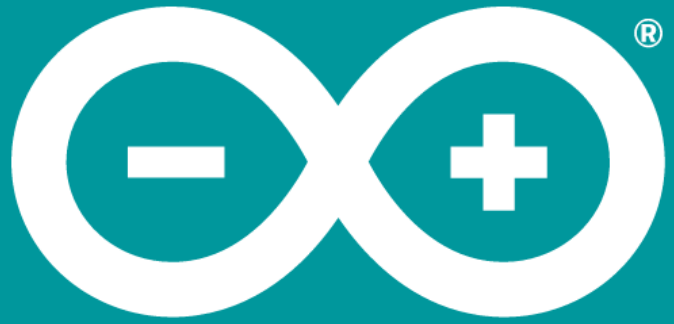


Let’s Arduino!

Part II – Hello World on Arduino

/* Fei Cheng */

Arduino IDE Download

- For Windows Users
- https://downloads.arduino.cc/arduino-1.6.7-windows.exe

- For macOS Users

macOS Sierra

- https://downloads.arduino.cc/arduino-1.6.7-macosx.zip

- Why should we use Arduino 1.6.7 ?
  - The version newer than 1.6.7 updated the libraries about interruption, which will lead some codes failed. So we recommended you to install Arduino 1.6.7.

Arduino IDE Download

- For Windows：
  - Open the “exe” file and install it step by step.
  - Recommend that do not change the installation path.

- For macOS:
  - Just open the “Arudino.app”.
  - Recommend that copy it to your Applications folder.

First time to open Arduino IDE

macOS Version

Windows Version

Arduino IDE web editor

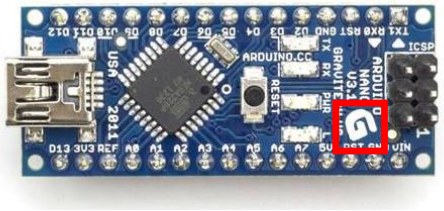
- The Arduino organization also published on-line web editor.
- As it is very new, there might be some bugs. Have a try, if you want.
- https://create.arduino.cc/editor

Support the Arduino Software

- Arduino IDE software is totally free and open source software, but they pay a lot of hard working. Thanks to their excellent work, we can get start to learn hardware easily.
- You can support they by donating from: https://www.arduino.cc/en/Main/Donate .

