Getting started with Arduino

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GETTING STARTED WITH ARDUINO

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WHAT IS ARDUINO?

Arduino is an open-source electronics platform based on easy-to-use hardware and software. It's intended for anyone making interactive projects.

ARDUINO SOFTWARE

You can tell your Arduino what to do by writing code in the Arduino programming language and using the Arduino development environment.

CHAPTER

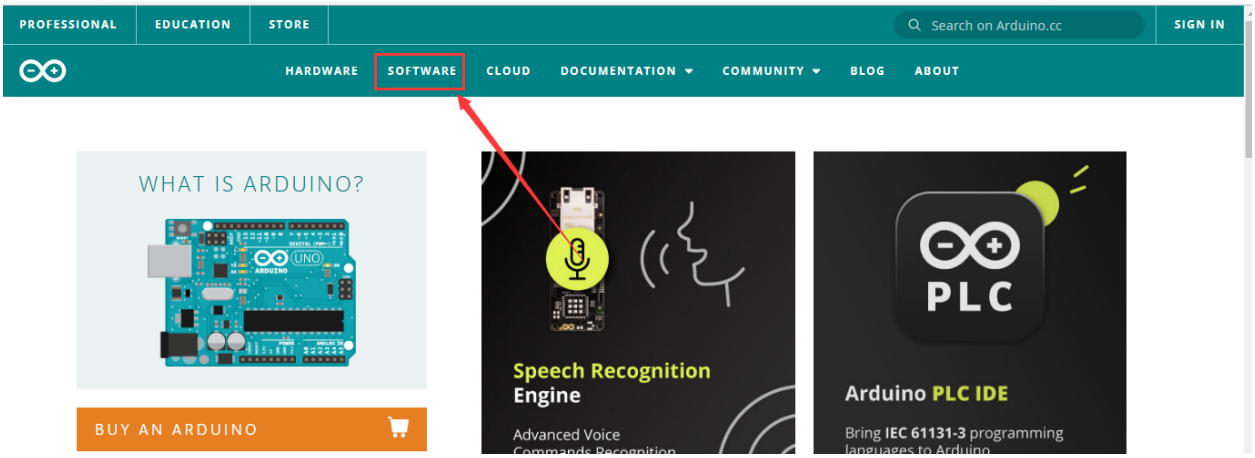
ONE

1. DOWNLOAD ARDUINO IDE

1.1 A. Windows System

You could download Arduino IDE from the official website: https://www.arduino.cc/

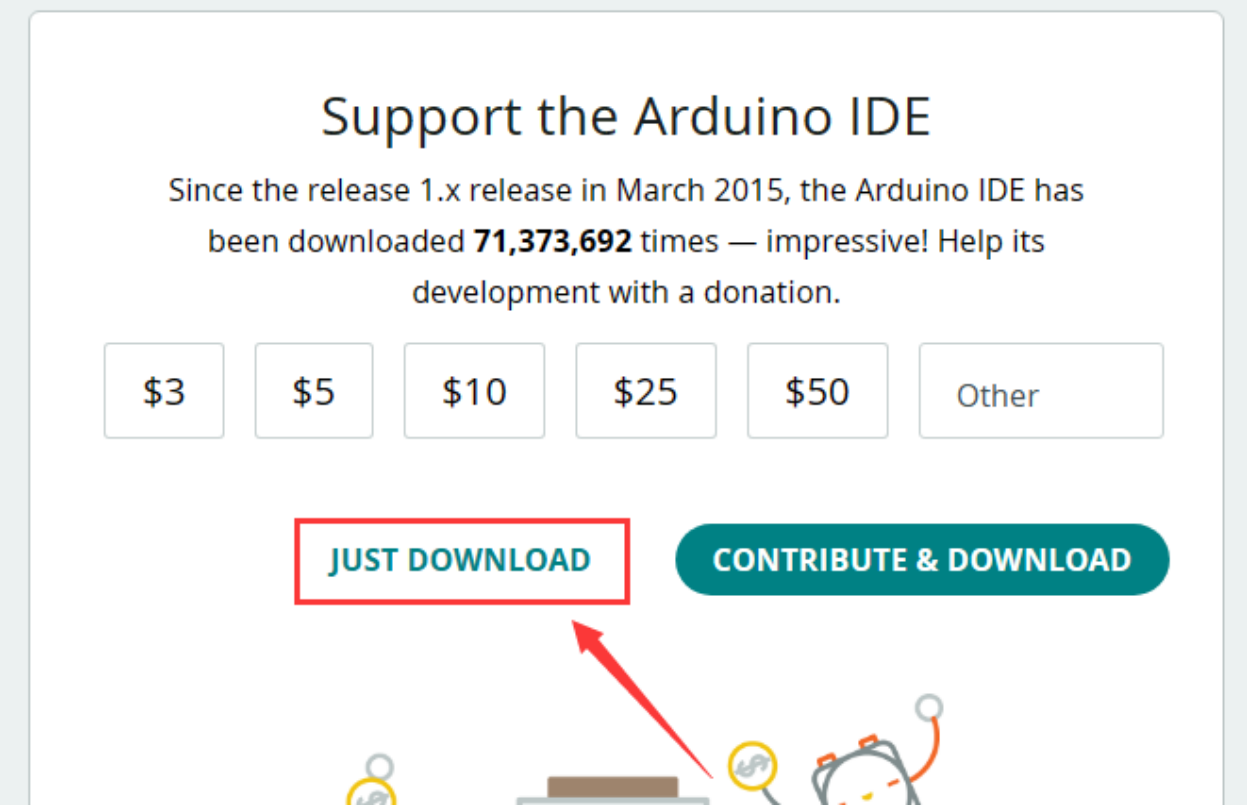
Enter the link and click **SOFTWARE**:



There are various versions of IDE for Arduino. Just download a version compatible with your system.

Here we will show you how to download and install the windows version of Arduino IDE.

There are two versions of IDE for WINDOWS system. You can choose between the installer (.exe) and the Zip file. For installer, it can be directly downloaded, without the need of installing it manually while for Zip package, you will need to install the driver manually.

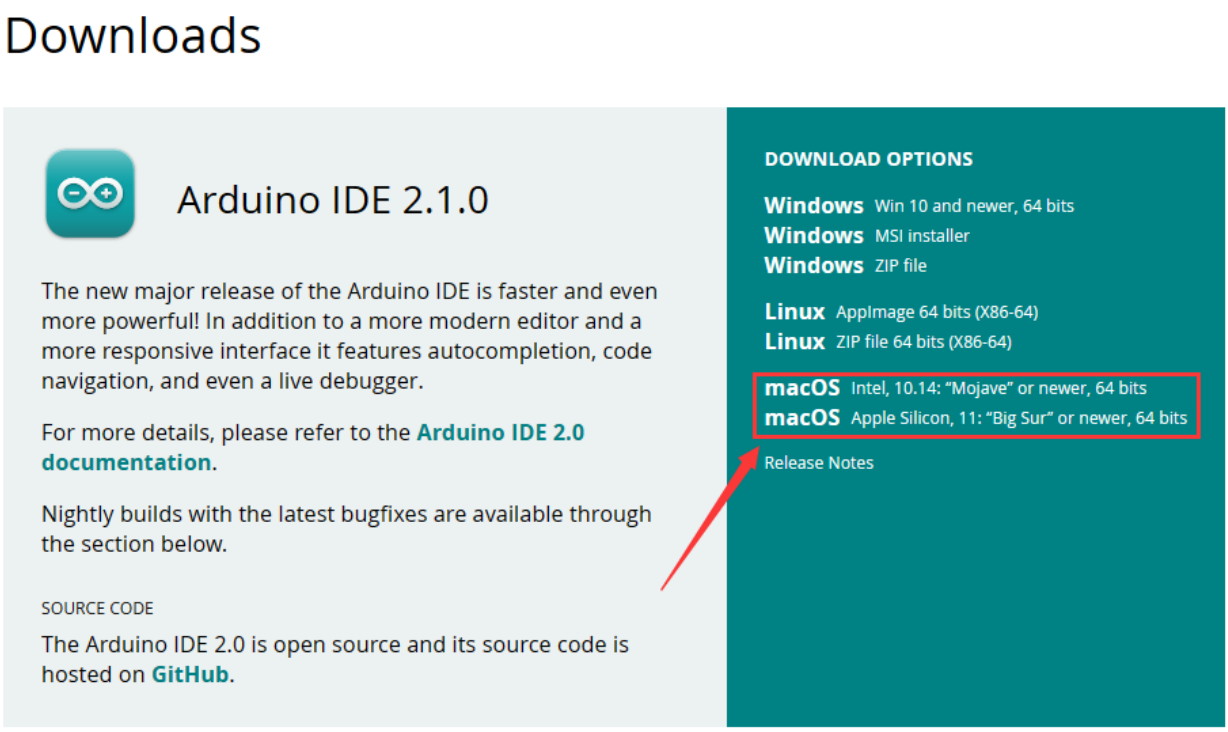


You just need to click **JUST DOWNLOAD**.

1.2 B. Mac System

The versions of Arduino IDE vary from operation systems.

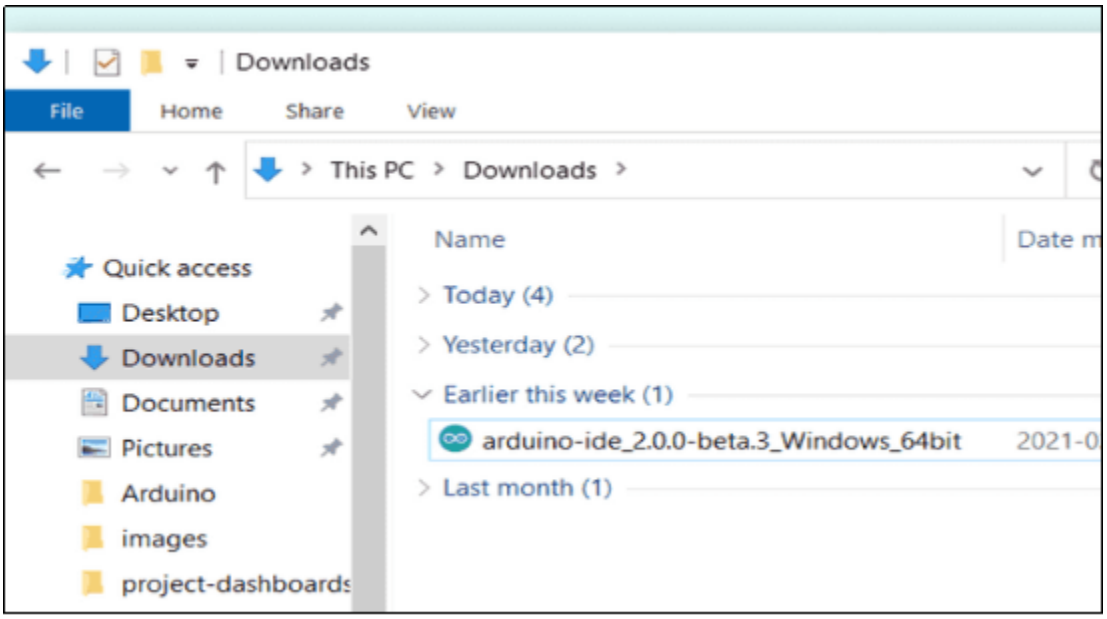
For how to download Arduino IDE on Mac, please refer to Windows:



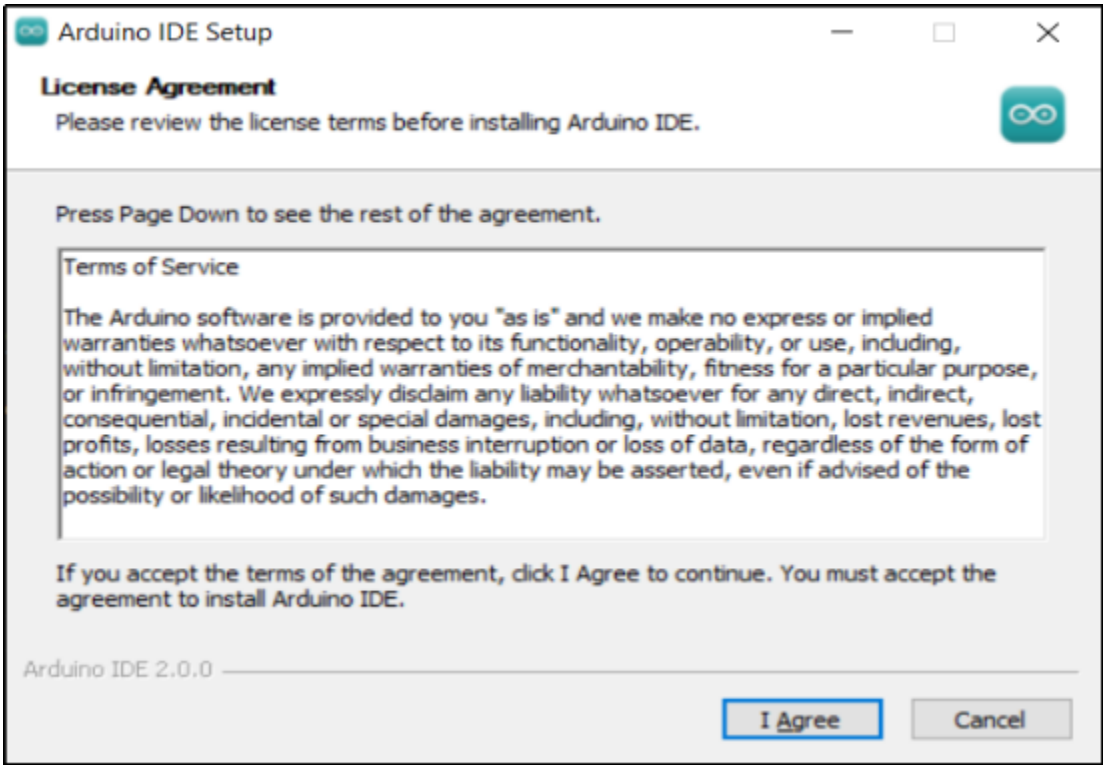
After downloading, double-click to open it and follow the installation instructions.

1.3 C.Detailed installation steps

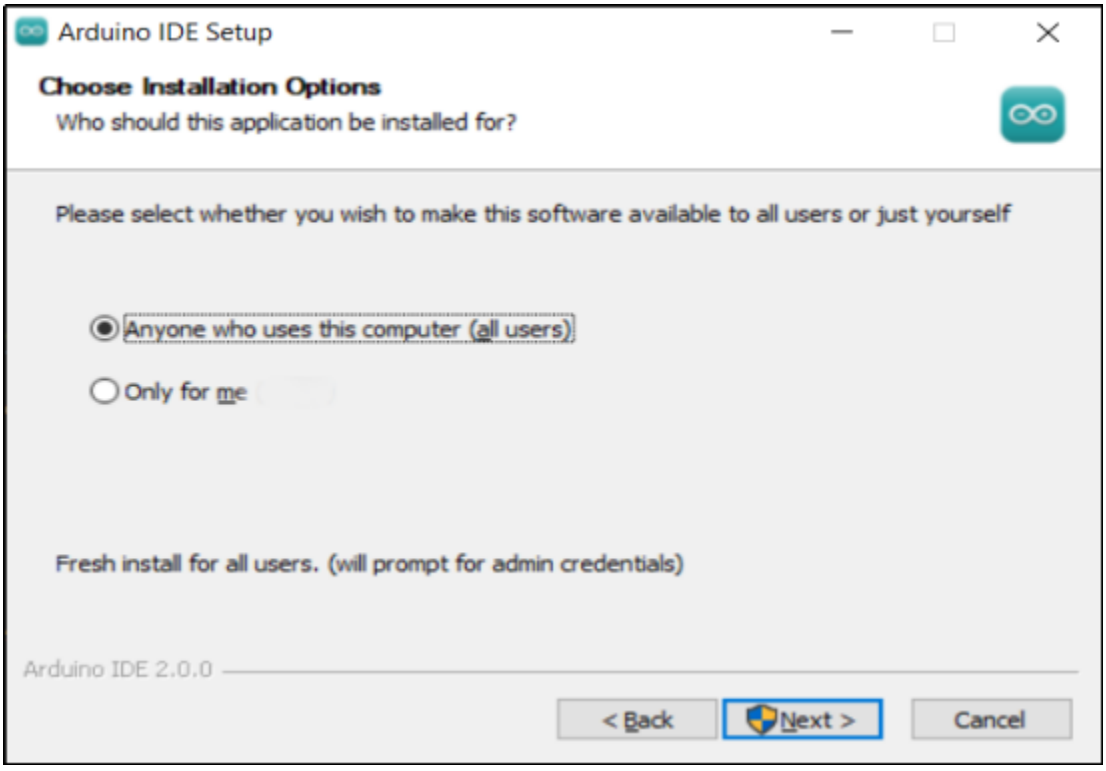
1.Save the .exe file downloaded from the software page to your hard drive and simply run the file .



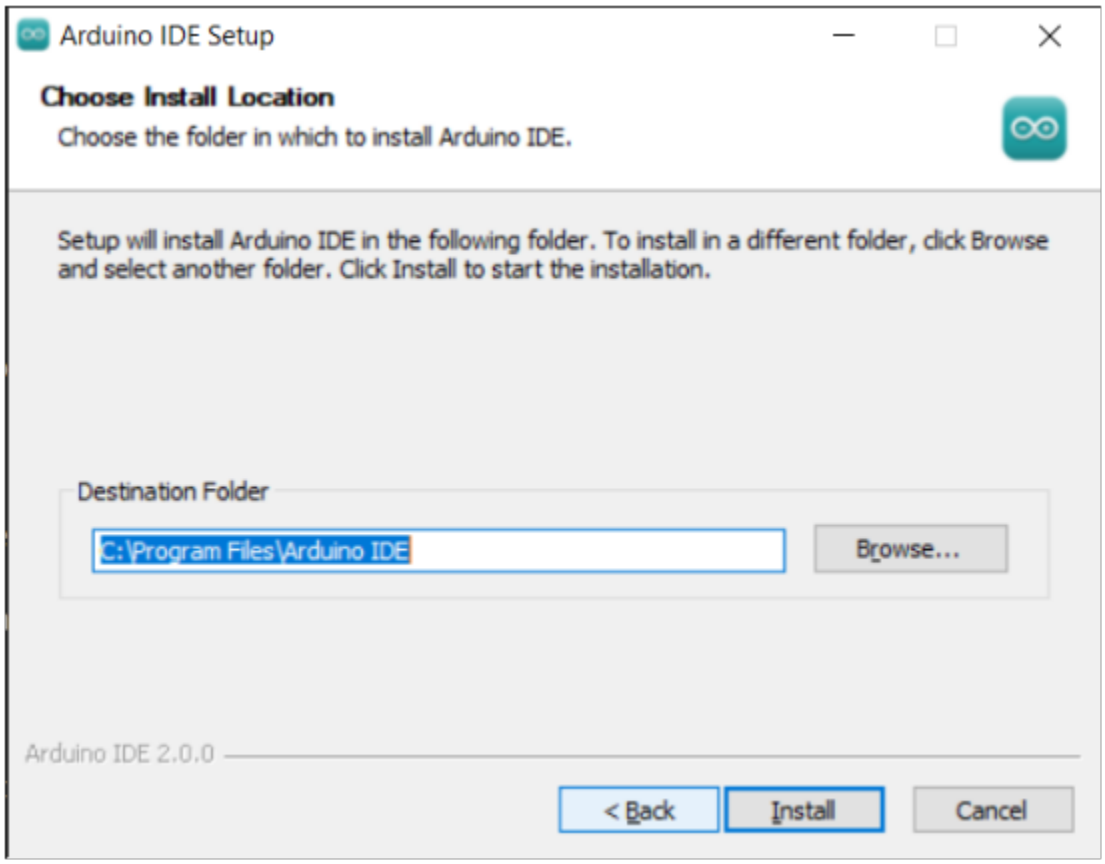
2.Read the License Agreement and agree it.



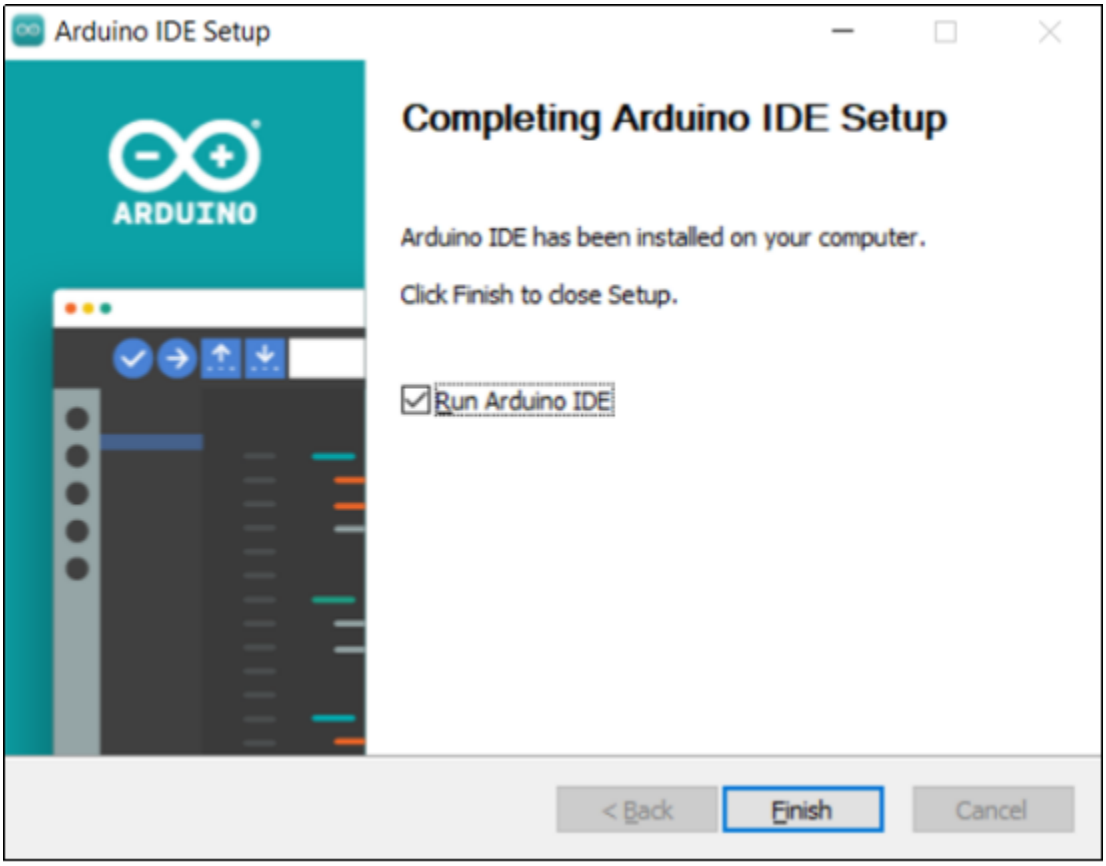
3.Choose the installation options.



4.Choose the install location.



5.Click finish and run Arduino IDE


Arduino IDE Setup
ARDUINO
Completing Arduino IDE Setup
Arduino IDE has been installed on your computer.
Click Finish to close Setup.
Run Arduino IDE
< Back
Finish
Cancel

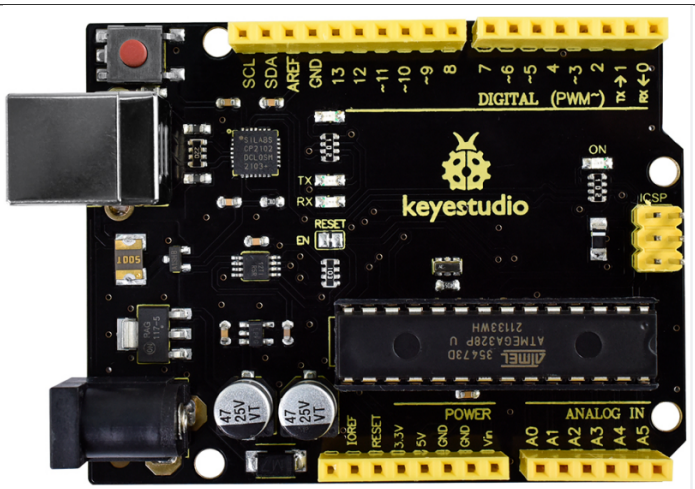
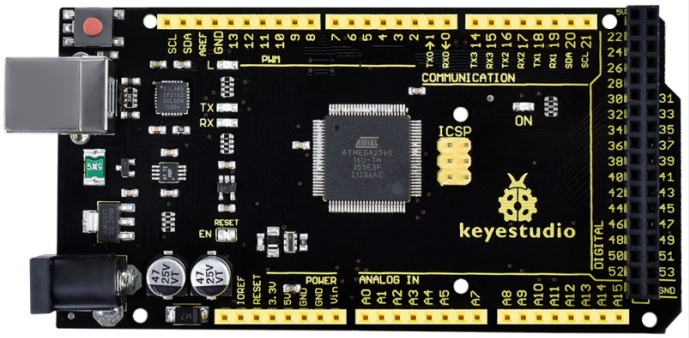
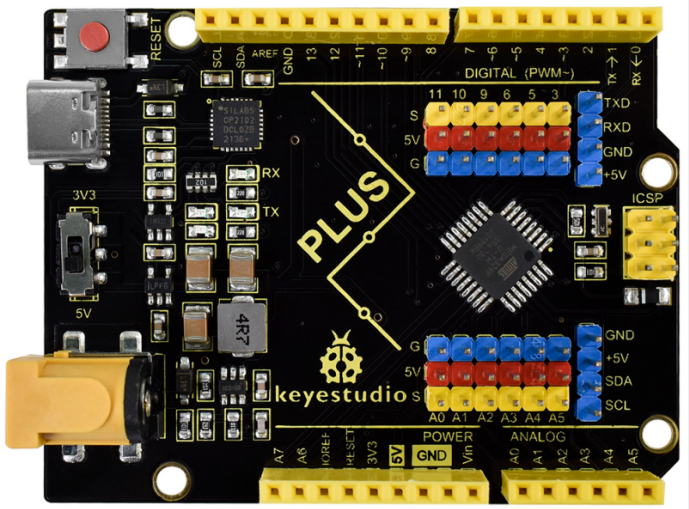
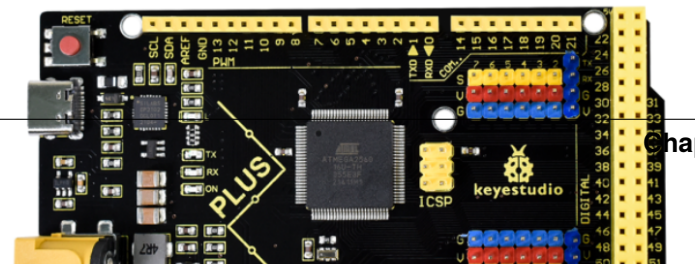
CHAPTER

TWO

2. INSTALL DRIVER

We need a driver to boot our development board. Or else, the COM port connected to computer will not be found.

Select the corresponding development board and computer system in the table and click the link to enter the tutorial:

Sku	Development Board	Image	Windows System	MAC System
ks0497	keyestudio V4.0		CP2102-WINDOWS	CP2102-MAC
ks0498	keyestudio MEGA		CP2102-WINDOWS	CP2102-MAC
ks0486	keyestudio Plus		CP2102-WINDOWS	CP2102-MAC
				

CHAPTER

THREE

3. ARDUINO IDE SETTINGS

Click

icon to open Arduino IDE.

1. “File”: Including New Sketch, Open…, Sketchbook, Examples, Close, Save(Save as…), Preferences, Advanced…, etc.
2. “Edit”: Including Copy, Paste, Auto Format, Increase/Decrease Font Size, etc. Commonly, you can use shortcuts to do these operations.
3. “Sketch”: Including Verify/Compile, Upload, Include Library, etc.
4. “Tools”: Including Board and Port, which are two of the most important functions.
5. “Help”: Including Check for Updates as well as some official data references.
6. “Serial Plotter”: To display the data from serial port in the way of a line chart.

