MAE C163A/C263A
Dynamixel MX-28AR Servo Motor Instruction

1. Give each servo motor a unique ID
   i. Download and open RoboPlus Launcher 2.0.
   ii. Install and open RoboPlus Manager 2.0.
   iii. Connect the servo motor to your PC with U2D2 (only one motor at a time).
   iv. Connect the servo motor to the power supply with RX/EX Power Hub.
   You should see the motor red LED blink for one time.
   v. Follow the video instruction here.
   Don't forget to save it after you modify the ID number.
   Switch the protocol version to 2.0 if not.
   vi. Enable the motor torque in RoboPlus Manager 2.0 and you should be able to drive the motor by changing its goal position parameter. Note that it changes from 0 to 4095 for one revolution and can only rotate less than 360 deg.
   vii. Repeat step ii to v for the rest motors.

2. Control servo motors in MATLAB
   i. Download DynamixelSDK and follow the video instruction here. You might need to install MinGW in MATLAB for compiling.
   ii. Connect all the servo motors like this. We call it a daisy chain link.
   iii. Open initialize.m file and modify the DEVICENAME. Check which port is being used on your PC. Modify or add other parameters if necessary.
   iv. With power on, run main.m file.
   You should be able to control all the servo motors simultaneously.

3. Control servo motors with Arduino
   i. Connect the servo motor to Arduino with MAX485 like this. The capacitors are not necessary.
   ii. With power on, run main.ino file.
   iii. Add other instruction packets if necessary.

4. Control servo motors with other programming languages
   i. Check this out and good luck.