

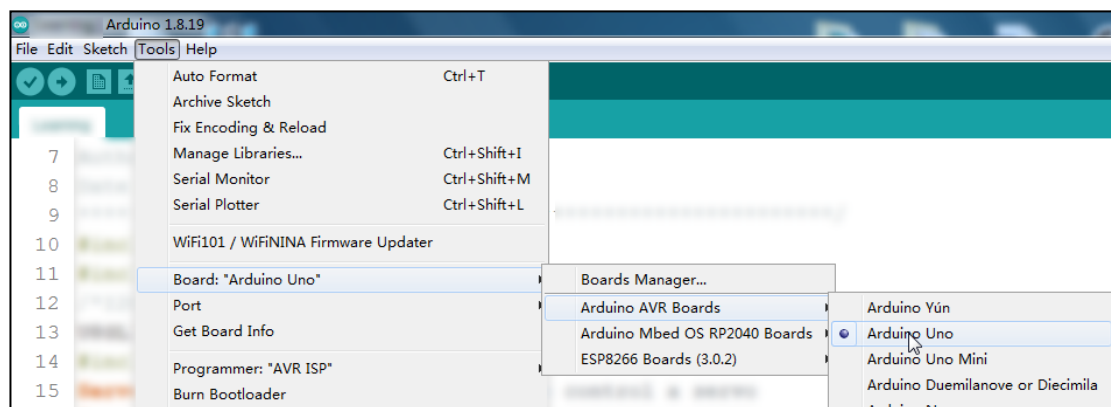
# You might as well try a potentiometer to control Robotic Arm

In this lesson, we will introduce how to control the movement of the arm through the potentiometers on the Adept Arm Drive Board.

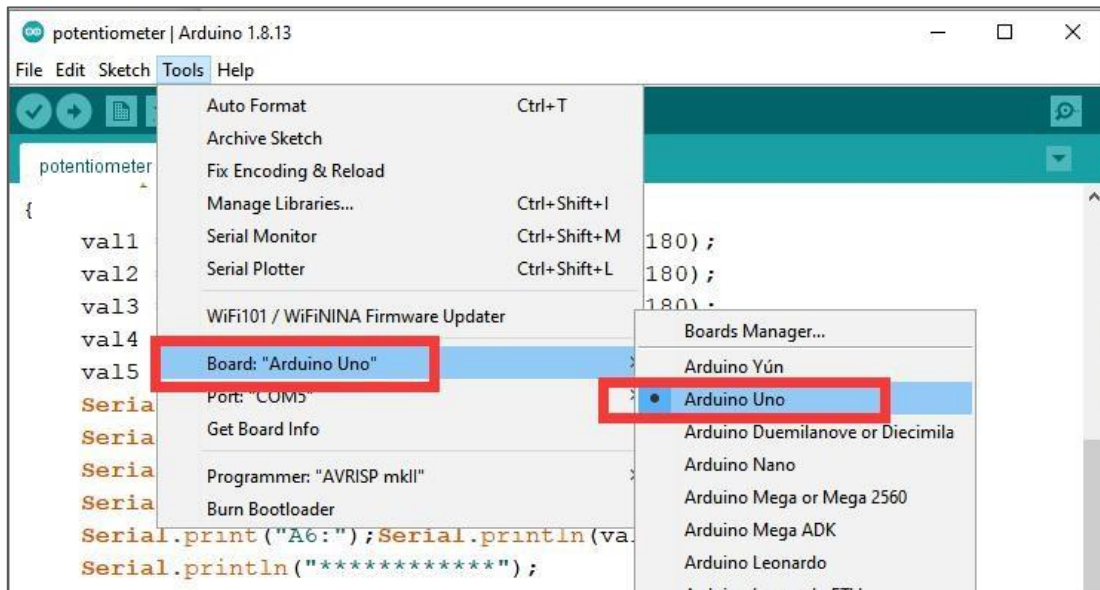
## 1. Upload the Potentiometer\_control.ino



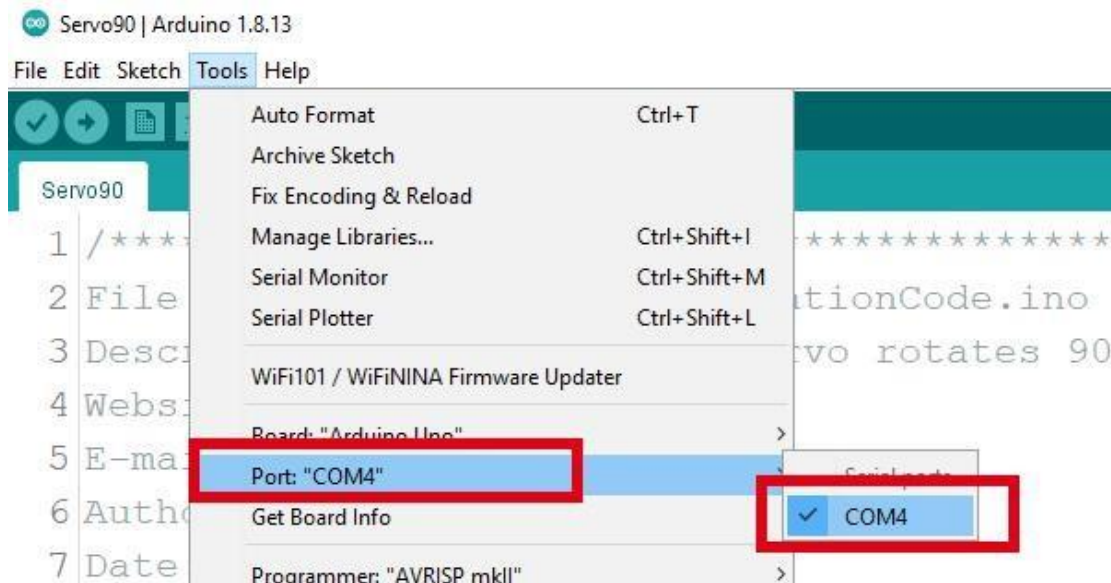
1. Open the Arduino IDE software, as shown below:
2. In the Tools toolbar, find Board and select Arduino Uno, as shown below:



Or:



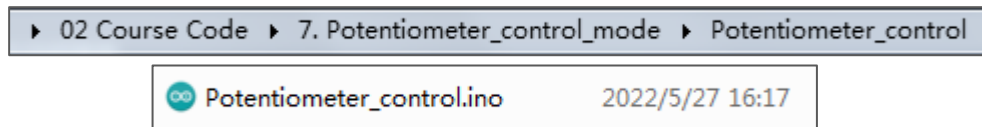
3. In the Tools toolbar, find "Port" and Select the port number of The Adept Arm Drive Board , as shown below:




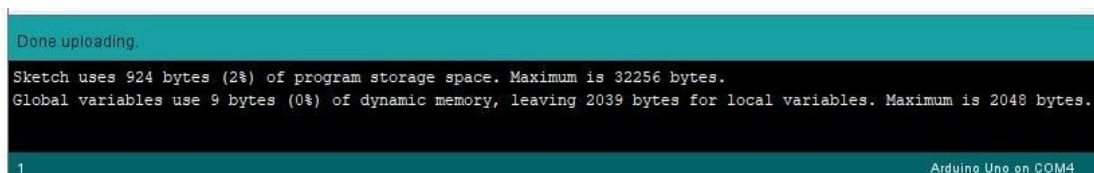
4. Click Open in the File drop-down menu:



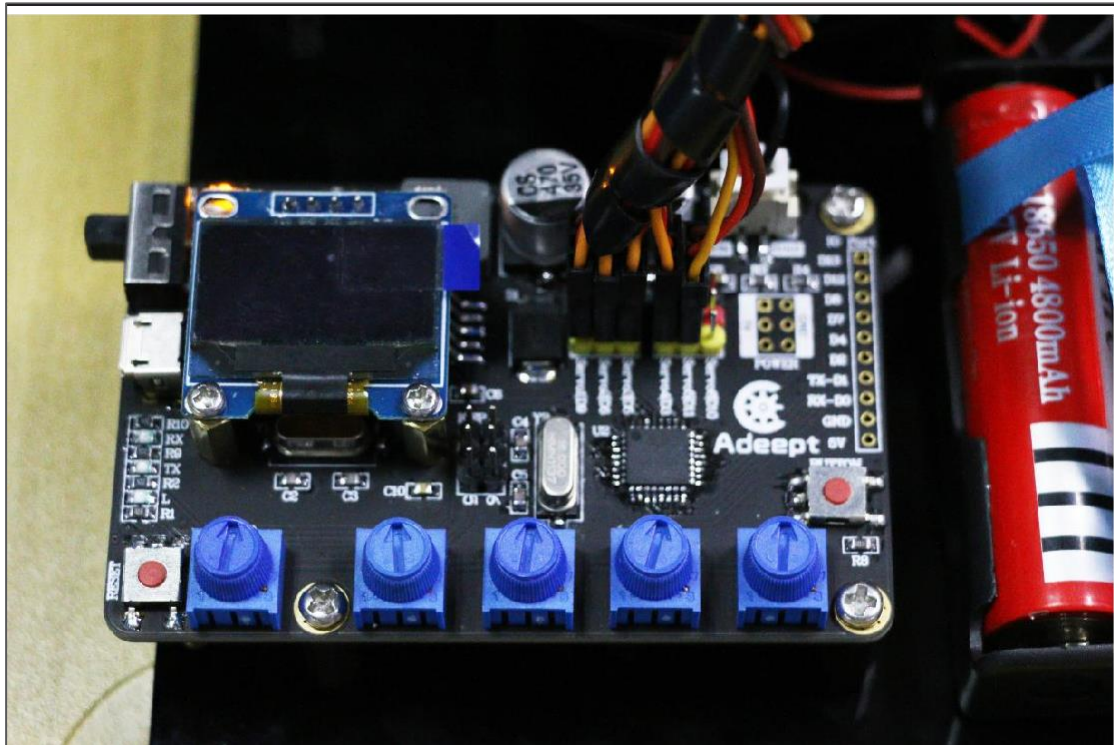
5. Find **the Package of Documentation** (Reference: Chapter 4, near Page 12 of this section, subsection 5, step (4)) that we provide to the user. Open the directory in sequence: "02 Course Code" -> "7. Potentiometer\_control\_mode" -> "Potentiometer\_control". Then select the code file "Potentiometer\_control.ino" and click the "Open" button.



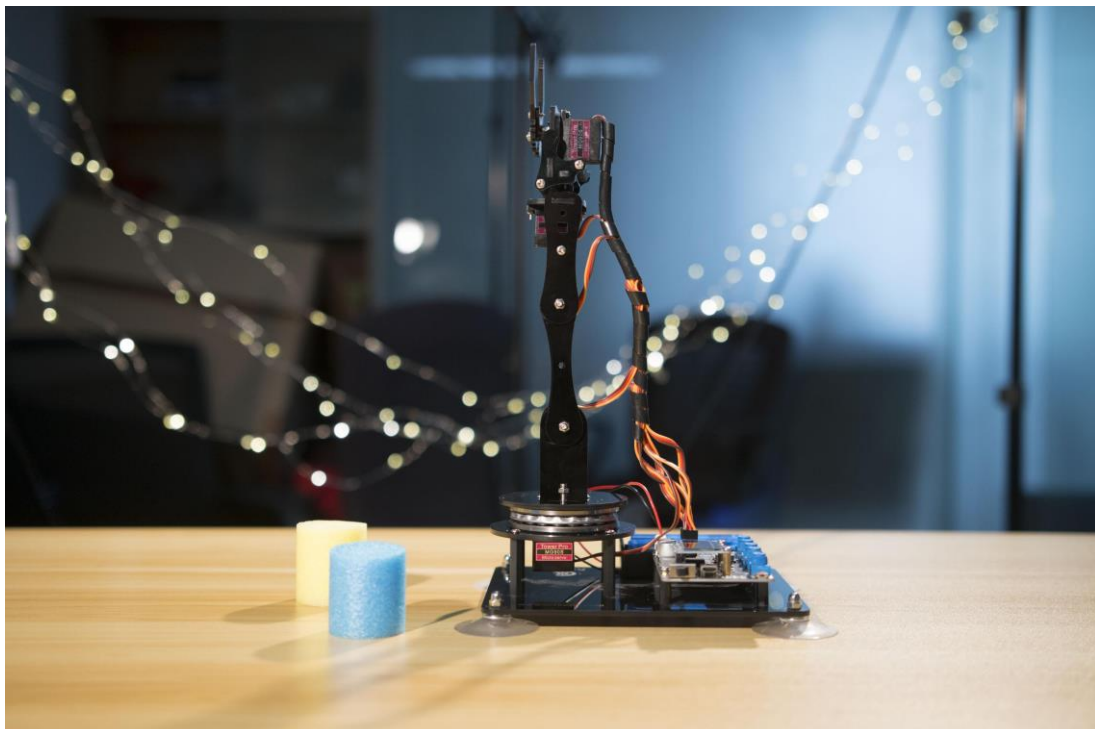
6. After opening, click  to upload the code program to the Adept Arm Drive Board. If there is no error warning in the console below, it means that the Upload is successful.