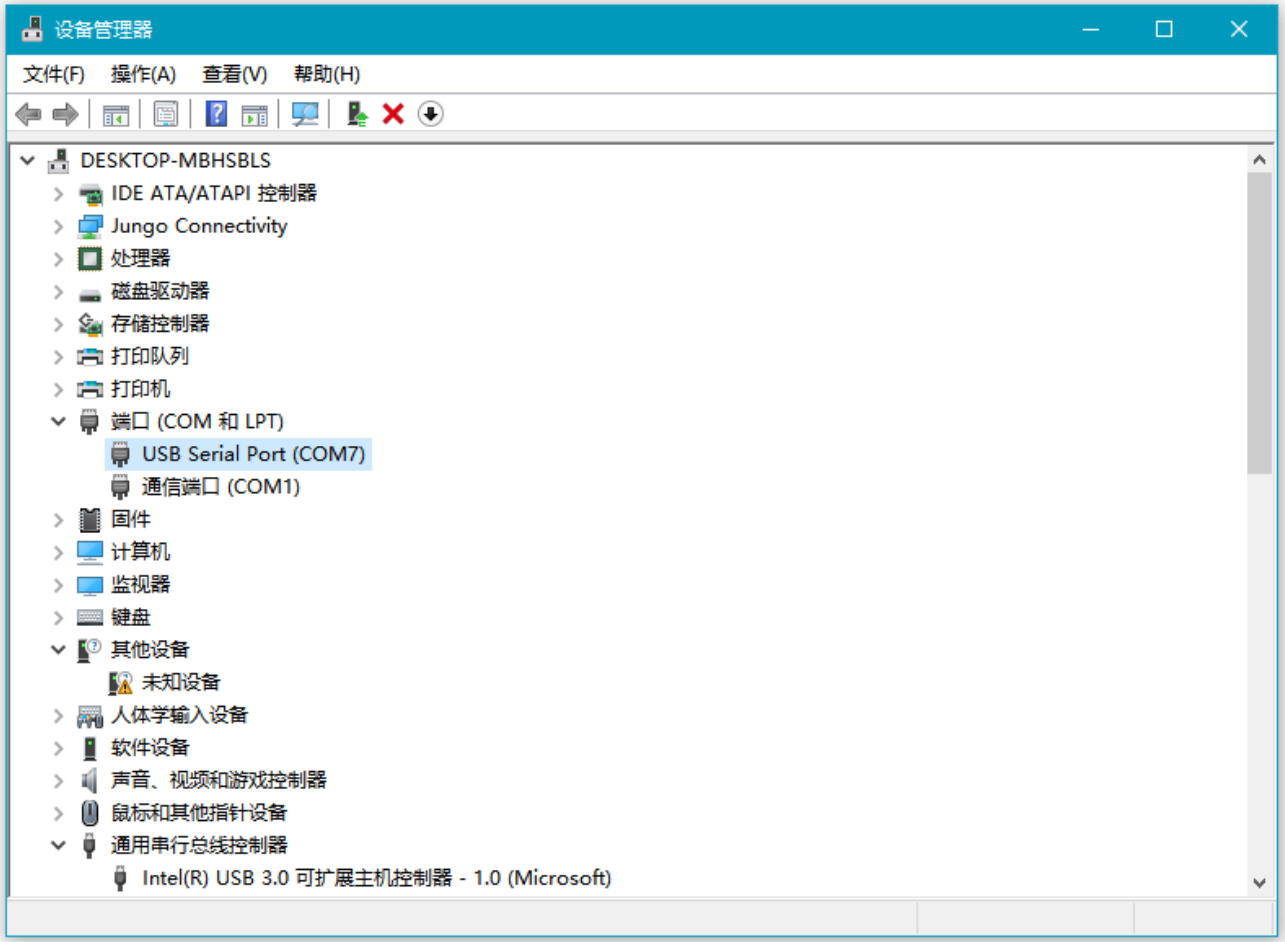
Arduino Driver Installation

- There are many versions of Arduino Nano.
- For official version:



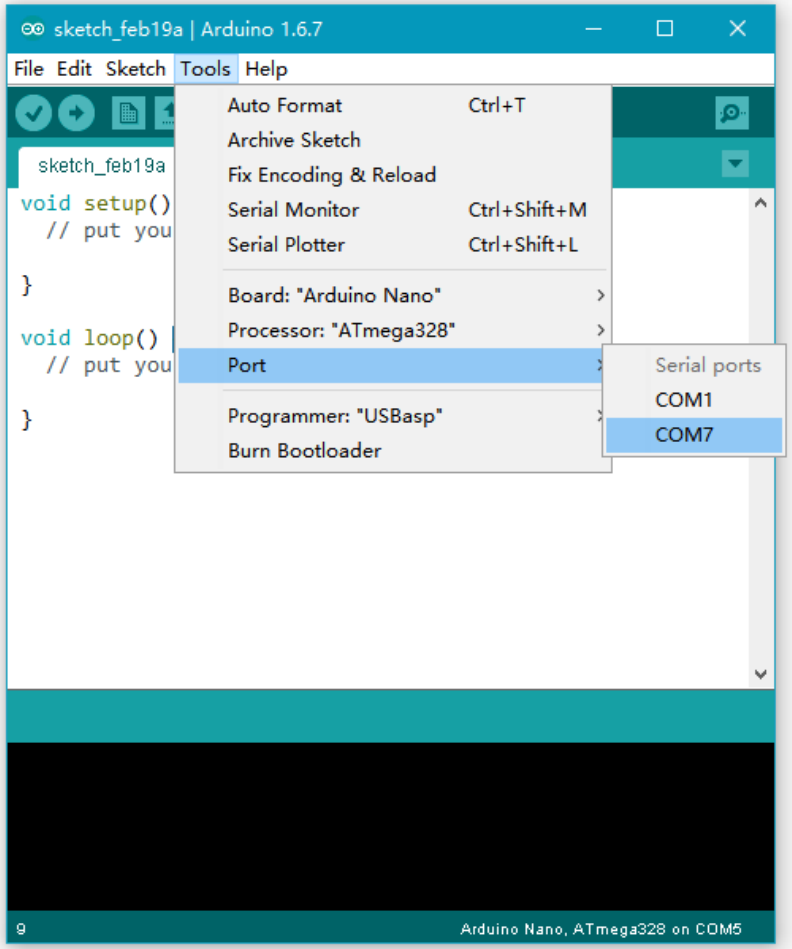
  - The USB Serial IC is FT232, which is a very stable IC.
  - For Windows, the driver file is located in Arduino Installation Folder. (Normally it is C:\Program Files (x86)\Arduino\drivers). Plug the Arduino to your computer, when the driver installation window is appeared, just set the path as ...\Arduino\drivers. The installation will finish soon.
  - For macOS, normally you do not need to install driver. Just plug the Arduino Nano to you mac. If no driver, download from: http://www.ftdichip.com/Drivers/VCP/MacOSX/FTDIUSBSerialDriver_v2_3.dmg

How to check the Arduino is ready



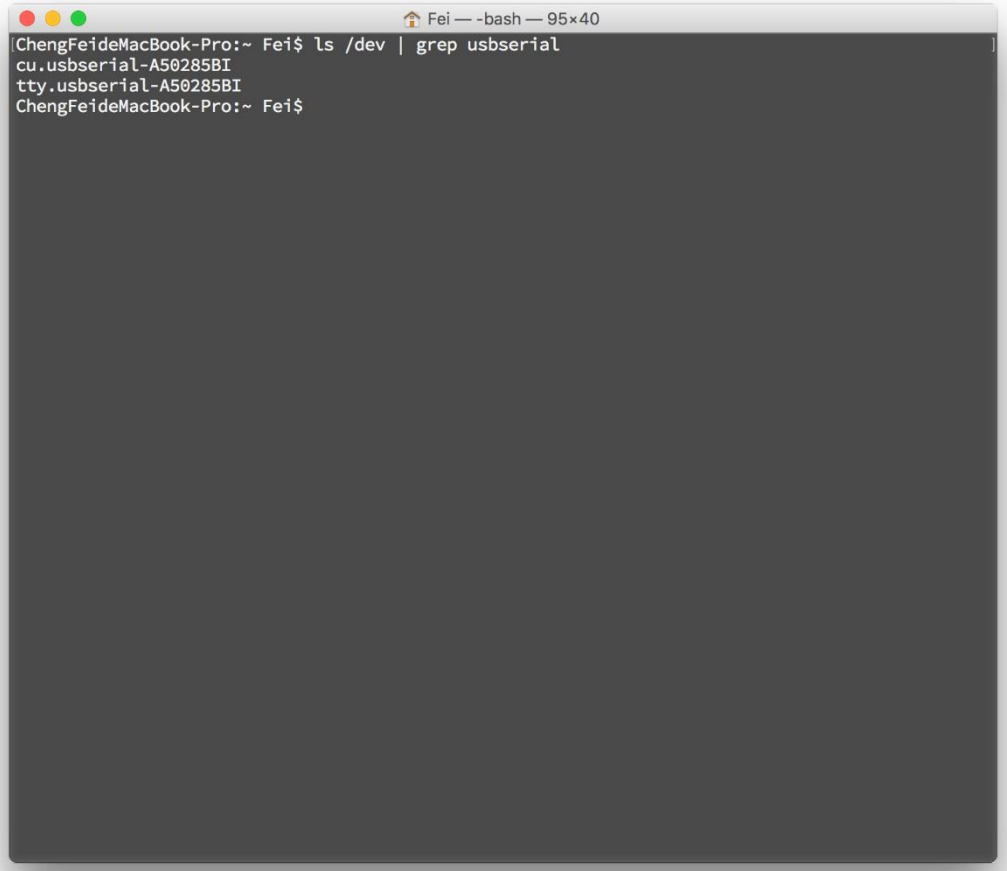
- For Windows
- Devices Manager:
  - Appear a new com port
  - Normally not COM1