7. “Serial Monitor”: To prints the data from serial port.
8. Verify code.
9. Verify and upload code.
10. “Sketchbook”: To create a new sketch, or sign in to Arduino Cloud to sync and edit your Cloud Sketches.
11. “Boards Manager”: To install or remove development board.
12. “Library Manager”: To install or remove library.
13. “Debug”: To monitor code and debug breakpoints.
14. Search.
15. Sketch editing area.
16. IDE Output: To report error or successful uploading, and to display data from serial monitor.

CHAPTER

FOUR

4. UPLOAD CODE VIA ARDUINO IED

Example of using Keystudio Plus UNO for tutorials marked with '/'

Development board	windows system	MAC system
Keyestudio Plus UNO	Win Plus UNO Tutorial	Mac Plus UNO Tutorial
Keyestudio NANO	/	/
Keyestudio MEGA 2560	/	/
Keyestudio Leonardo	/	/
Keyestudio Micro pro\por Mini	/	/
Keyestudio ESP32\ESP32 Plus	Win ESP32 Tutorial	Mac ESP32 Tutorial
raspberry pi pico	Win Pico Tutorial	Mac Pico Tutorial

CHAPTER

FIVE

5. IMPORT LIBRARY

First of all, the corresponding Arduino library files are required.

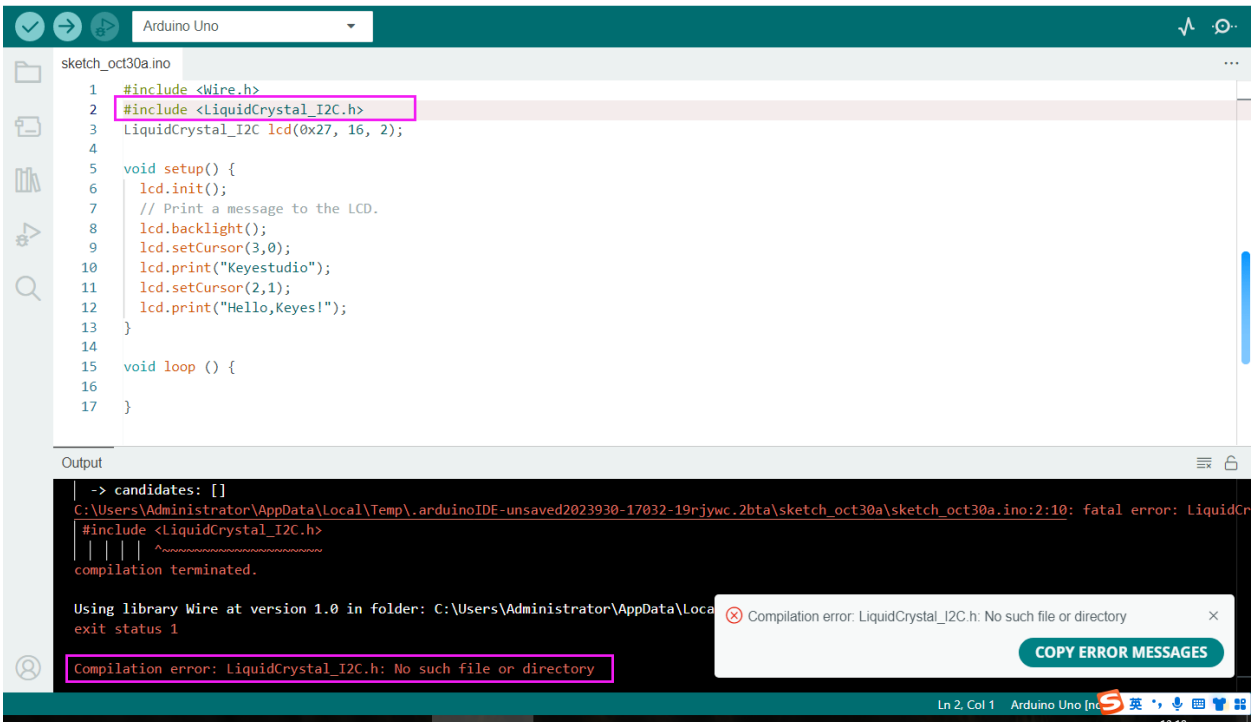
5.1 A. What are Libraries ?

Libraries are a collection of code that make it easy for you to connect a sensor,display, module, etc.

For example, the built-in LiquidCrystal library helps talk to LCD displays.

There are hundreds of additional libraries available on the Internet for download. The built-in libraries and some of these additional libraries are listed in the reference.

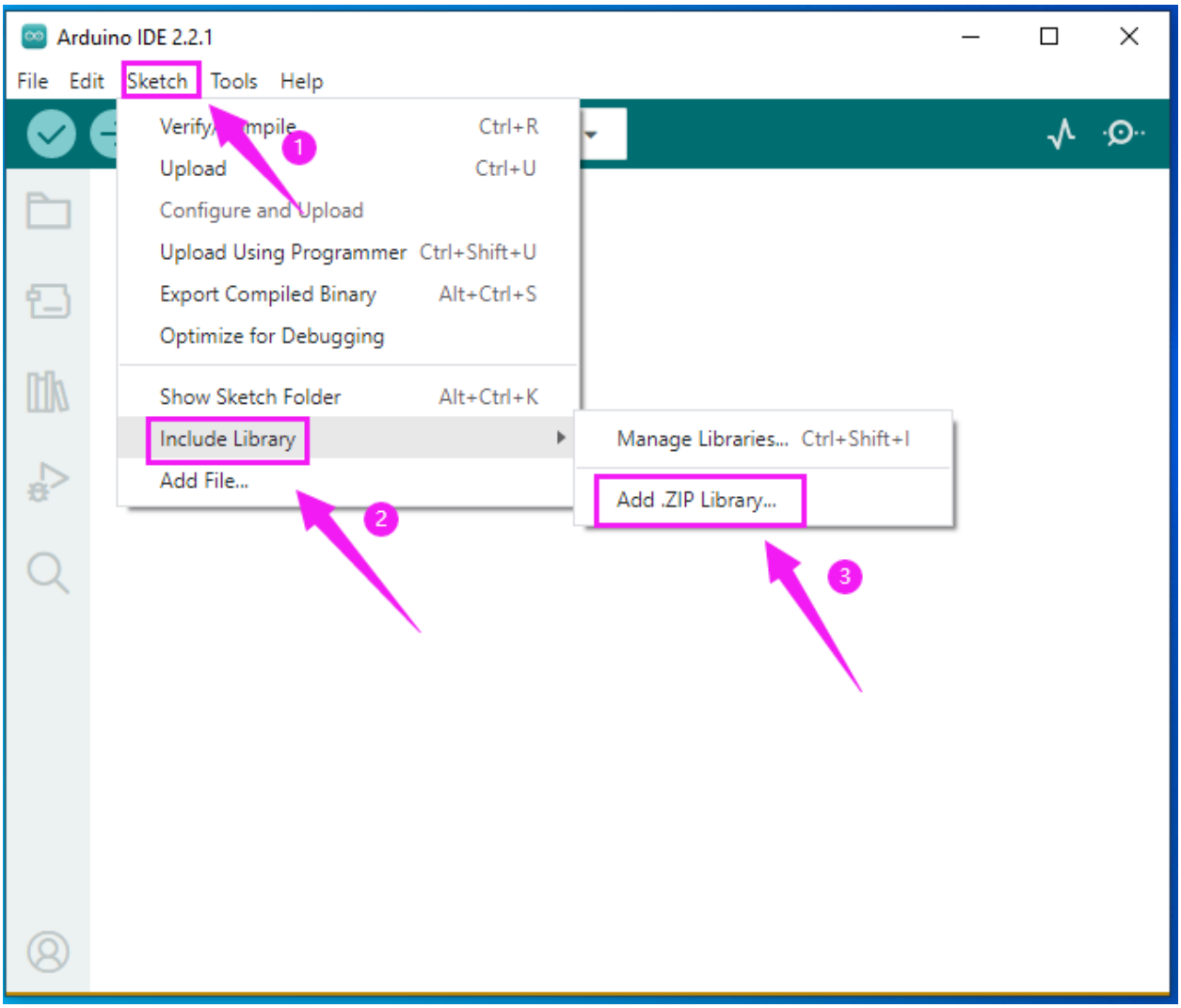
If there is an error 'No such file or directory' when compiling or uploading code, it means the library file is missing. As shown in the figure below, the error occurred when uploading LCD1602 module code due to the missing 'LiquidCrystal_I2C' library file.



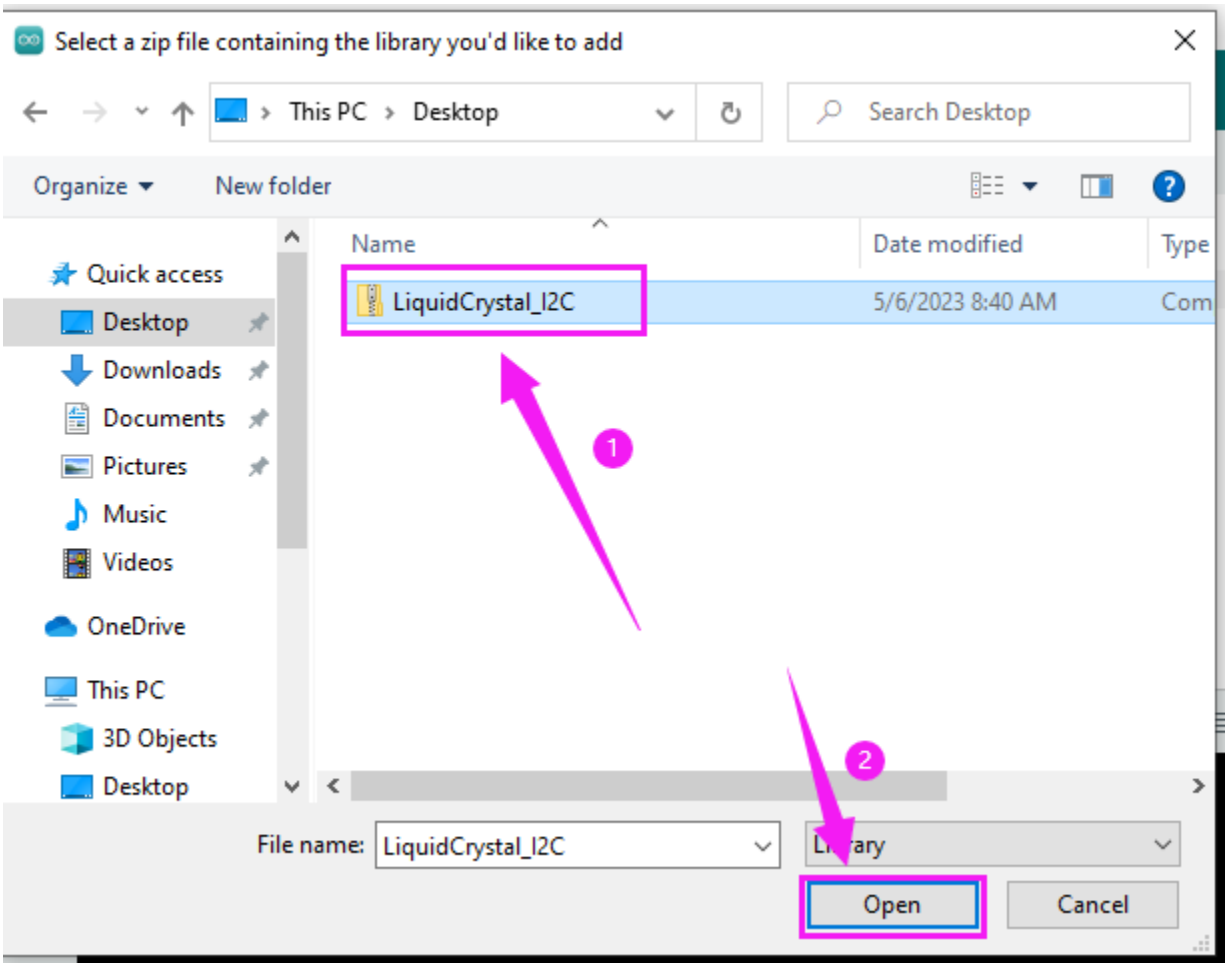
5.2 B. How to Install a Library ?

