

# LESSON 0

sets up

development environment --



But..

e.....

what is arduino IDE.....?

http://www.elegoo.com



As an open source software, Arduino IDE, basing on Processing IDE development is an integrated development environment officially launched by Arduino.

In the next part, each movement of the vehicle is controlled by the program so it's necessary to get the program installed and set up correctly. By using Arduino IDE, You just write the program code in the IDE and upload it to the Arduino circuit board. The program will tell the Arduino circuit board what to do.

# so, Where can we download arduino IDE?

#### STEP 1:

#### Go to

https://www.arduino.cc/en/Main/Software and you will see below page.

The version available at this website is usually the latest version, and the actual version may be newer than the version in the picture.



#### **ARDUINO 1.8.9**

The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software.

This software can be used with any Arduino board. Refer to the Getting Started page for Installation instructions. Windows Installer, for Windows XP and up
Windows ZIP file for non admin install
Windows app Requires Win 8.1 or 10
Get ::

Mac OS X 10.8 Mountain Lion or newer

Linux 32 bits Linux 64 bits Linux ARM 32 bits Linux ARM 64 bits

Release Notes Source Code Checksums (sha512)

#### STEP2:

Download the development software that is suited for the operating system of your computer.

Take Windows as an example here.

If you are macOS, please pull to the end.

You can install it using the EXE installation package or the green package.

The following is the exe implementation of the installation procedures.

Press the char "Windows Installer"



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#### STEP3:

Press the button "JUST DOWNLOAD" to download the software.

#### The download file:

arduino-1.8.9-windows

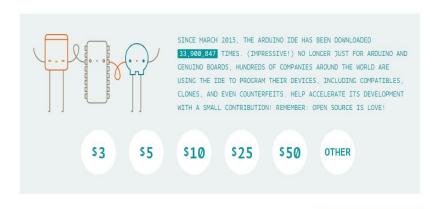
#### STEP4:

These are available in the materials we provide, and the versions of our materials are the latest versions when this course was made.

Choose "I Agree" to see the following interface.

# Contribute to the Arduino Software

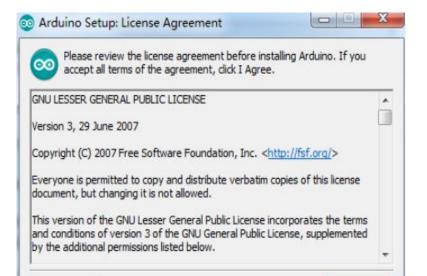
Consider supporting the Arduino Software by contributing to its development. (US tax payers, please note this contribution is not tax deductible). Learn more on how your contribution will be used.



JUST DOWNLOAD

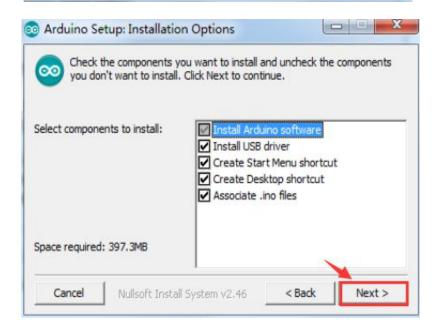
CONTRIBUTE & DOWNLOAD

I Agree

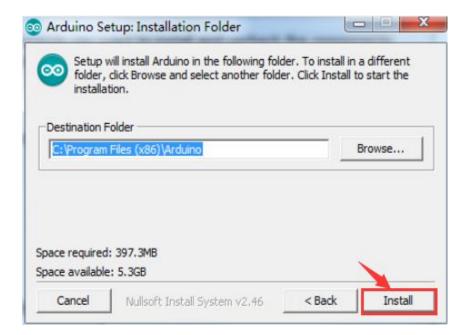


Nullsoft Install System v2.46

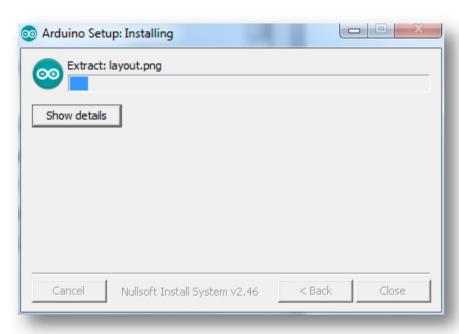
Cancel



Choose "Next" to see the following interface.



Press "Install" to initiate installation.



