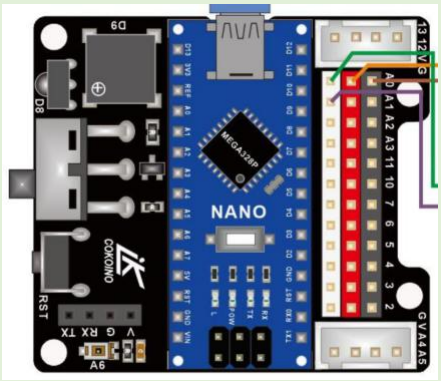
Adjust the angle for all Servos

Table

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
Mini USB cable	1	
MG90 Servo	1	
SG90 Servo	3	
Arduino Nano board with shield board	1	

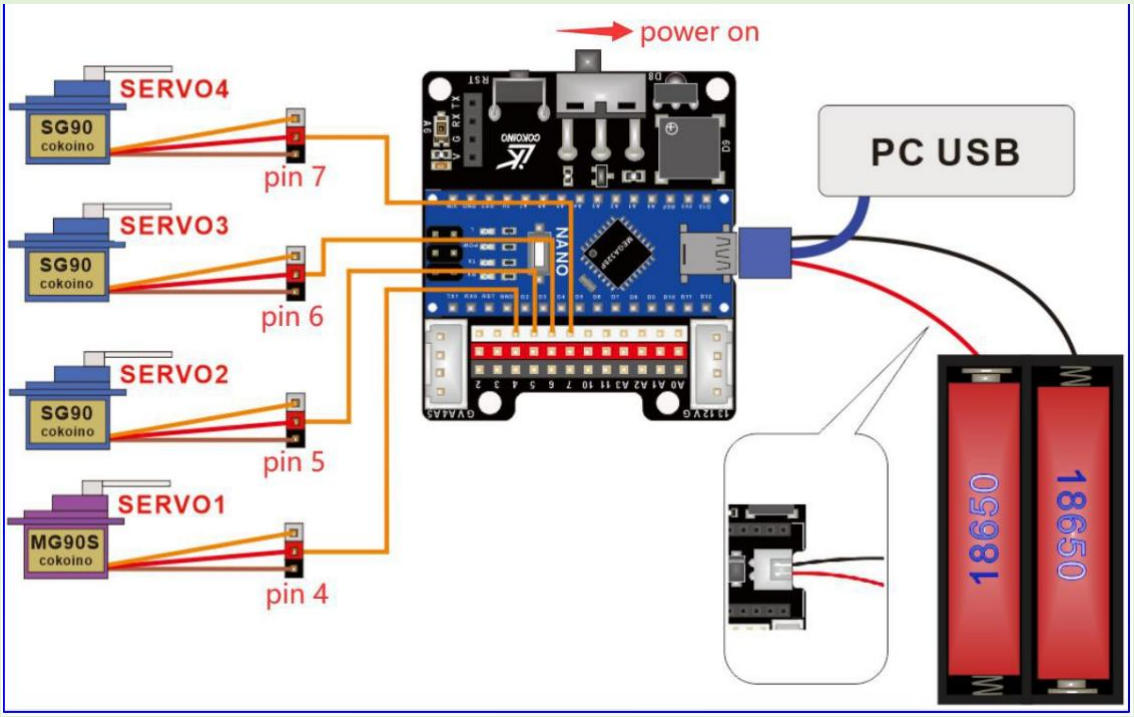
2. Hardware Connection Circuit

Please connect the 4 servos, the nano board, nano shield, and battery case with two 18650 batteries together, as shown in the figure below, and then connect them to the PC via a mini USB cable.

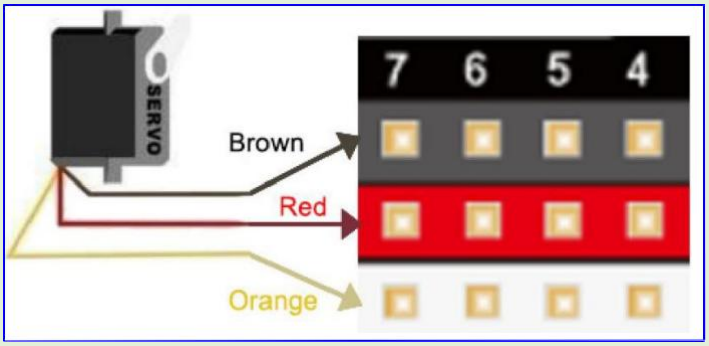
NOTE:

Servo 1, 2, 3, 4 are connected to Pin4, 5, 6, 7 of shield respectively Make sure your two 18650 batteries have enough power

Turn on the power switch of the shield since the current provided by the usb is not enough to drive the servos



The brown, red and orange wires of the servo are connected as shown below



Please refer to the table below and connect the four servos to the interface pins of the Nano shield respectively.

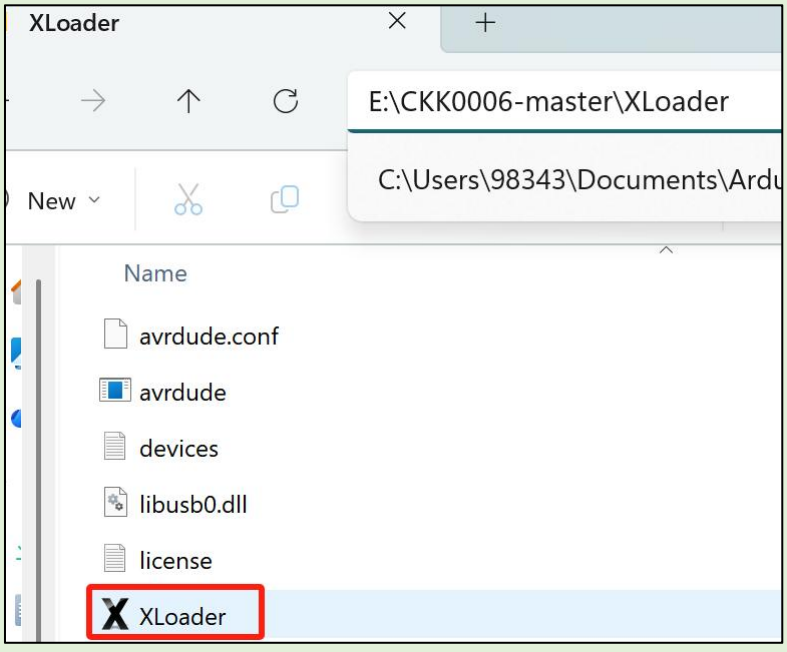
Wiring between the Servos and the Nano shield board			
Servos		**Nano shield**	
Module Name	**Pin of module**	**Pin of Nano shield**	**Pin's color**

Servo1	S	4	white
	V	VCC	red
	G	GND	black
Servo2	S	5	white
	V	VCC	red
	G	GND	black
Servo3	S	6	white
	V	VCC	red
	G	GND	black
Servo4	S	7	white
	V	VCC	red
	G	GND	black

3. Upload the "Servo_90_ADJ.ino.hex" to control board

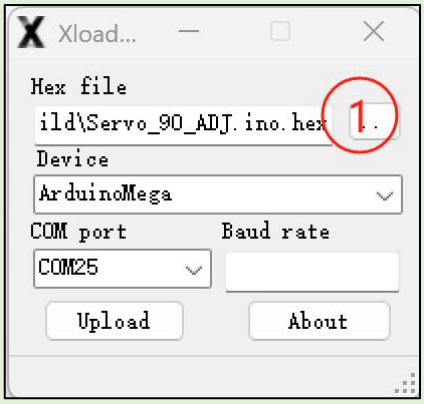
3.1 Open the upload tool "XLoader"

The "XLoader" is in this path E:\CKK0006-master\XLoader

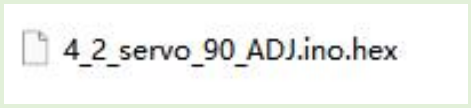


3.2 Double click "XLoader" with the mouse to open the tool interface as follows

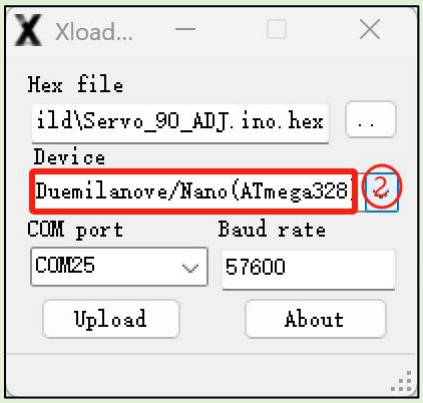
3.3 As shown in the figure, at position 1 of the XLoader tool interface, click with the mouse to select the file "Servo_90_ADJ.ino.hex"



The file "Servo_90_ADJ.ino.hex" is in this path
E:\CKK0006-master\Sketches\Servo_90_ADJ\build

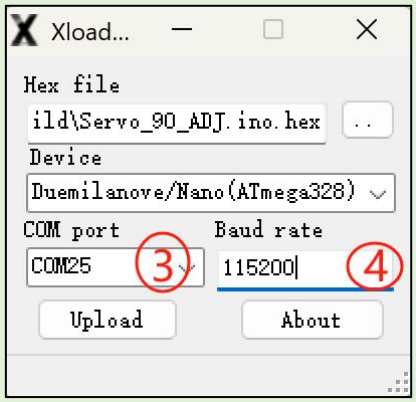


3.4 As shown in the figure, click on "Nano (ATmega328)" with the mouse at position 2 of the XLoader tool interface.

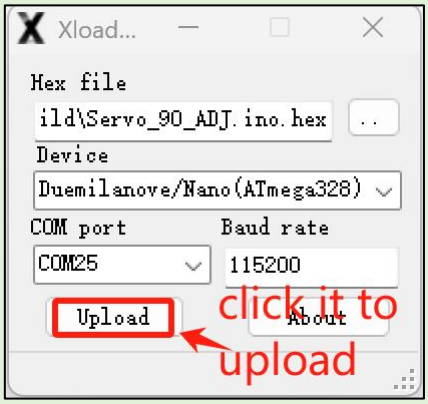


3.5 As shown in the figure, at position 3 of the XLoader tool interface, click and select the COM port of the control board with the mouse. The COM port is basically different on each computer. On my computer, it is COM25, so you can choose the corresponding port on your computer.

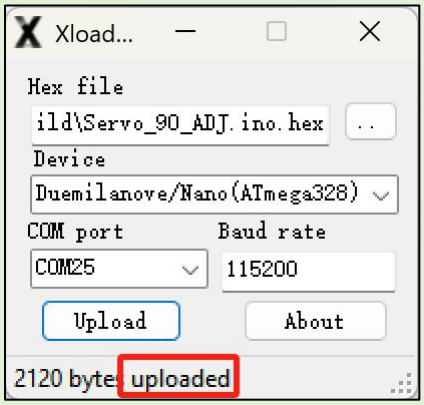
At position 4 of the interface, change the baud rate to 115200



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 4 servos rotate to 90 degrees to stop.



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