Preface

What does the tutorial include?

This tutorial includes a large number of Arduino projects.You will learn how to use Arduino controller board, sensors and components.If at any point while you are reading you have any questions, please don't hesitate to contact me,you can send an email to service@rexqualis.com.

Who are we?

RexQualis Inc. is a professional manufacturer of electronic components products, involved in the development, design, production ,and selling of Arduino, Raspberry Pi, and other products.

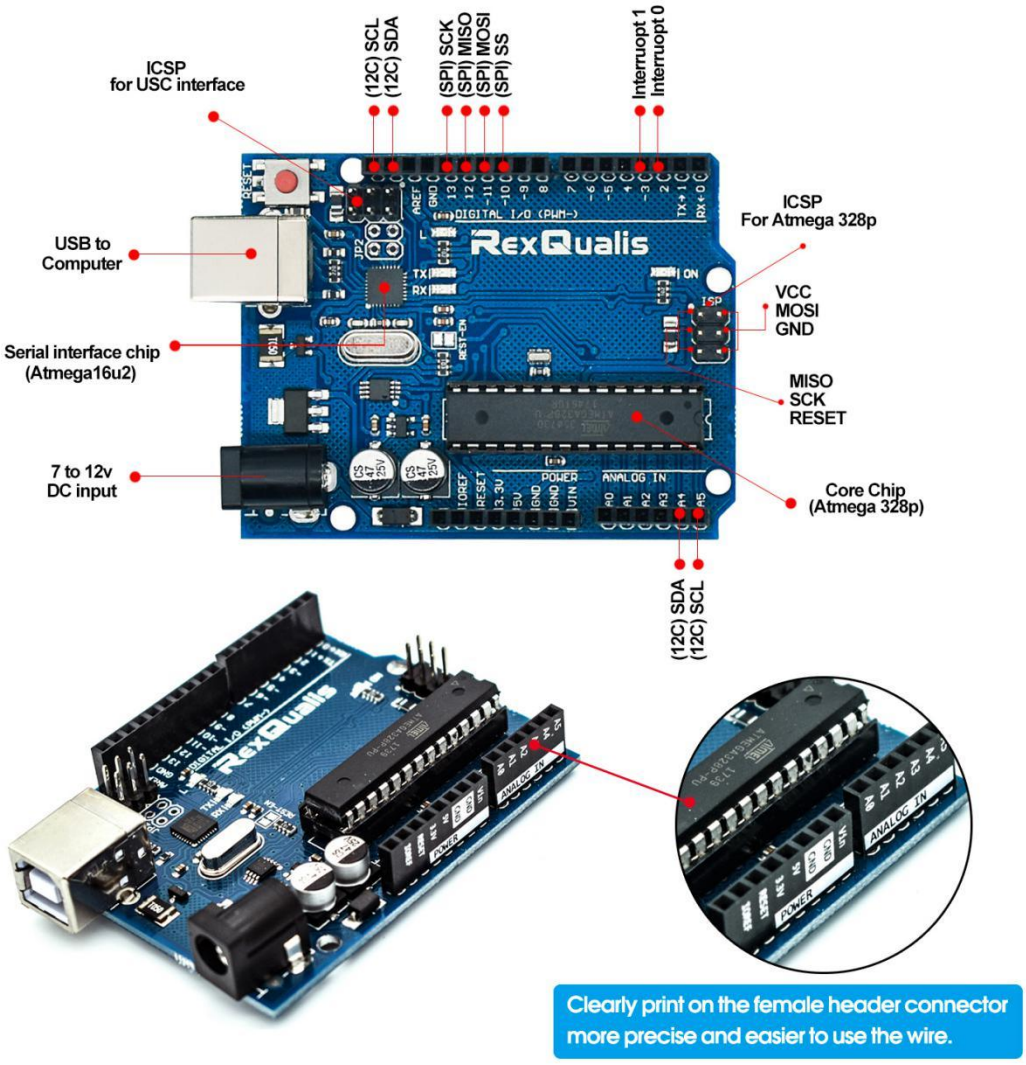
Our aim is to provide clients with the highest cost performance products, to provide the best service, make science fun, make science popular. Although our products are few reviews till now, we actually sold a few hundreds of a month. We sincerely hope that you can provide valuable opinions for our products and services, this is the power of prompted us to do better.

Official Website: www.rexqualis.com

What's the Arduino?

The Arduino is a small development board with a brain that you can program,also known as a microcontroller. It is essentially a tiny computer that can connect to electrical circuits,interacts with the real world through leds, sensors, motors, LCDs, buzzers, etc...

The Arduino Uno is powered by an ATmega328P chip,That's where you store your programs.



The top row of the Arduino has 14 digital pins, labeled 0-13. These pins can act as either inputs or outputs. You can connect them to your circuits to turn them on or off.

The Arduino has 3.3V or 5V supply. This is really useful since most components require 3.3V or 5V. You will also find some pins labeled "GND" on the Arduino, these are ground pins.

Labeled A0-A5 is the analog input pins. These pins are used to make analog measurements of sensors or other components. Analog inputs are especially good for measuring things with a range of possible values.

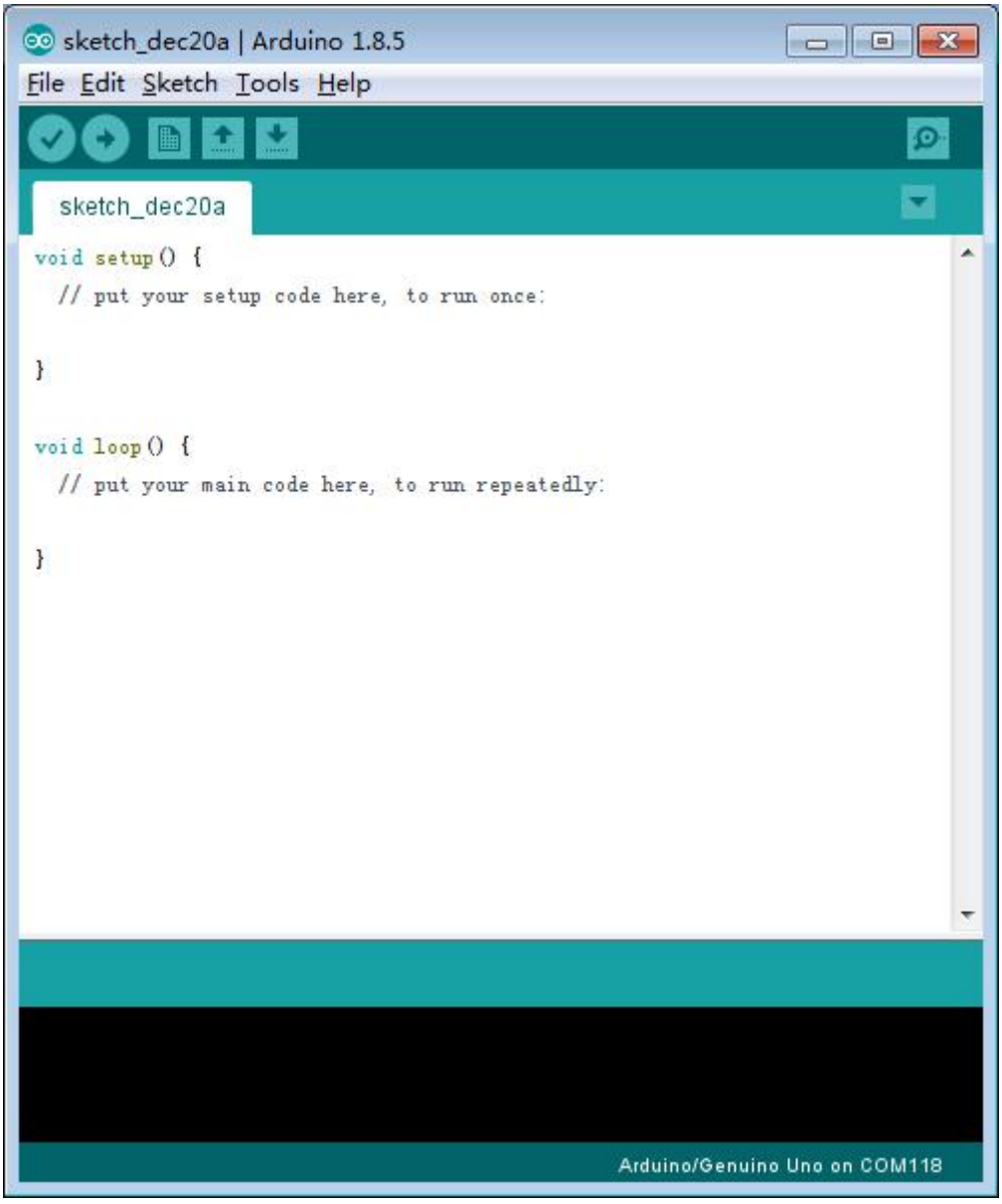
Downloading and Installing the Arduino IDE

You can load new programs onto the main chip - ATmega328p - via USB using the Arduino IDE. So you have to install the Arduino IDE on your computer first,Download the latest Arduino IDE from:http://arduino.cc/en/Main/Software

For installation，the official Arduino website does a great job explaining how to do it any of the three operating systems (Windows, Mac and Linux)，You can find all the information through the official website.

In the end, you should see this icon appears on your computer desktop：

Double-click to enter the desired development environment：

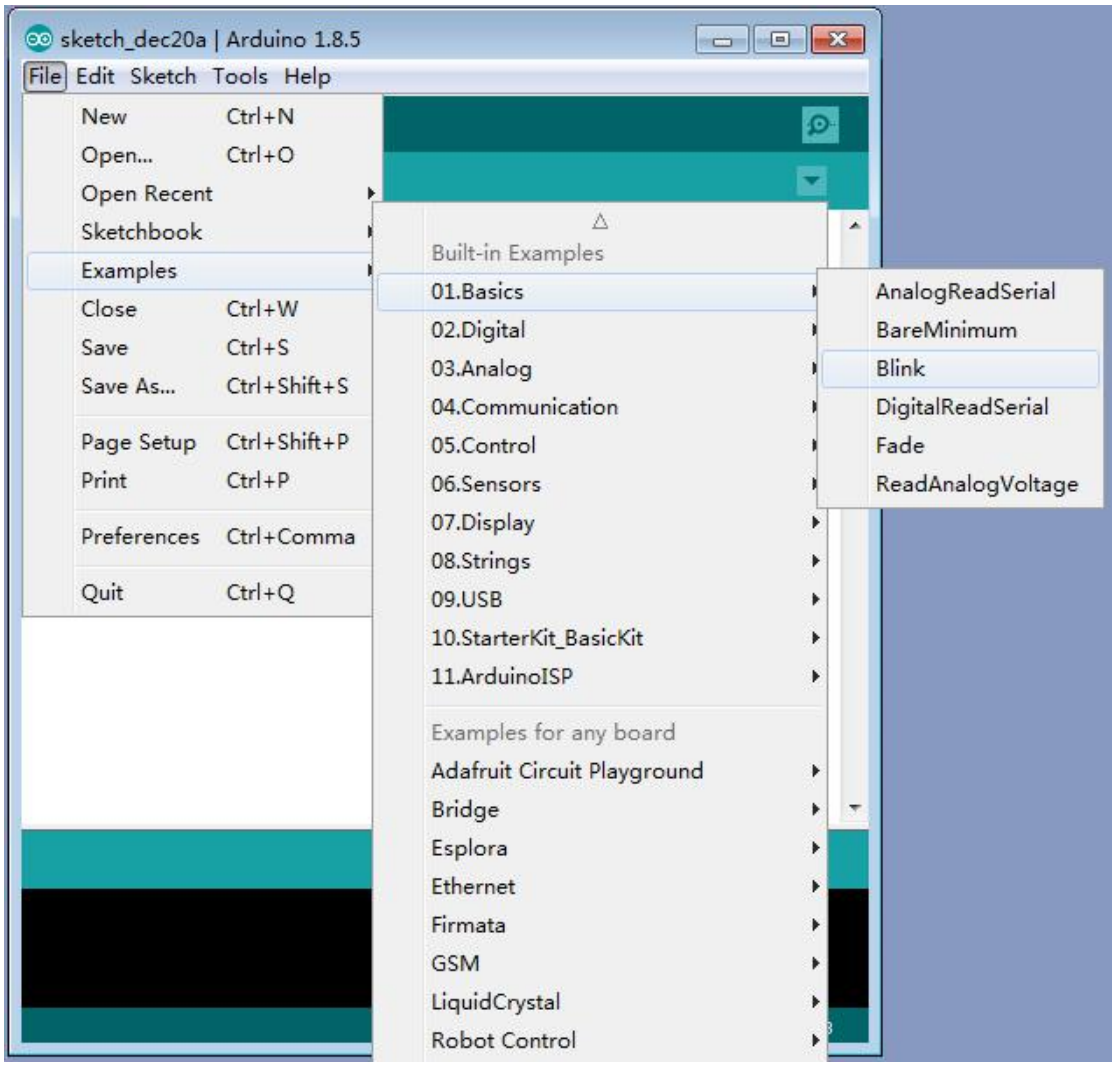


How to Uploading an Arduino Code?

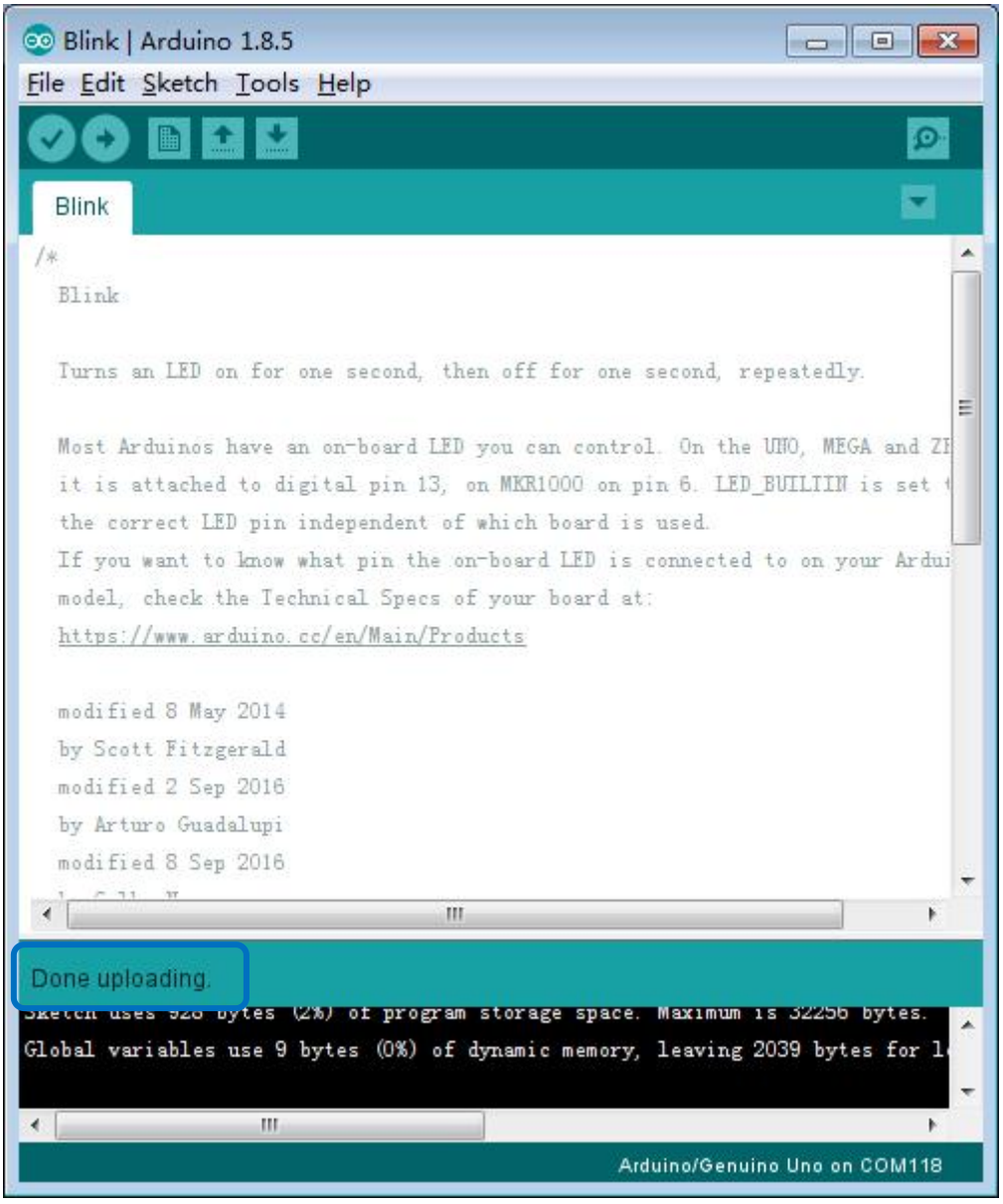
Connect your Arduino UNO to your computer via USB.

For this example you will be uploading the most basic example that the Arduino has. Which is blinking an on-board LED or digital pin 13.

Open your Arduino IDE.Go to File > Examples > 01.Basics > Blink



By default your Arduino IDE comes pre-configured for the Arduino UNO. Left-click the “Upload” button and wait a few seconds until a “Done uploading.” message appears.

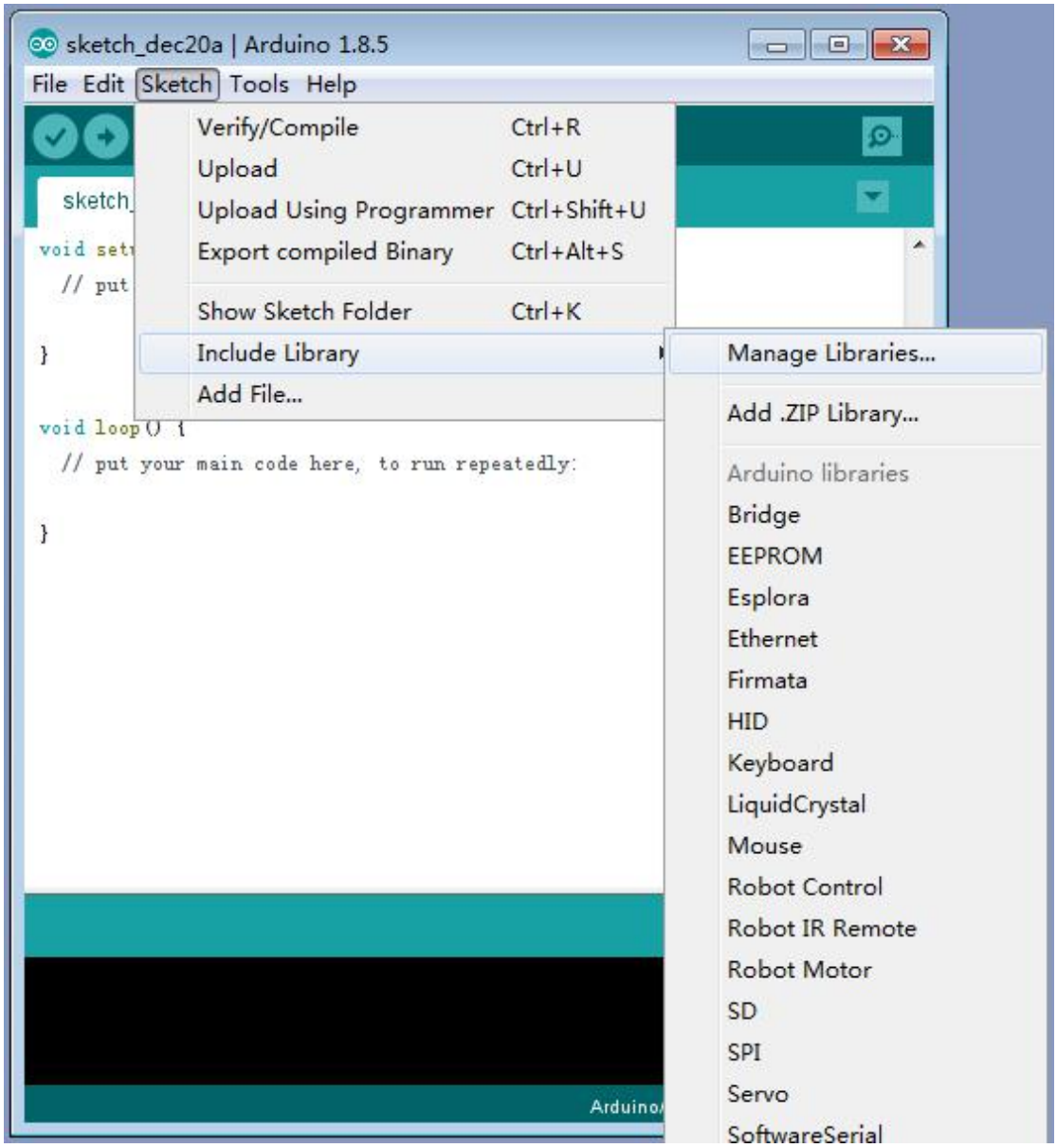


What are Libraries?

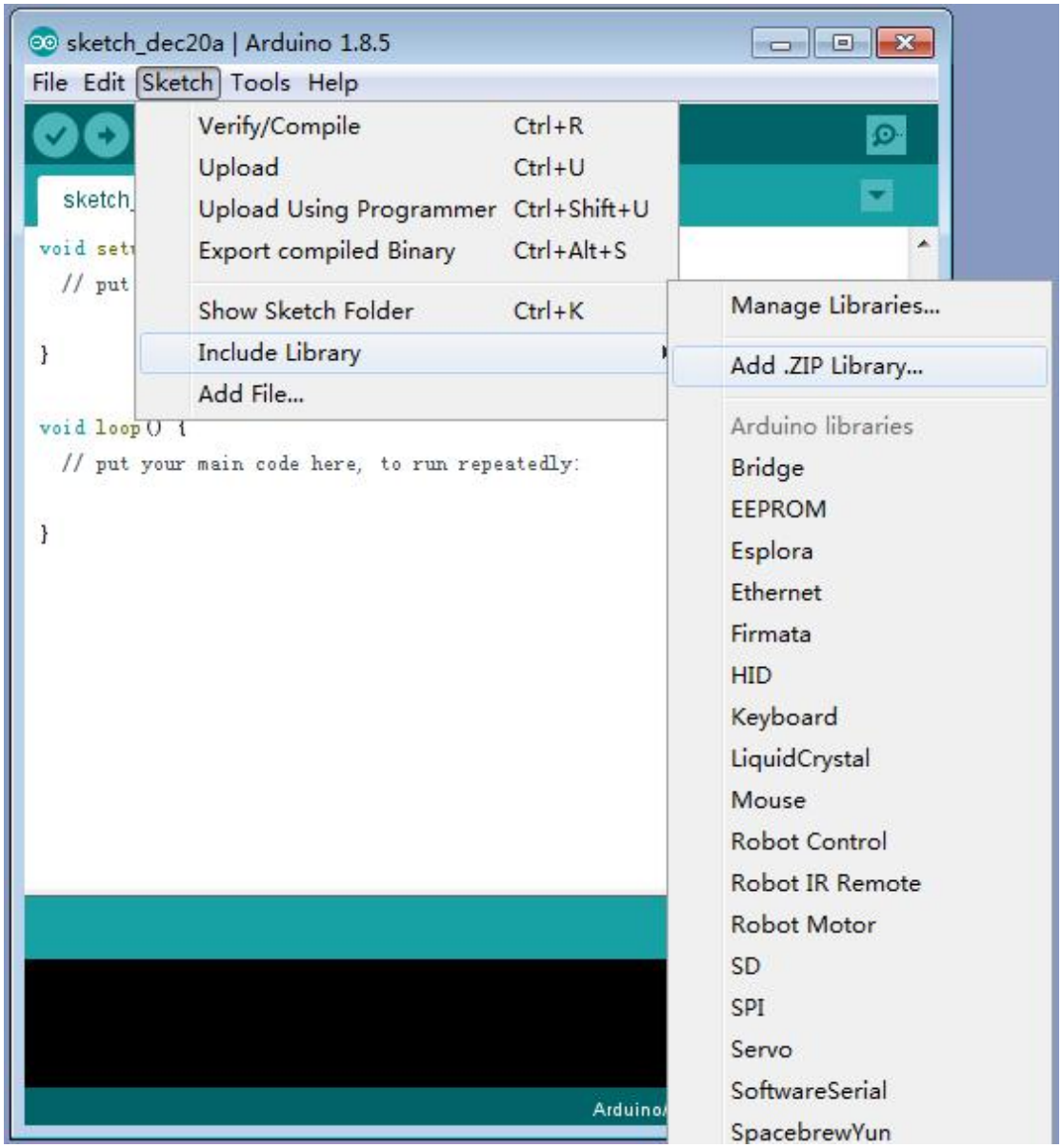
The Arduino environment can be extended through the use of libraries, just like most programming platforms. Libraries can come from many places, often from hardware manufacturers who supply libraries to allow the Arduino IDE to support their specific hardware. For example, our Infrared Temperature Sensor Module has a matching library available called "IRremote" that you can install in the IDE to make it easy to use the module in your projects.

How to Install a Library?

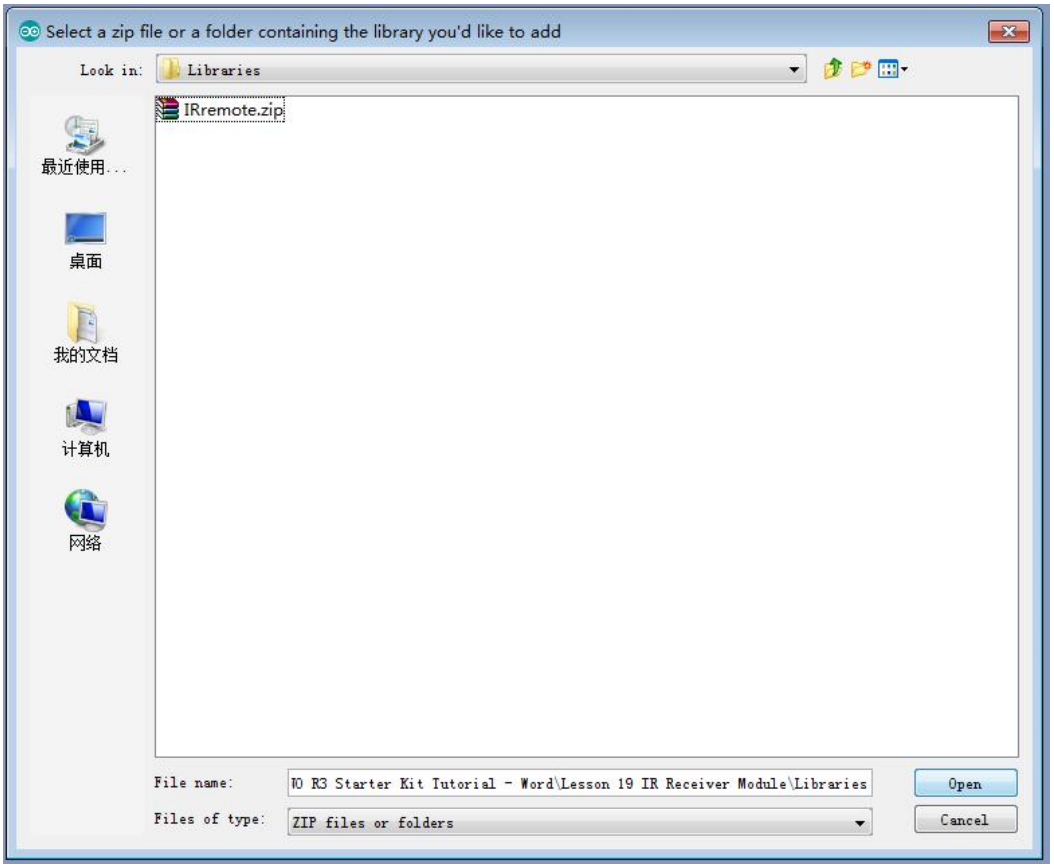
To use a library in a sketch, select it from Sketch > Import Library> Manage Libraries. Then you can now find the new library available in the Include Library menu.



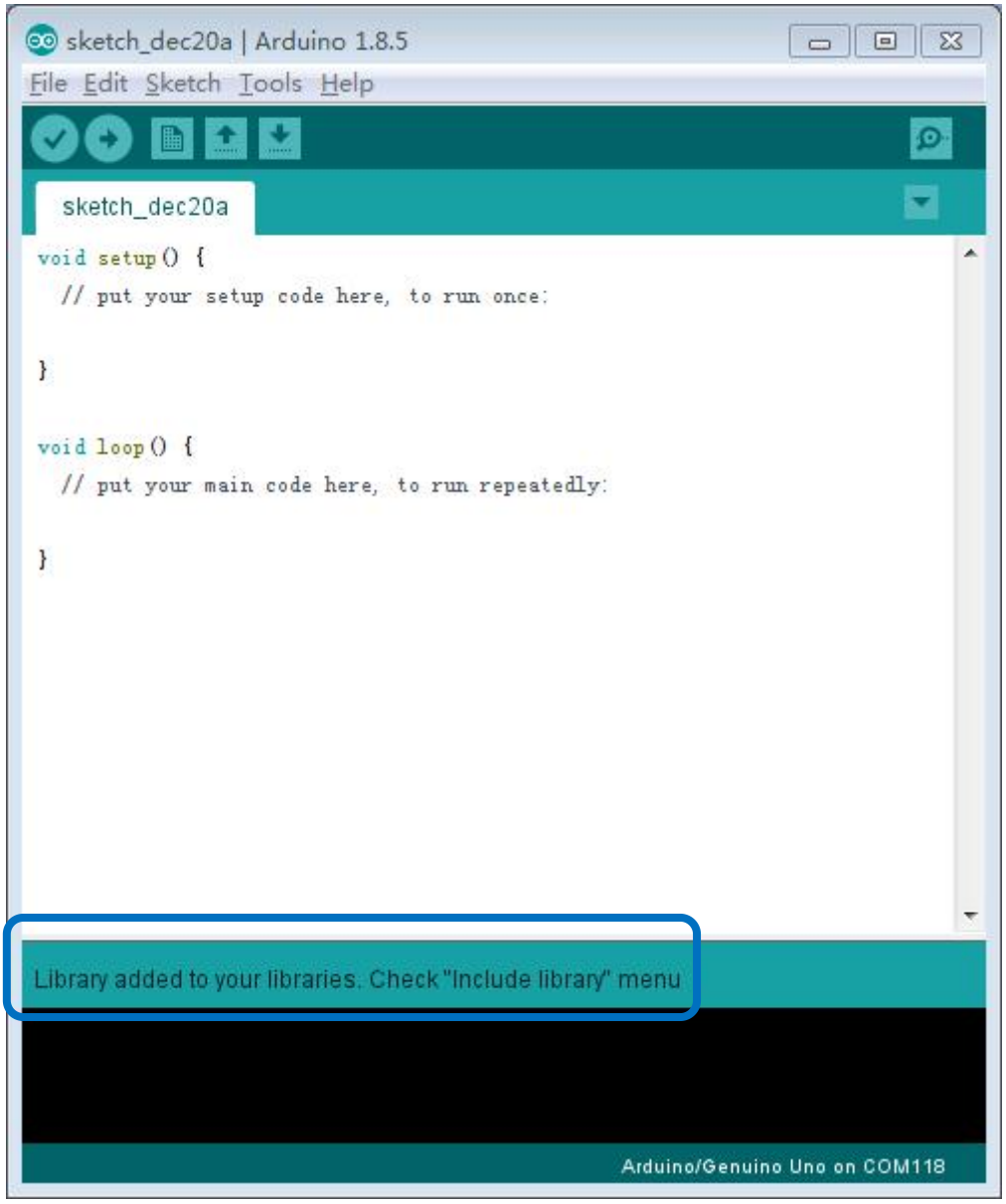
But,Now libraries are often distributed as a ZIP file or folder. The name of the folder is the name of the library.To Importing a library in a sketch, select it from Sketch > Import Library> Add .ZIP Libraries.



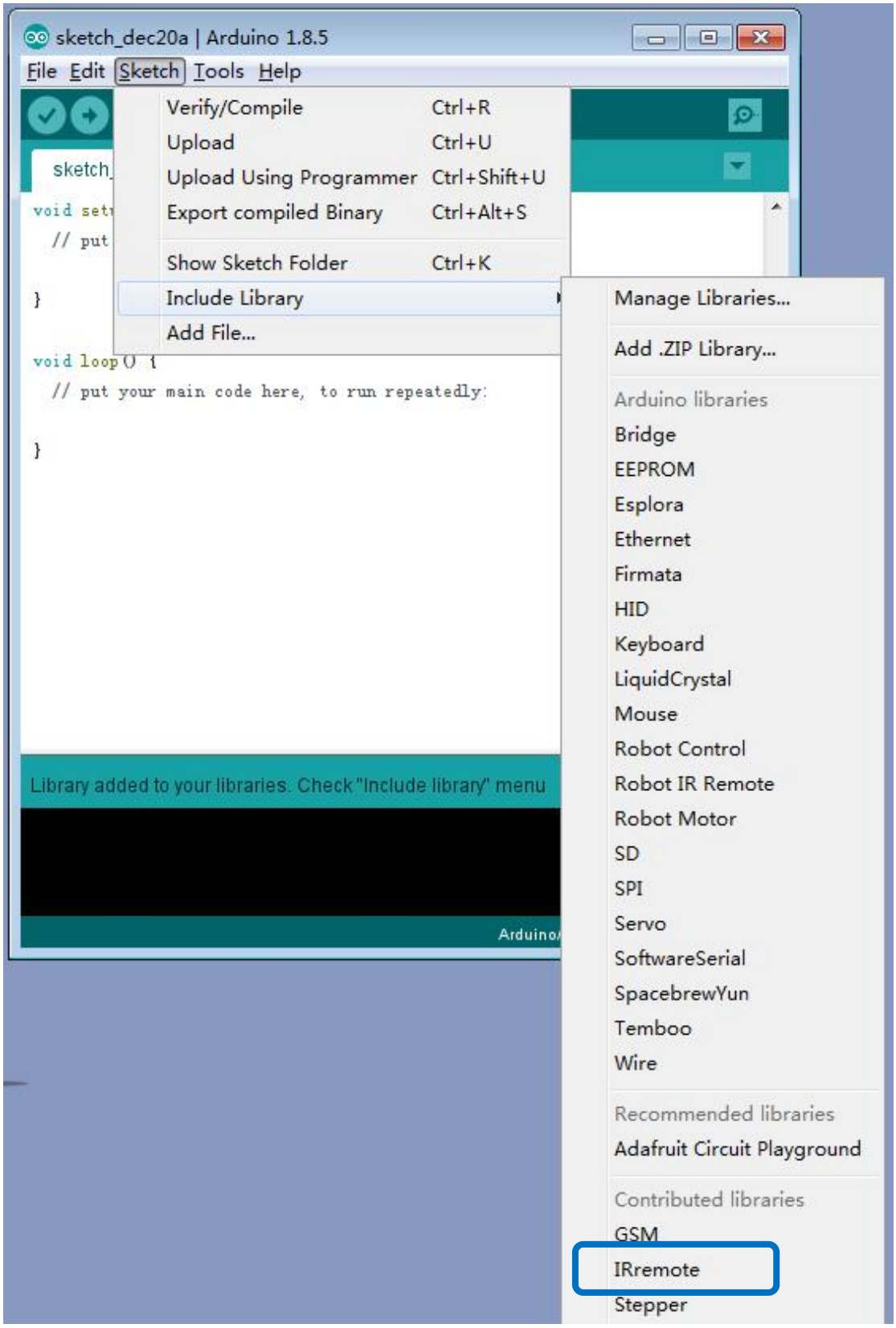
Select the library you would like to add.


Select a zip file or a folder containing the library you'd like to add
Look in:
Libraries
IRremote.zip
最近使用...
桌面
我的文档
计算机
网络
File name:
IO R3 Starter Kit Tutorial - Word\Lesson 19 IR Receiver Module\Libraries
Open
Files of type:
ZIP files or folders
Cancel

The system shows add library success.



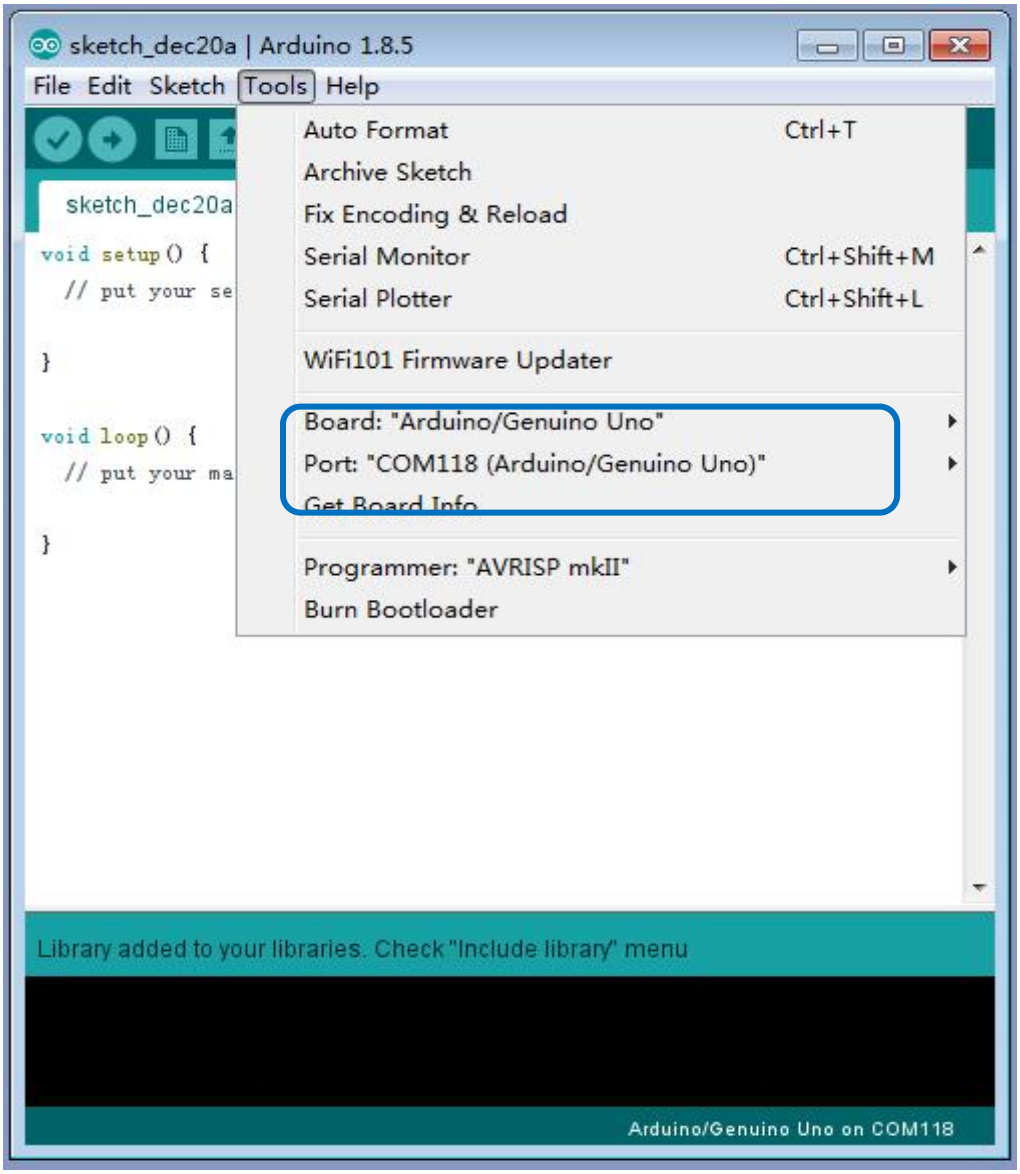
Check “Include Library” menu to see the library which you had add ,It is ready to be used in your sketch.



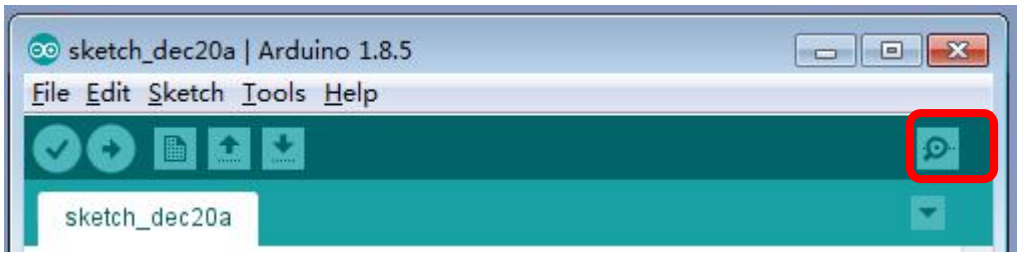
How to use Arduino Serial Monitor?

The Arduino IDE has a feature that can be a great help in debugging sketches or controlling Arduino from your computer's keyboard.The Serial Monitor is a separate pop-up window that acts as a separate terminal that communicates by receiving and sending Serial Data.

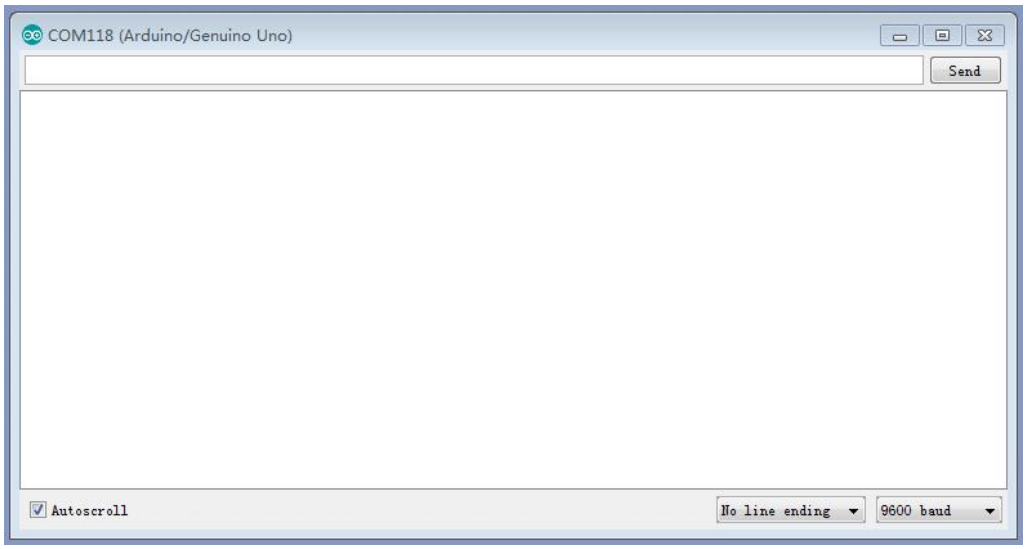
Connect the Arduino UNO R3 motherboard to the computer via USB,selecting a port for uploading Arduino code. Go to Tools > Port, and select the correct port.



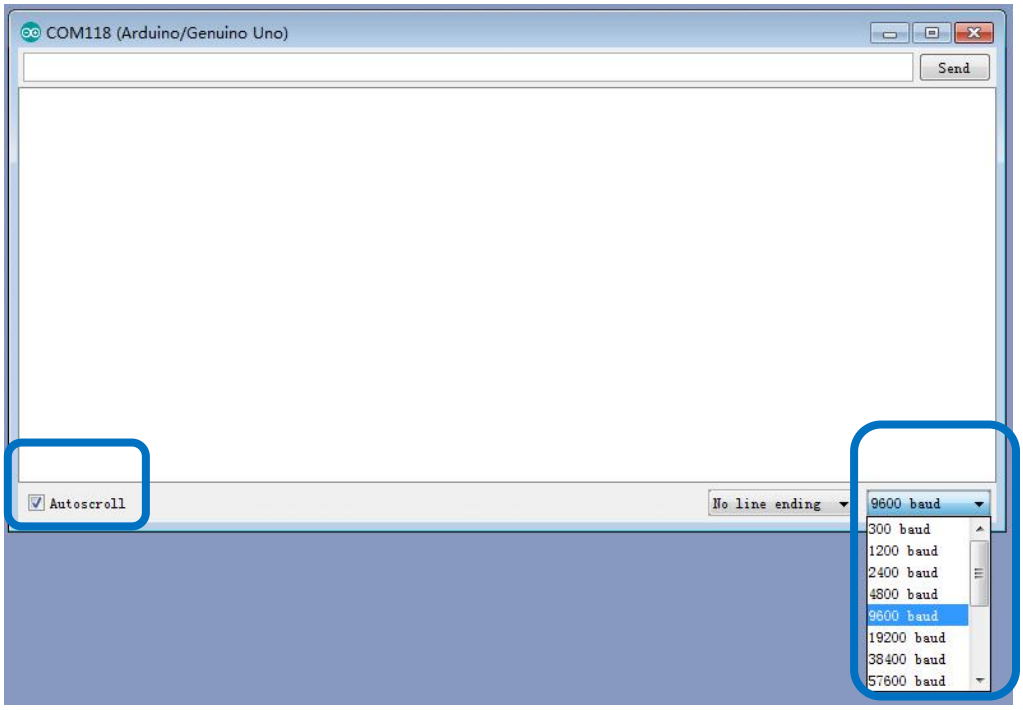
Then simply click the Serial Monitor icon:



you can see the Serial Monitor like this:



You can alter the baud rate and set the terminal to Autoscroll. Click on the baud rate drop-down menu to select the correct baud rate.


COM118 (Arduino/Genuino Uno)
Send
Autoscroll
No line ending
9600 baud
300 baud
1200 baud
2400 baud
4800 baud
9600 baud
19200 baud
38400 baud
57600 baud