Finally, the following interface appears, you should choose Install to ensure correctness of development.



# STEP5:

Next, the following icon appears on the desktop.



Double-click to enter the desired development environment.

```
◎ sketch_jul12a | Arduino 1.8.9

文件 编辑 项目 工具 帮助

sketch_jul12a

void setup() {

// put your setup code here, to run once:
}

void loop() {

// put your main code here, to run repeatedly:
}

Arduino/Genuino Uno 在 COM4
```

# STEP6:

Connect development board of the car to the computer.

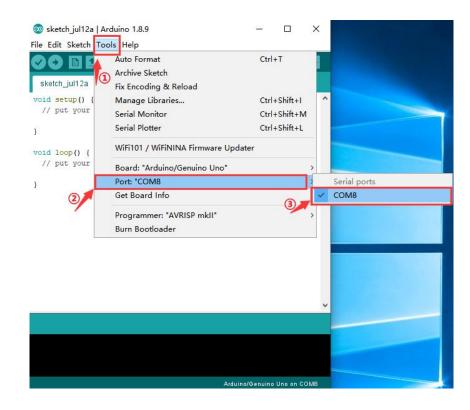


#### STEP7:

Open the Arduino IDE. Select "Tool"

→ "Port:"→"COM8".

Each Arduino Uno board has a different COM number on the same computer in Arduino 1.8.9. You should choose the COM number of the actual display.



on the robot car does not need to install the driver software on Windows 10, Linux, and macOS operating systems. If you can not find the robot car device on the device manager, please use another USB cable and connect the robot car to another USB port.

Please connect the robot car to other computers to make sure this is not a computer issue.

if your computer's OS is win7, you should download the usbbridgesetup\_ ca\_WIN7 on our website:

http://www.elegoo.com/download/
unzip the zip file,running the installer
"USBBridgeSetup\_CA"



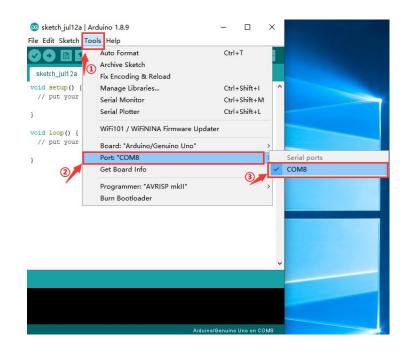
#### STEP8:

After the driver is installed, please open the IDE and then click

"Tools" → "Board" → "Arduino/Genuino Uno".

# STEP9:

Click "Tools"  $\rightarrow$  "Port"  $\rightarrow$  "COM".

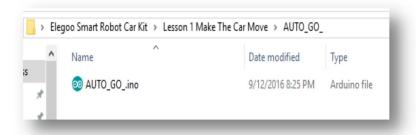


#### STEP10:

Open the code file in the directory

"\Lesson 1 Make The Car Move \AUT O\_GO\_\AUTO\_GO\_.ino"

upload to the UNO controller board.



# TIPS:

When uploading codes, please remove the Bluetooth module from the IO expansion board (because the serial port for uploading codes and Bluetooth communication is the same one and there will be conflicts). You can mount the Bluetooth module after the upload.

```
MUTO_GO | Arduino 1.8.9
                                                      File Edit Sketch Tools Help
 AUTO GO
//www.elegoo.com
     The direction of the car's movement
// ENA
             INL
                    IN2 IN3 IN4
        ENB
                                     Description
   HIGH
         HIGH
              HIGH
                    LOW
                          LOW
                                HIGH Car is runing forward
   HIGH
               LOW
                    HIGH HIGH
                                LOW
                                     Car is runing back
   HIGH
         HIGH
               LOW
                     HIGH
                          LOW
                                HIGH
                                     Car is turning left
   HIGH
         HIGH
               HIGH
                    LOW
                          HIGH
                                LOW
                                     Car is turning right
    HIGH
         HIGH
               LOW
                     LOW
                          LOW
                                LOW
                                      Car is stoped
   HIGH
        HIGH
               HIGH
                    HIGH
                          HIGH
                                HIGH Car is stoped
   LOW
         LOW
               N/A
                    N/A
                          N/A
                                N/A
//define L298n module IO Pin
#define ENA 5
#define ENB 6
#define IN1 7
#define IN2 8
#define IN3 9
<
```

The picture above shows that it is uploaded successfully.



At this time, the Arduino development environment has been successfully built.