7. Next, unplug the USB cable connected to the robotic arm. Note: Do not turn on the power of the arm after downloading the program. Adjust the four potentiometers on the driver board to the center first, as shown below:

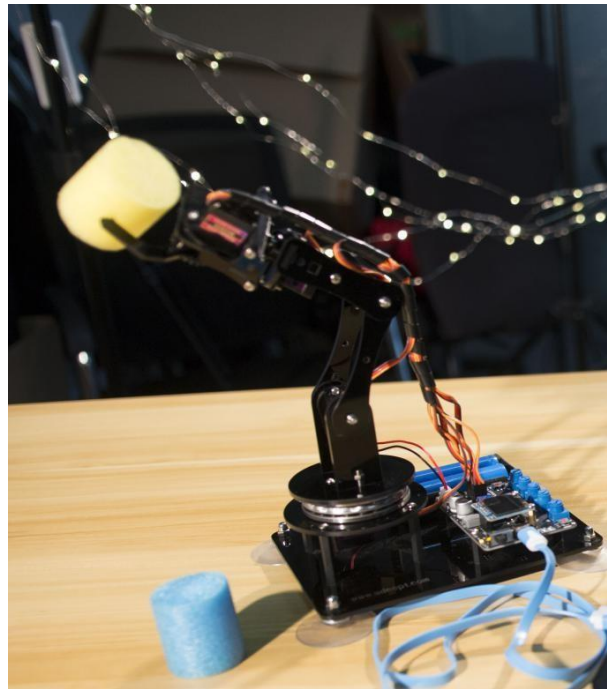


8. Then manually adjust the robotic arm to the position shown below:

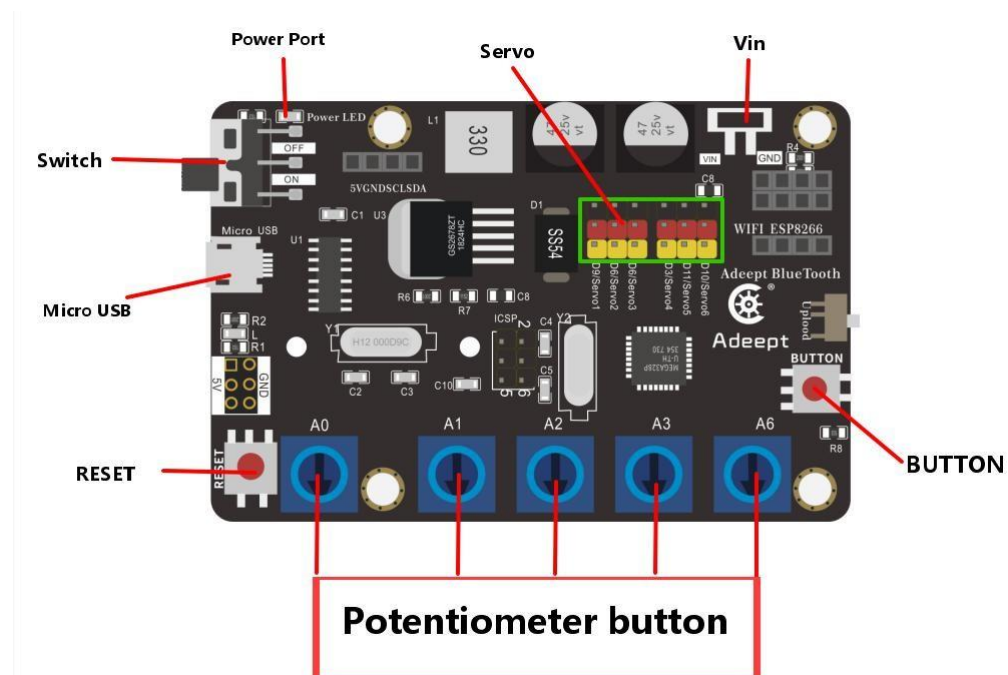


Gently support the robotic arm with your hand to prevent swinging arm.  
Turn on the power, and then rotate the four potentiometers on the driver board

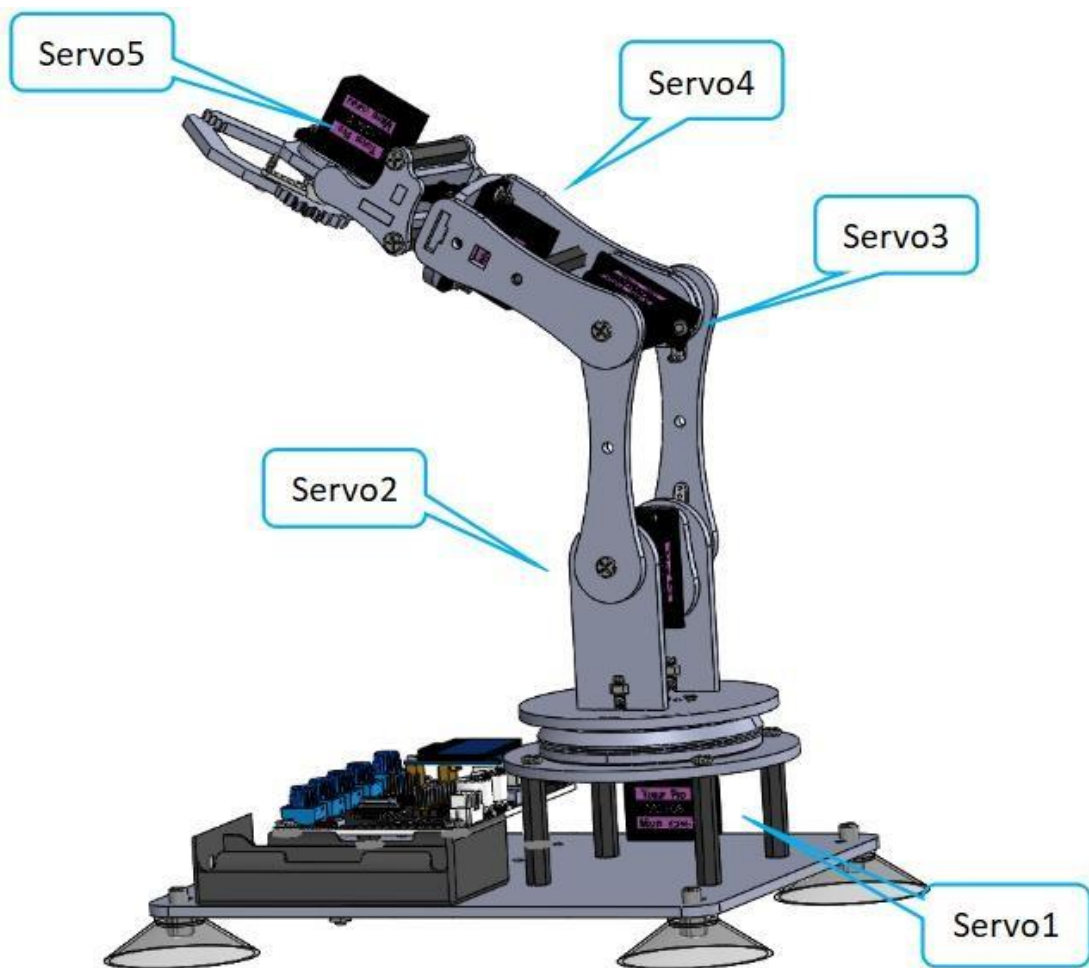
to control the arm to clamp and carry objects. The rotation angle of Servo5 is set in the code.



## 2. How to control the robot arm by potentiometer







### 【Specific function descriptions】 :

▲The potentiometer A0 on the driver board controls the movement of servo 1, range from 0 to 180 degrees.

▲The potentiometer A1 on the driver board controls the movement of servo 2, range from 0 to 180 degrees.

▲The potentiometer A2 on the driver board controls the movement of servo 3, range from 0 to 180 degrees.

▲The potentiometer A3 on the driver board controls the movement of servo 4, range from 0 to 180 degrees.

▲The potentiometer A6 on the driver board controls the movement of servo 5, range from 35 to 90 degrees.

**【Note】 :**

1. Potentiometer control mode is not very precise, there will be some delay, so it is best to turn the potentiometer button slowly when using.
2. The power of the tiller is very small, and can only clamp and carry relatively light objects.
3. Robotic arm works better with a fully charged battery.