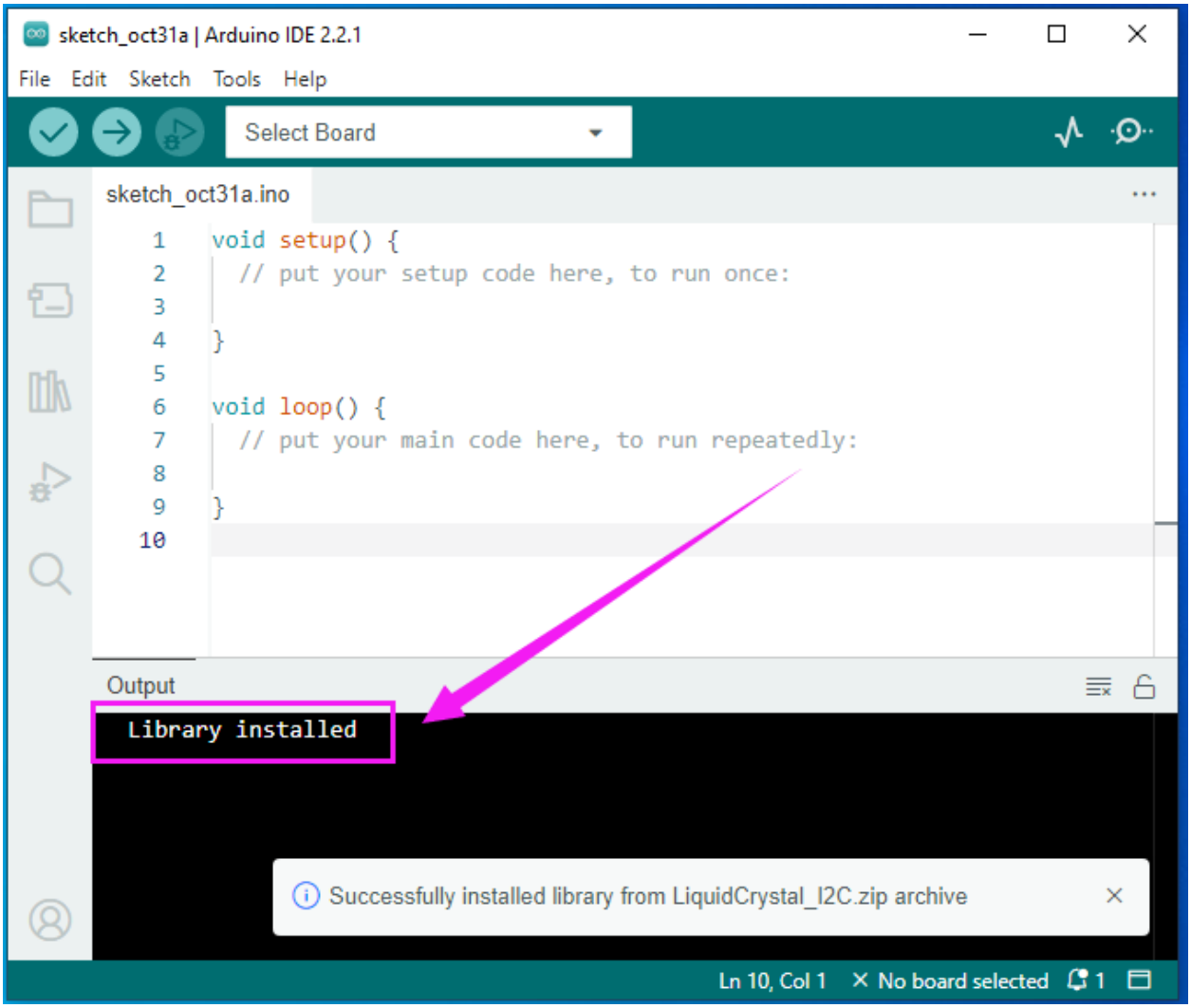
Here we will introduce the most simple way to add libraries.

Click **Skerch > Include Library > Add .Zip Library...** in sequence.



Find files(.zip) you need to add as library and wait. "**Library installed**" will be displayed if library is successfully added.


Select a zip file containing the library you'd like to add
This PC
Desktop
Search Desktop
Organize
New folder
Name
Date modified
Type
Quick access
Desktop
Downloads
Documents
Pictures
Music
Videos
OneDrive
This PC
3D Objects
Desktop
LiquidCrystal_I2C
5/6/2023 8:40 AM
Com
1
2
File name:
LiquidCrystal_I2C
Open
Cancel



Dynamic operation example:

For how to include a library, the method of the two system is the same.

For more details, please visit our official website: https://www.keyestudio.com/