Adjust the angle for all Servos

Table

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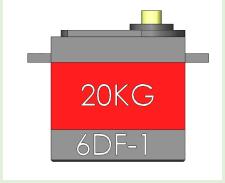
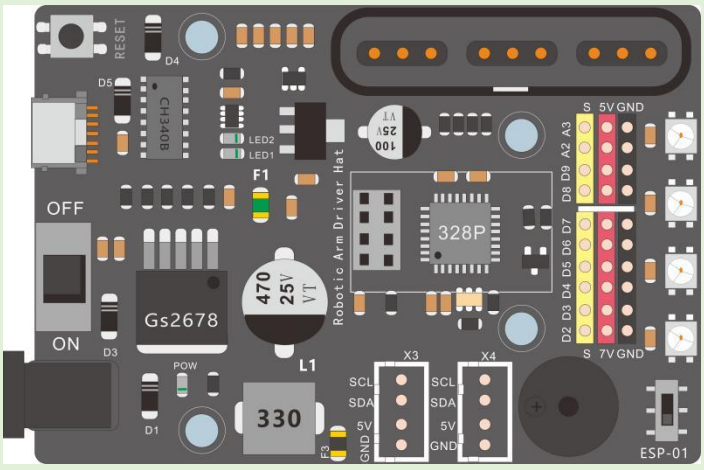
Before assembling the servo to the robot arm you need to adjust them to 90° so that they can work well with the structure of the robot arm.Because the initialization state of the robotic arm has already been set in the underlying library where the code runs, all servos are in a 90 degree position. So we must ensure that the servo has been adjusted to 90 degrees during assembly, otherwise after being assembled onto the robotic arm, once powered on and initialized, the robotic arm cannot reach the ideal position state, and even mechanical collisions may occur.

1. What do you need to prepare

Components	Quantity	Picture
USB cable	1	
MG996 Servo(20KG)	5	
MG996 Servo(25KG)	1	
Robotic Arm Drive Hat (control board)	1	

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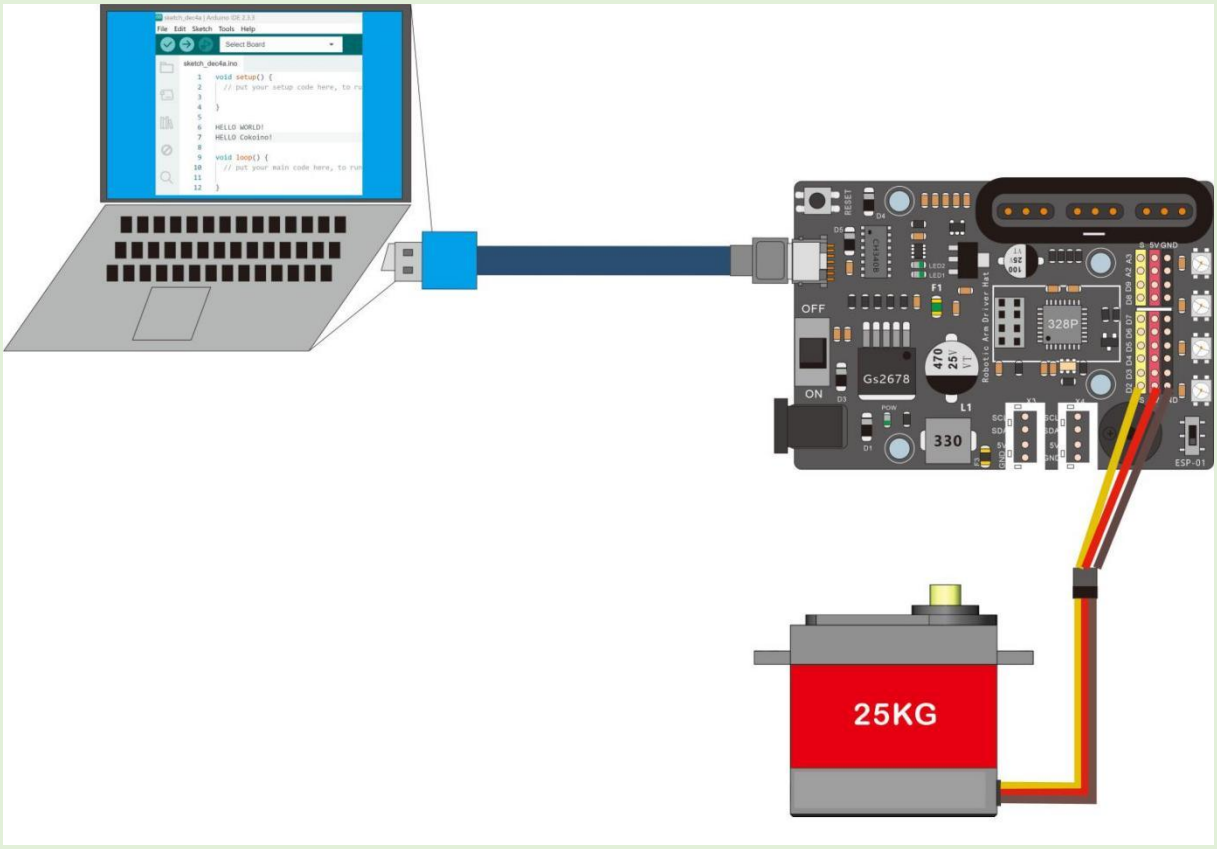
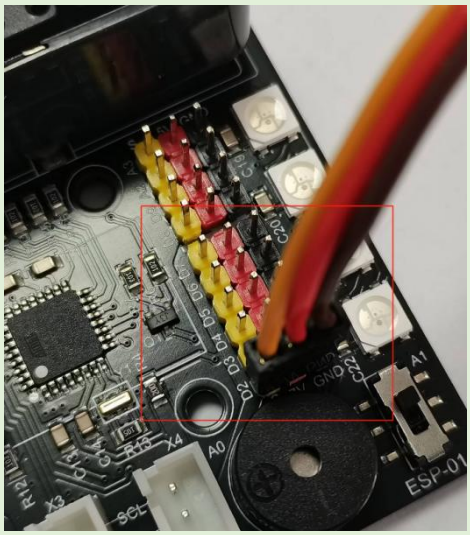
2. Hardware Connection Circuit

Taking MG996 Servo (25KG) as an example, the signal pin of the tail plug of the servo wire is connected to the D2 pin of the control board. When the servo is not loaded, it can be powered by the computer with a USB cable.Of course, you can also plug in an adapter to power the control board.



Wiring between the servo and the control board	
Connector of the Servo	Connector of the control board
+	7V
-	GND
Signal	D2



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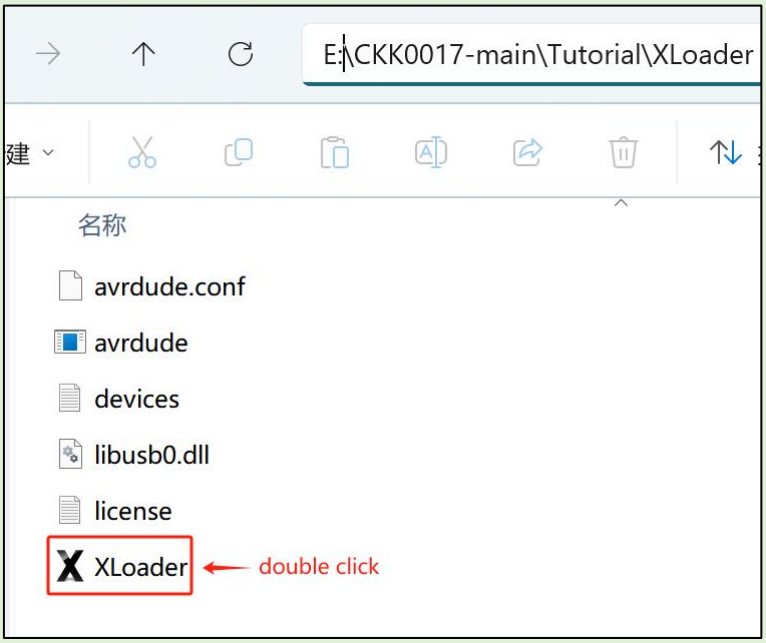
3. Upload the "4_2_servo_90_ADJ.ino.hex" to control board

3.1 Open the upload tool "XLoader"

The "XLoader" is in this path E:\CKK0017-main\Tutorial\XLoader



3.2 Double click "XLoader" with the mouse to open the tool interface as follows

3.3 As shown in the figure, at position 1 of the XLoader tool interface, click with the mouse to select the file "4_2_servo_90_ADJ.ino.hex"

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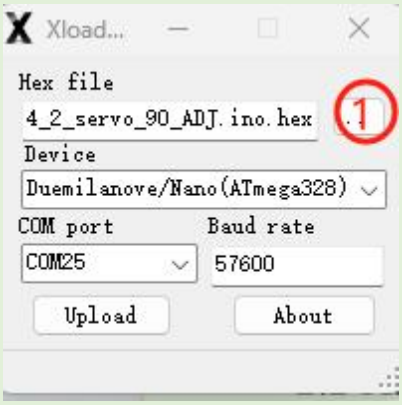
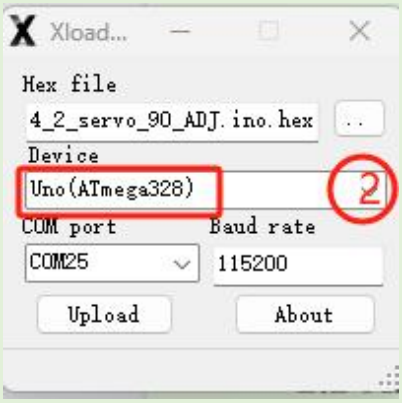


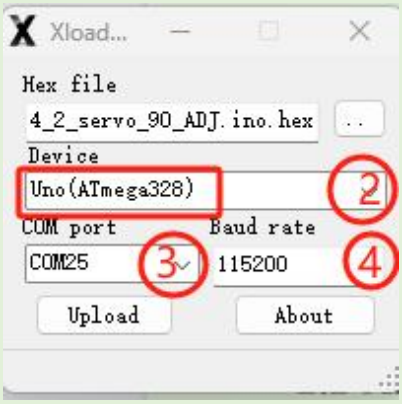
The file "4_2_servo_90_ADJ.ino.hex" is in this path
E:\CKK0017-main\Tutorial\sketches\4_2_servo_90_ADJ\build

3.4 As shown in the figure, click on "Uno (ATmega328)" with the mouse at position 2 of the XLoader tool interface.

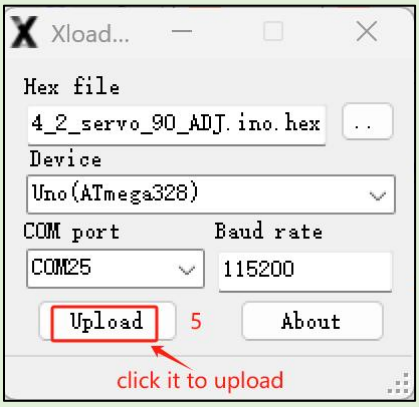


3.5 As shown in the figure, at position 3 of the XLoader tool interface, click and select the COM port of the control board with the mouse. The COM port is basically different on each computer. On my computer, it is COM25, so you can choose the corresponding port on your computer.

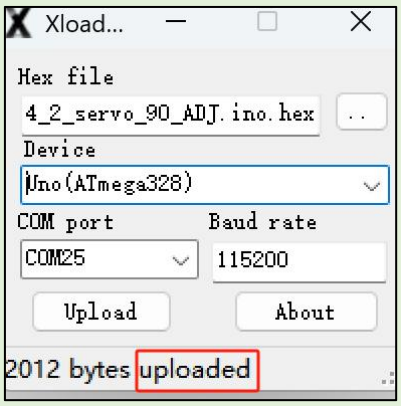
At position 4 of the interface, change the baud rate to 115200



3.6 As shown in the figure, at position 5 of the XLoader tool interface, click "Upload" once with the mouse to upload the code to the control board.



3.7 Upload successfully displays' **uploaded** ', and then the servo rotates to 90 degrees to stop.



3.8 Unplug the servo that has already been adjusted for angle, and sequentially insert the remaining servo into the same position on the control board, adjusting them all to 90 degrees one by one.