial port monitor will change accordingly, as shown in the following

figure.









The code of the experiment: