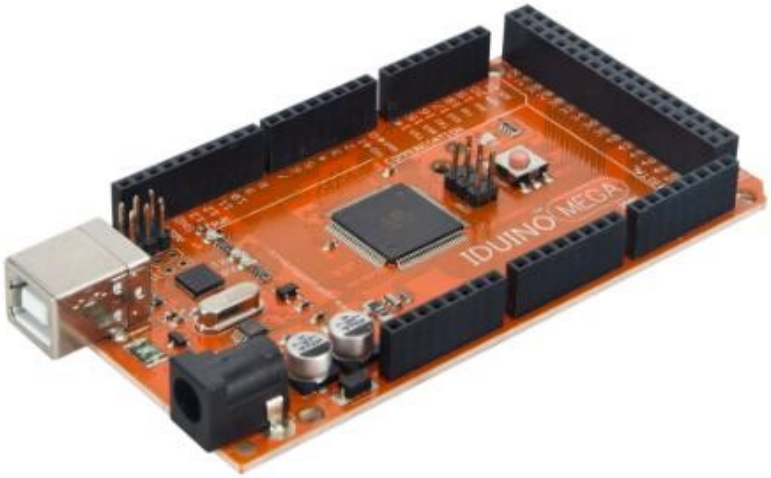
User Manual

For IDUINO Mega2560 Board(ST1026)



1. Overview

1.1 what is Arduino?

Arduino is an open-source prototyping platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on a LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so you use the Arduino programming language (based on Wiring), and the Arduino Software (IDE), based on Processing.

The official website is www.arduino.cc and www.arduino.org.

1.2 what is IDUINO ?

Because of the arduino technology is totally opensource, so anyone can use this facility to create more valuable products.

IDUINO is a series of Ardunio opensource products' collection, which not only includes motherboard or shield board , but hundreds of sensors and modules used for Arduino board, and many kinds of Arduino Starter Kit, many Arduino projects, many car chassis , expansion boards, accessories , and Arduino based DIY 3D Printer.

IDUINO are more focused on manufacturing and constructing Arduino project system.

1.3 What's the difference between Arduino and IDUINO?

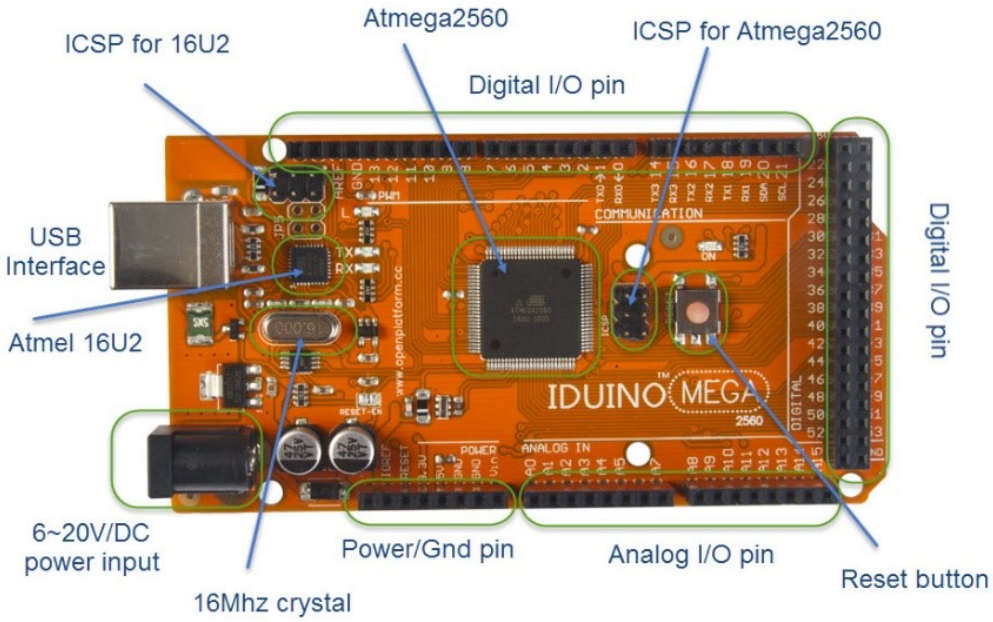
For the development board, IDUINO is just a different brand compared with the Arduino development.

For other categories, IDUINO's quantity exceeds Arduino a lot.

2.IDUINO Mega 2560

The Mega 2560 is a microcontroller board based on the ATmega2560. It has 54 digital input/output pins (of which 15 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with an AC-to-DC adapter or battery to get started.

Pinout:



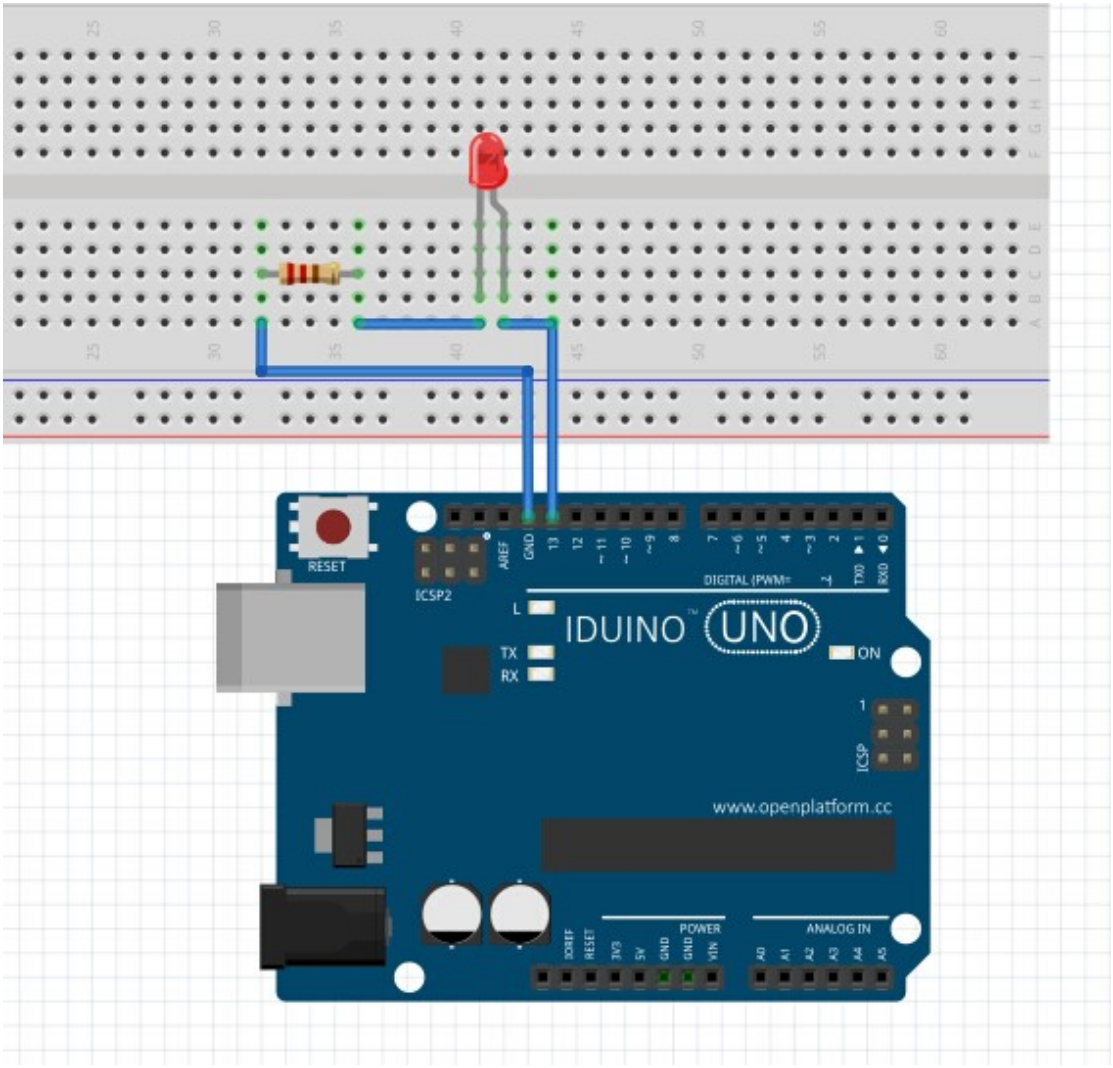
Specifications:

Microcontroller	ATmega2560
Operating Voltage	5V
Input Voltage (recommended)	7-12V
Input Voltage (limit)	6-20V
Digital I/O Pins	54 (of which 15 provide PWM output)
Analog Input Pins	16
DC Current per I/O Pin	20 mA
DC Current for 3.3V Pin	50 mA
Flash Memory	256 KB of which 8 KB used by bootloader
SRAM	8 KB
EEPROM	4 KB
Clock Speed	16 MHz
Length	101.52 mm
Width	53.3 mm
Weight	37 g

3. How to use these boards?

Here we use an example to indicate how to use these board. In this trail, we blink a led via the IDUINO uno board's 13 digital pin.

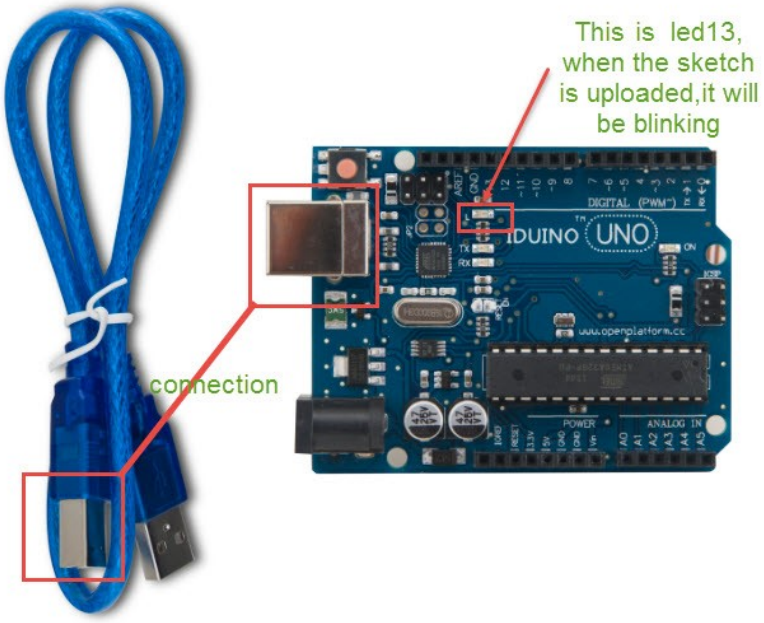
The connection as below:



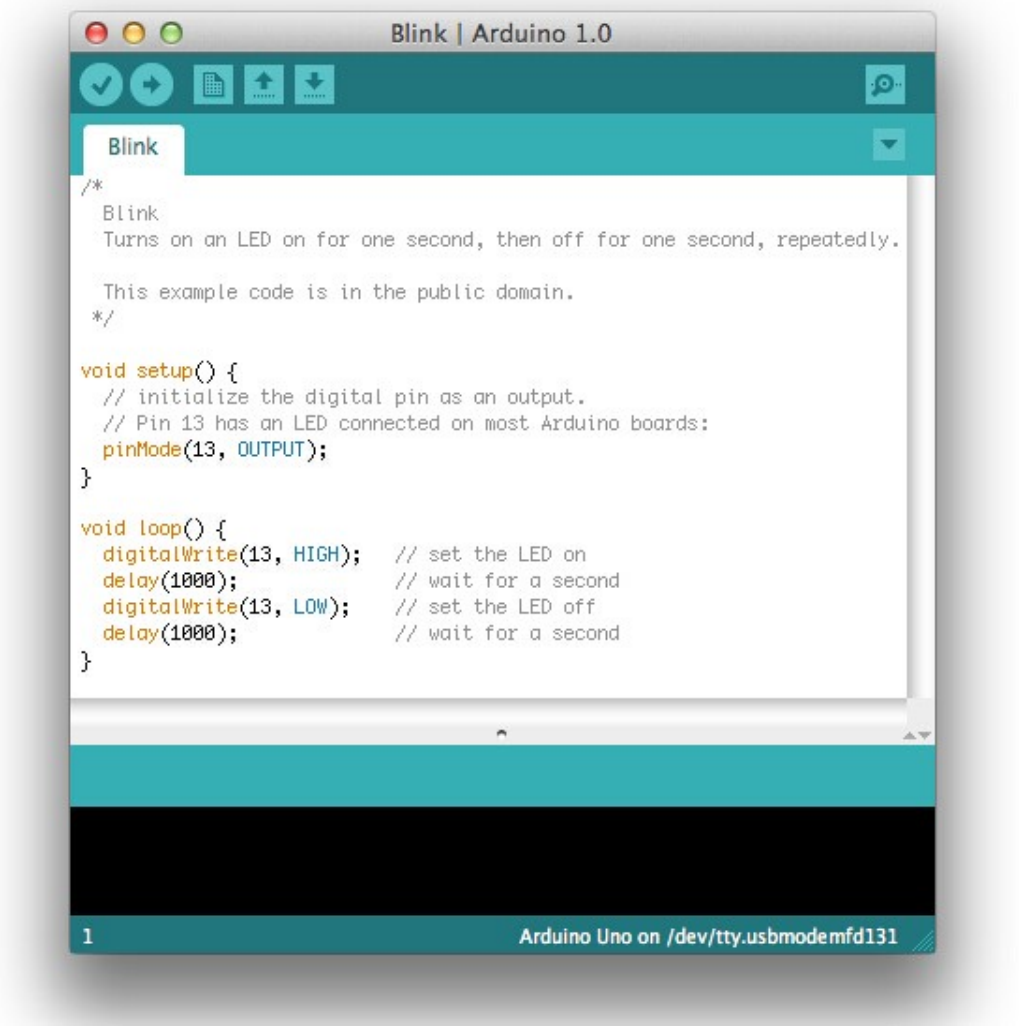
First, download the Arduino latest edition Integrated development environment(IDE) from this page:

https://www.arduino.cc/en/Main/Software,

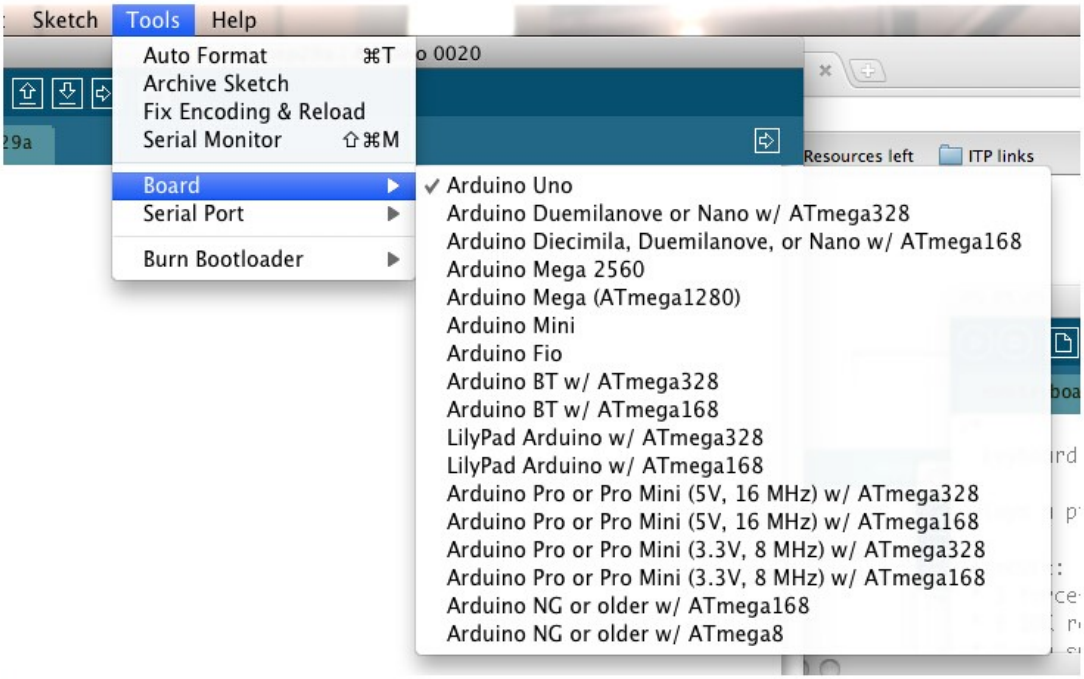
Then install the software, and connect the IDUINO development board with the computer via USB cable, like below:



launch the Arduino application, and open File > Examples > 01.Basics > Blink.

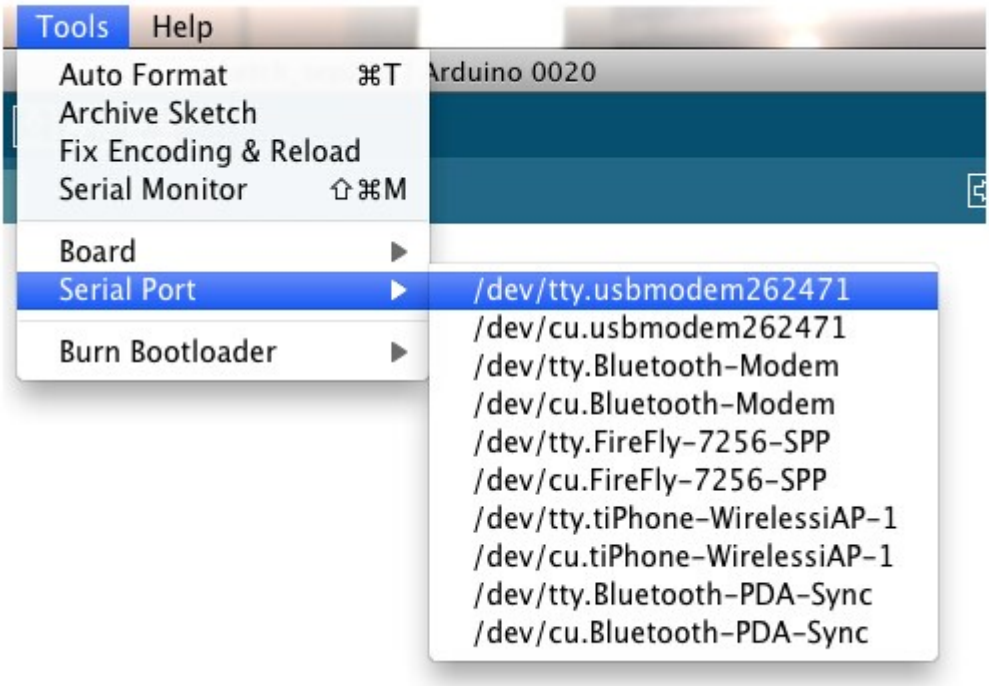


You'll need to select the entry in the Tools > Board menu that corresponds to your Arduino.



Selecting an Arduino Uno

Select the serial device of the Arduino board from the Tools > Serial Port menu. On the Mac, this should be something with /dev/tty.usbmodem (for the Uno or Mega 2560) or /dev/tty.usbserial (for older boards) in it.



Now, simply click the "Upload" button in the environment. Wait a few seconds - you should see the RX and TX LEDs on the board flashing. If the upload is successful, the message "Done uploading." will appear in the status bar. (Note: If you have an Arduino Mini, NG, or other board, you'll need to physically press the reset button on the board immediately before clicking the upload button on the Arduino Software.)

A few seconds after the upload finishes, you should see the pin 13 (L) LED on the board start to blink (in orange). If it does, congratulations! You've gotten Arduino up-and-running.