How to check the Arduino is ready



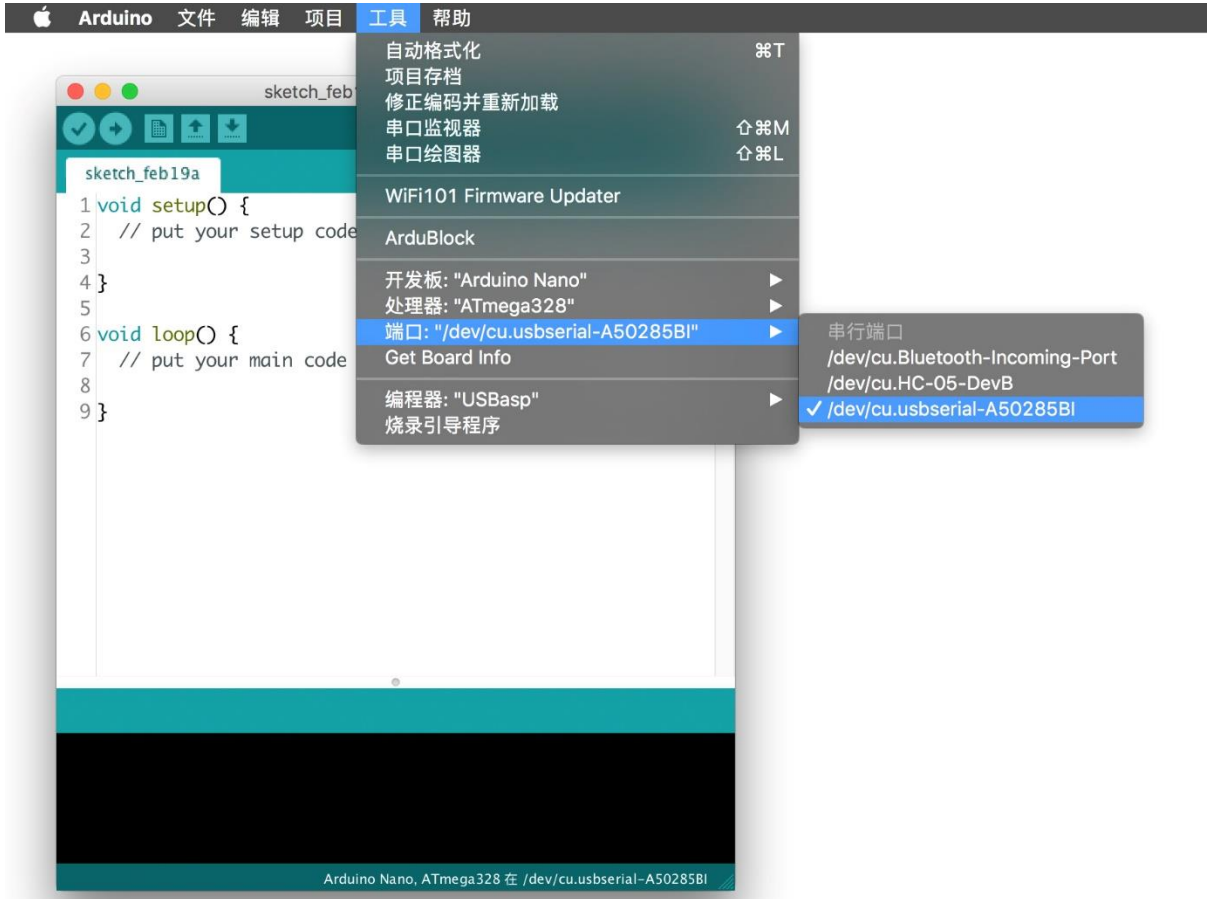
- Open Arduino IDE:
  - Tools -> Port -> COMx
- When you find this port, it means your Arduino is ready.

How to check the Arduino is ready



- For macOS
  - Open Terminal
  - Input: ls /dev | grep usbserial
  - If it return something, that means the USB serial port works well.

How to check the Arduino is ready



- Open Arduino.app
- Tools -> Port -> /dev/…
- If you find something similar, that means your Arduino is ready.

Hello Arduino World

- Write your first program on Arduino
- Settings:
  - Tools -> Board - > Arduino Nano
  - Tools -> Processor -> ATmega328p
  - Tools -> Port -> [Your Port]
- Upload your program:
  - Sketch -> Upload
- Wow! What do you see?

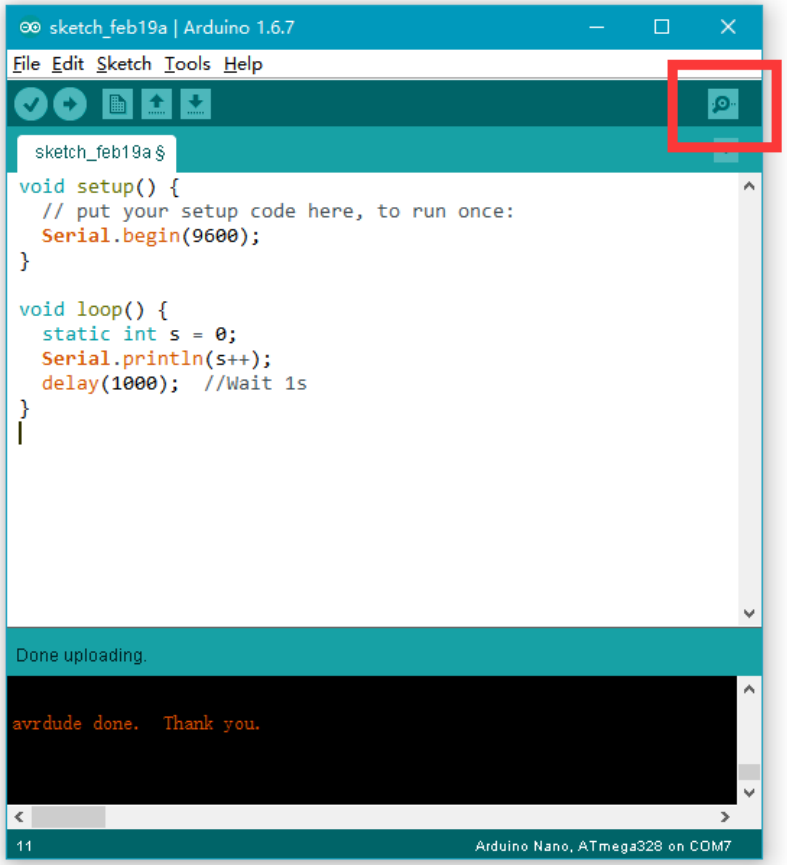
Try communication with PC

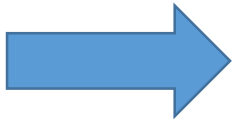
- The Serial port is used for Arduino to communicate with PC.
- What is Serial port? Goto: https://en.wikipedia.org/wiki/Serial_port
- If you do not want to know the principle of serial port, just try the following sentences:

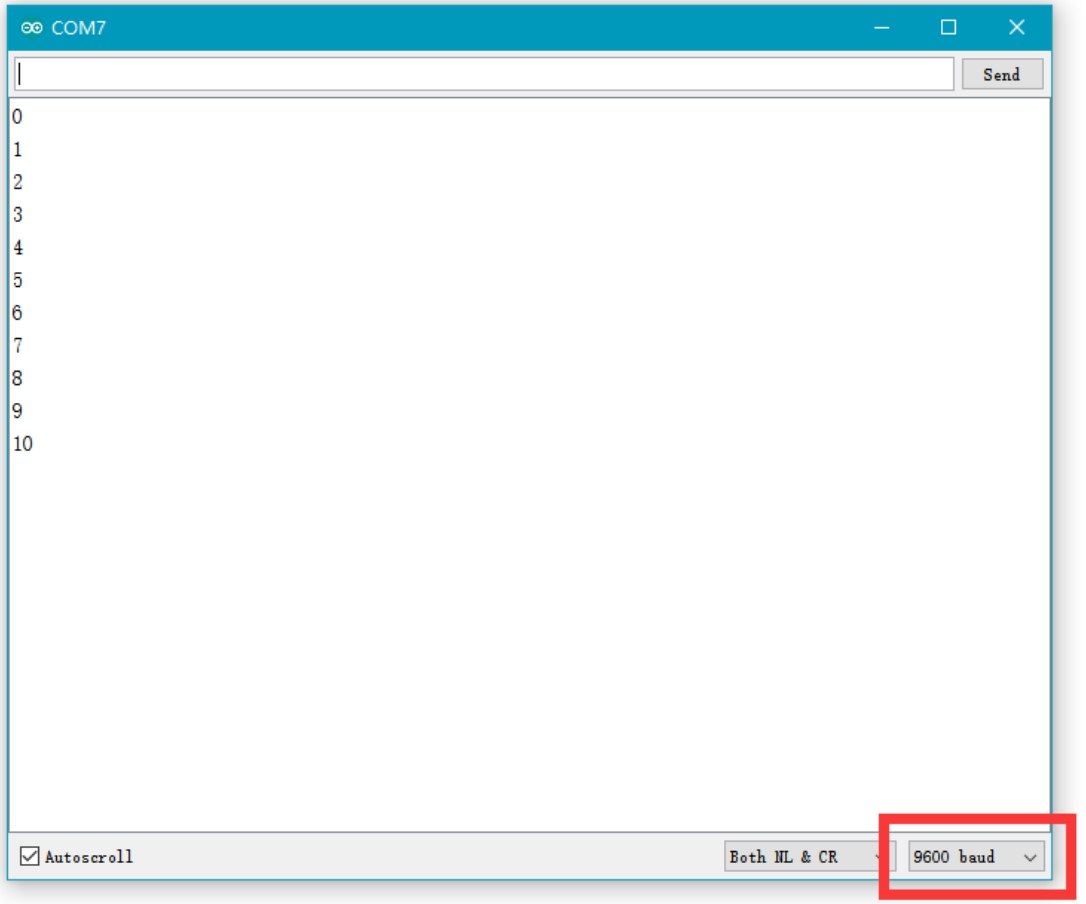
```
void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
}

void loop() {
  static int s = 0;
  Serial.println(s++);
  delay(1000);  //Wait 1s
}
```

Arduino to PC







PC to Arduino

- There is a reference:
- http://www.treee.com.cn/?id=m:sk:mcu:arduino:serial
- Have a try.


We design.
we
We are connected.
we dream big.
we have "hard fun."
we try and try again.
WE ASK QUESTIONS.
We create.
are
We think deep.
We invent.
MAKERS
We collaborate.
we make mistakes.
interesting

Reference

- https://www.arduino.cc/
- http://www.treee.com.cn/