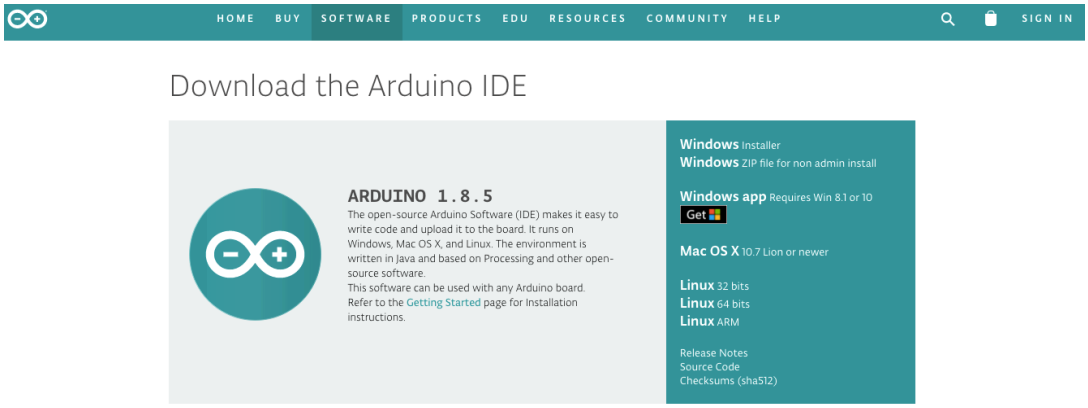
Getting Started with Hexbot - - for Arduino v1.0

1. Downloading Arduino IDE

The Hexbot Arm is based on Arduino Mega2560, so you need try a little bit of Arduino. If Arduino is new to you, you can download the Arduino IDE here:

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



You can see more about "Getting Started with Arduino" for the Arduino official website:

https://www.arduino.cc/en/Guide/HomePage

2. Installing Drivers for the Mega2560

For Windows users, if this is the first time you connect your computer with the Arduino Mega2560, you need install drivers for the Mega2560. You can see more details of how to install the drivers here on Arduino official website:

https://www.arduino.cc/en/Guide/UnoDriversWindowsXP

You can also download the Windows driver directly here:

http://www.wch.cn/download/CH341SER_EXE.html

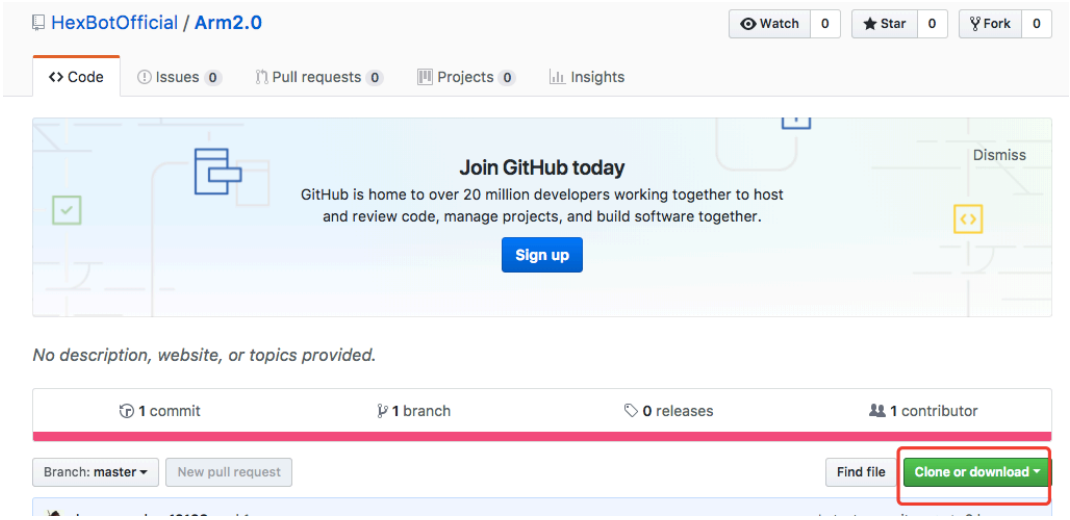
After you install the driver on your computer by connecting HexBot with USB cable, you can see a port listing similar to "Arduino Mega2560 Programming Port (COM19)" in the Device Manager.

3. Downloading Hexbot Arduino Library

Hexbot Arduino Library can be downloaded from this Github repository:

https://github.com/HexBotOfficial/Arm2.0

Click “Clone or download” >“Download ZIP” button:



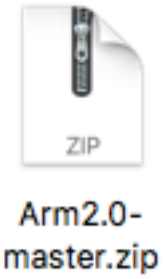
In this library, controlling methods are in the Arm.cpp file of Src floder. If you have programming background and would like to develop Arduino, you can change it to meet your own needs. But if you are not focus on developing the underlying code of Arduino, you’d better leave them alone.

4. Installing Arduino Libraries

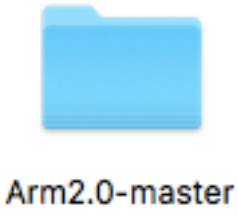
You can learn more details about how to install a library here:

https://www.arduino.cc/en/Guide/Libraries

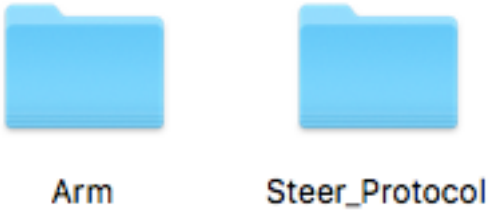
With Step 3, you have downloaded 7Bot Arduino Library as a ZIP file which named “Arm2.0-master”.



Unzip this file; you will get an “Arm2.0-master” folder.



Open the “Arm2.0-master” folder; you can see two folders named “Arm” and “Steer_Protocol”.



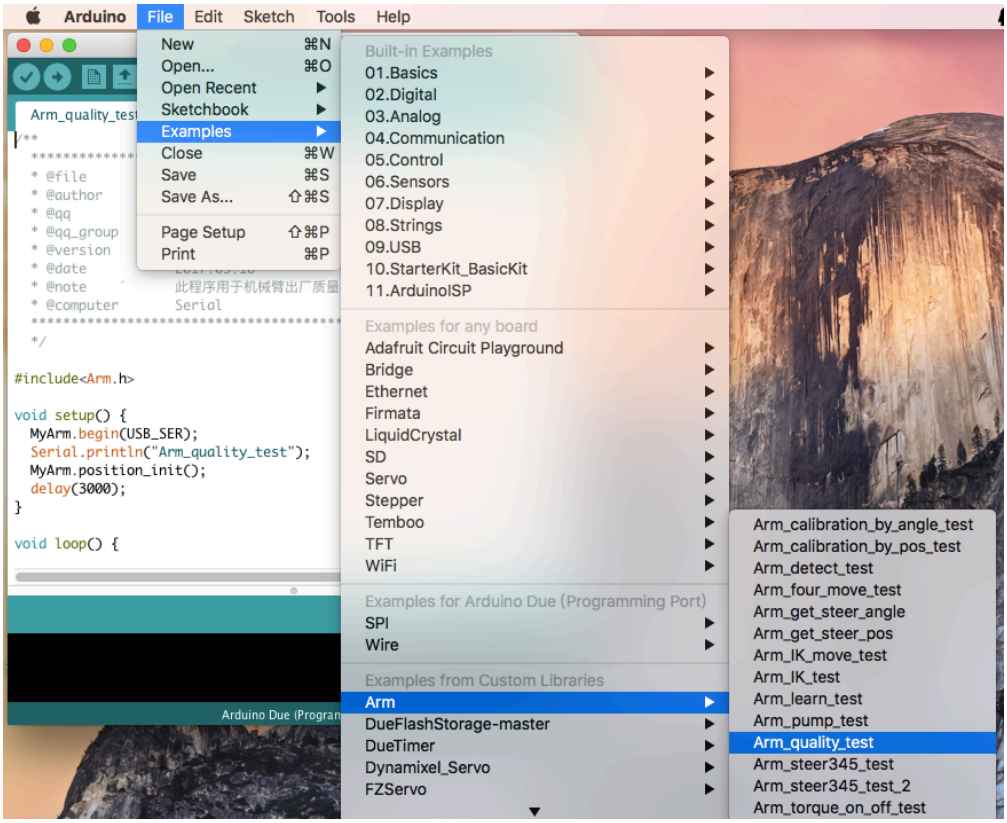
Create a ZIP-file called Arm.zip that contains files from "Arm" directory. Then open the Arduino IDE and click to the "Sketch" menu and then *Include Library > Add .ZIP Library* and import “Arm.zip” library.

Create a ZIP-file called Steer_Protocol.zip that contains files from " Steer_Protocol " directory. Then open the Arduino IDE and click to the "Sketch" menu and then *Include Library >* Steer_Protocol.*ZIP Library* and import “Steer_Protocol.zip” library.

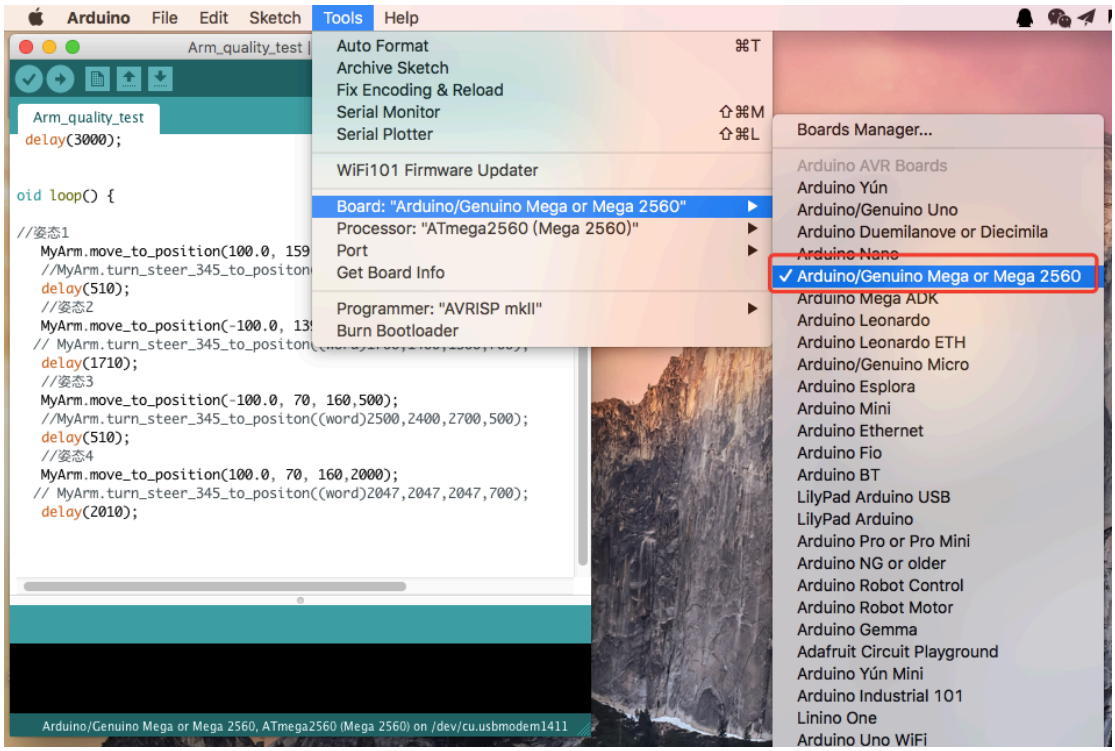
5. Uploading example codes

Connect Hexbot to your computer by the USB cable. You’d better not connect the power supply adapter to the robot while uploading.

In the Arduino IDE, click ‘File’ > ‘Examples’ > ‘Arm’ > ‘Examples’ to open one of the examples we offered such as ‘Arm_quality_test’



In the Arduino IDE, click ‘Tools’ > ‘Board:…’ > ‘Arduino/Genuino Mega 2560’ to select the right Arduino board.



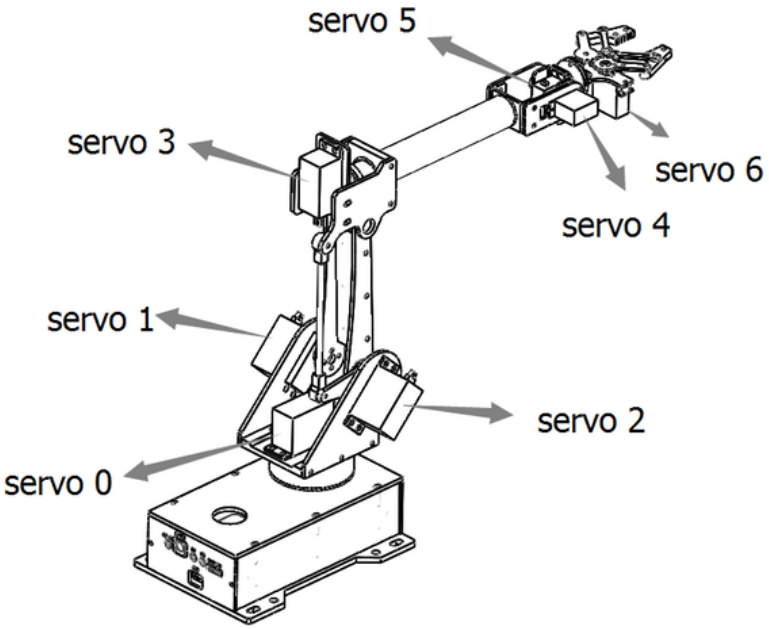
Go back to the main menu, click ‘Tools’ > ‘Port:…’ > ‘COM3 (or other right COM number)’ to choose the programming port.

(There might be more than one port in the Port selection, but only one Arduino Mega2560 board. The COM number will also be different in different computers.)

Then click ‘Sketch’ > ‘Upload’ and wait while the new firmware is compiled and uploaded to the robot. You can power the robot on, it comes to life.

Now the Arduino IDE and Hexbot libraries are installed. You can rewrite the codes by calling the functions from Hexbot libraries to program Hexbot using Arduino.

There are 7 servos of 7Bot from servo0 to servo6 and the servo on the gripper is servo6.



The Schematic of the Arduino shield list below: