

Controlling Actuators

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ROS Starter Kit Components



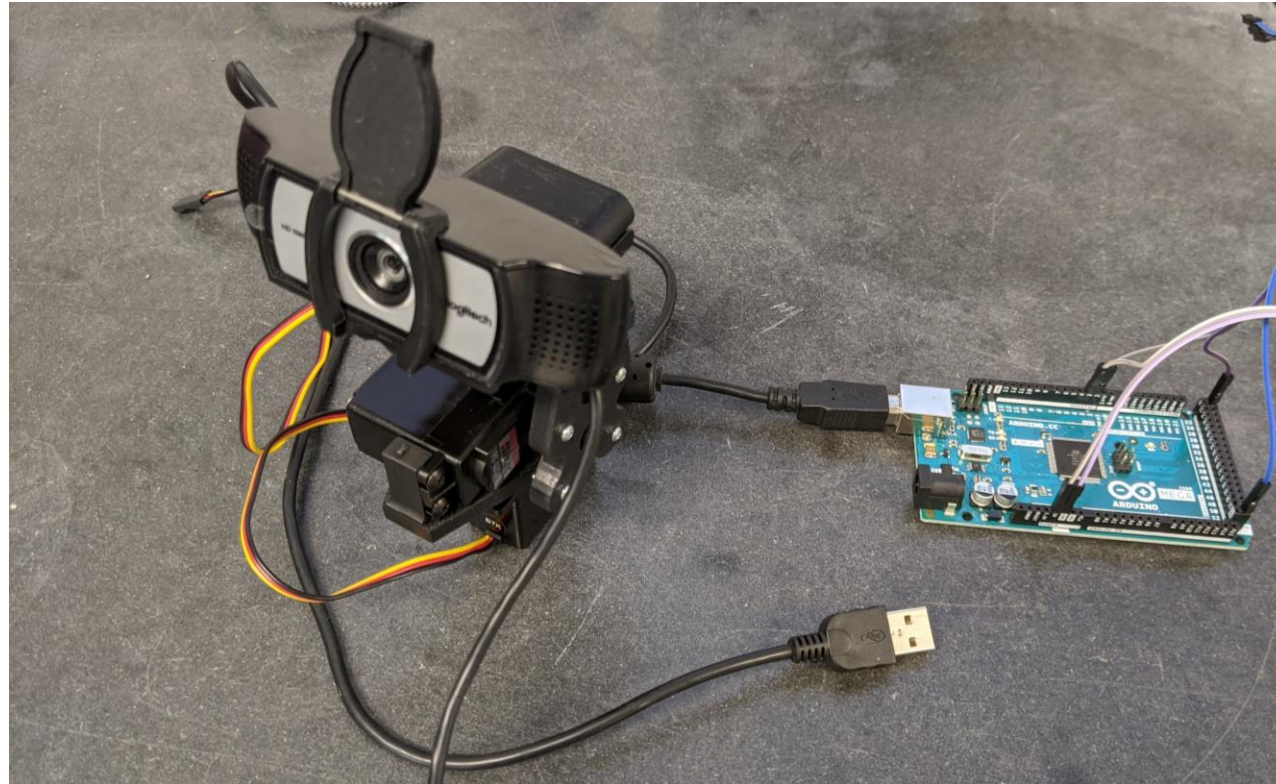
Component	Specs
Microcontroller	Arduino Uno
Dupont wire	Male to female (10) Female to female (10) Male to male (10)
Pan/tilt unit	Actobotics
USB-A cable	2.0 male to male
Webcam	HD
Servomotor	HS-485HB
Gamepad	Logitech F310



ROS Starter Kit



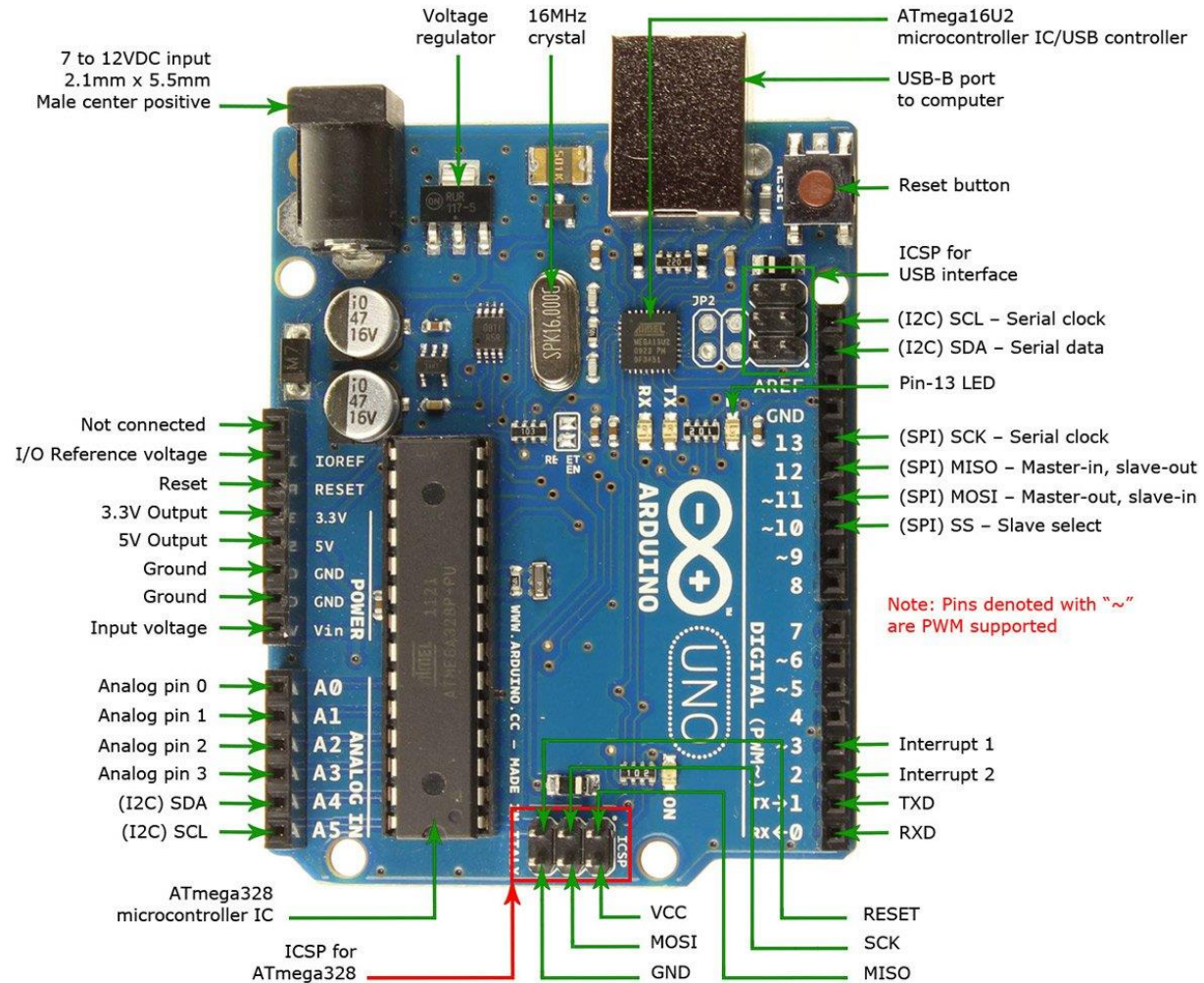
Integrated Kit



Exercise

1. Check if your ROS starter kit has any missing components
 2. Connect Arduino to your PC. Then connect servos to Arduino.
- Connect and control motors on the robot using roserial/roserial_Arduino (<http://wiki.ros.org/roserial>, http://wiki.ros.org/roserial_arduino/).

Arduino Uno

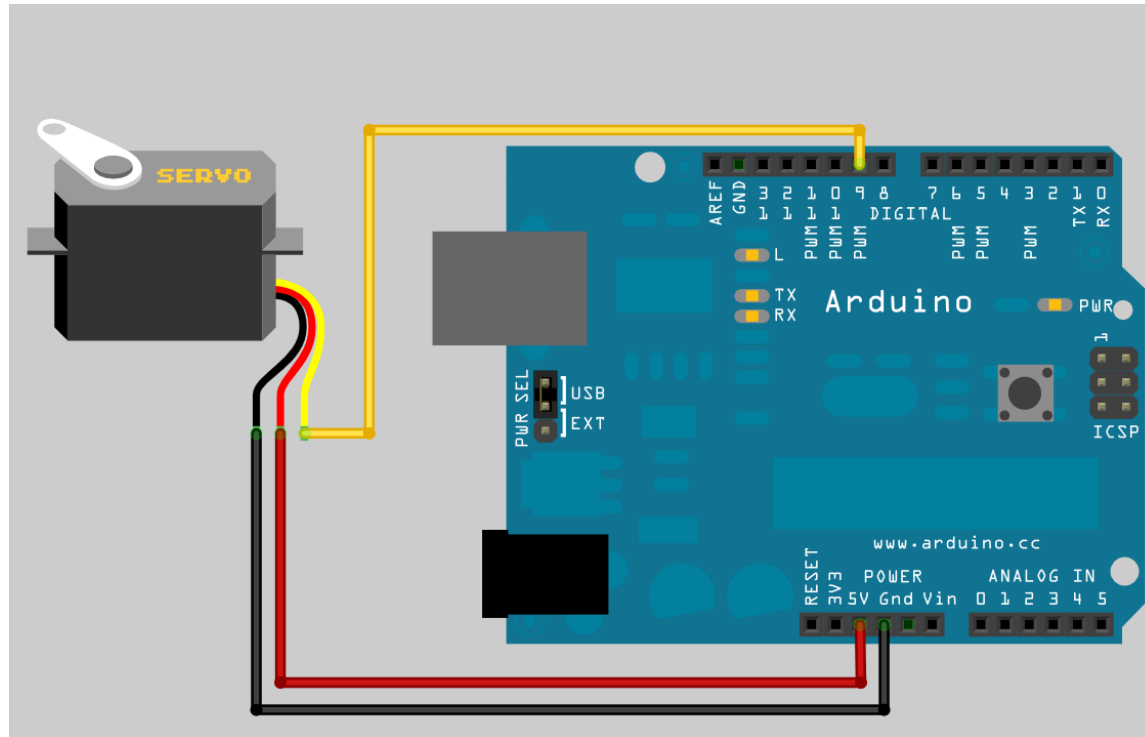


HS-485HB

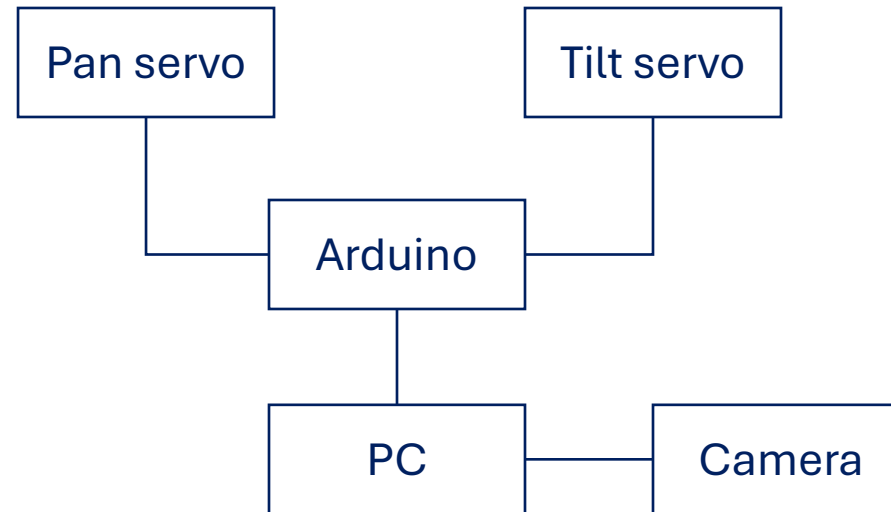


Servo Controller

http://wiki.ros.org/roserial_arduino/Tutorials/Servo%20Controller



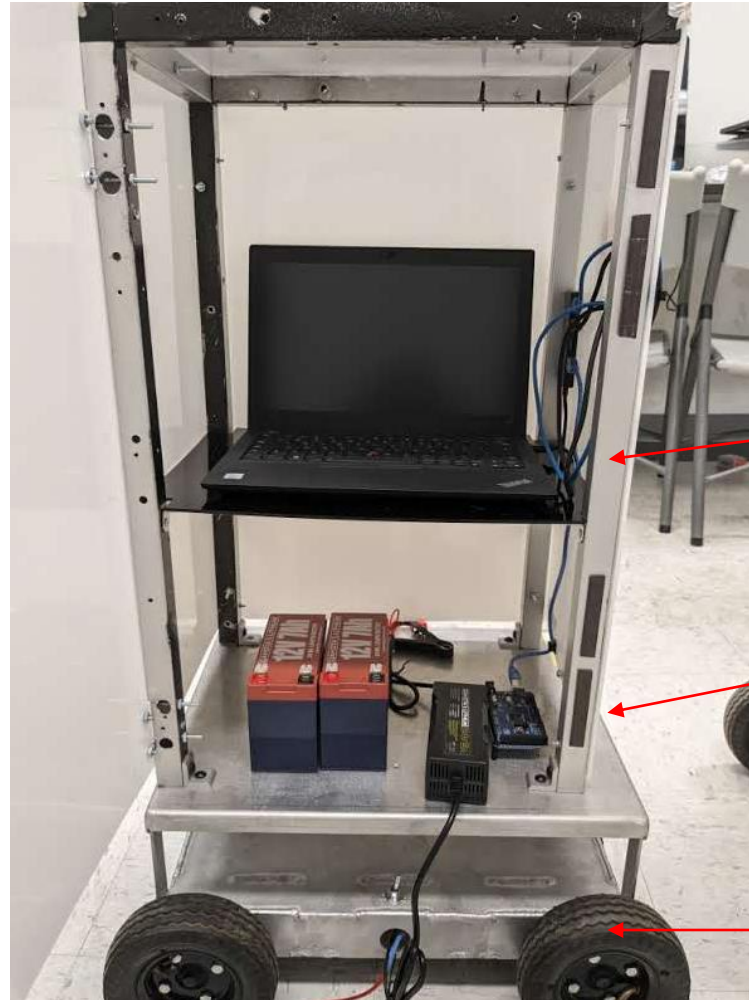
Electric Connection



Wheeled Robot



Wheeled Robot



Third layer

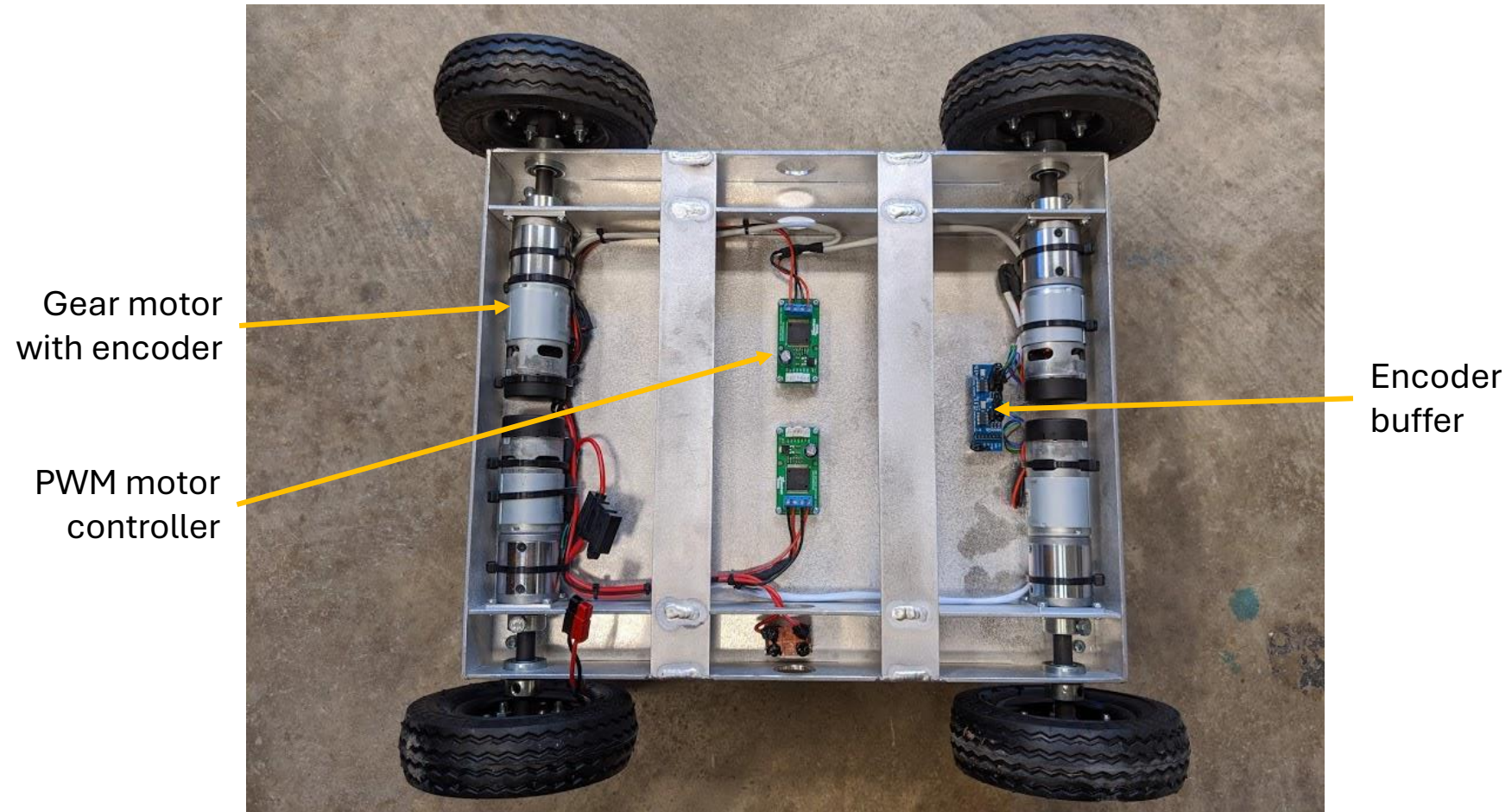
- Laptop PC
- USB hub

Second layer

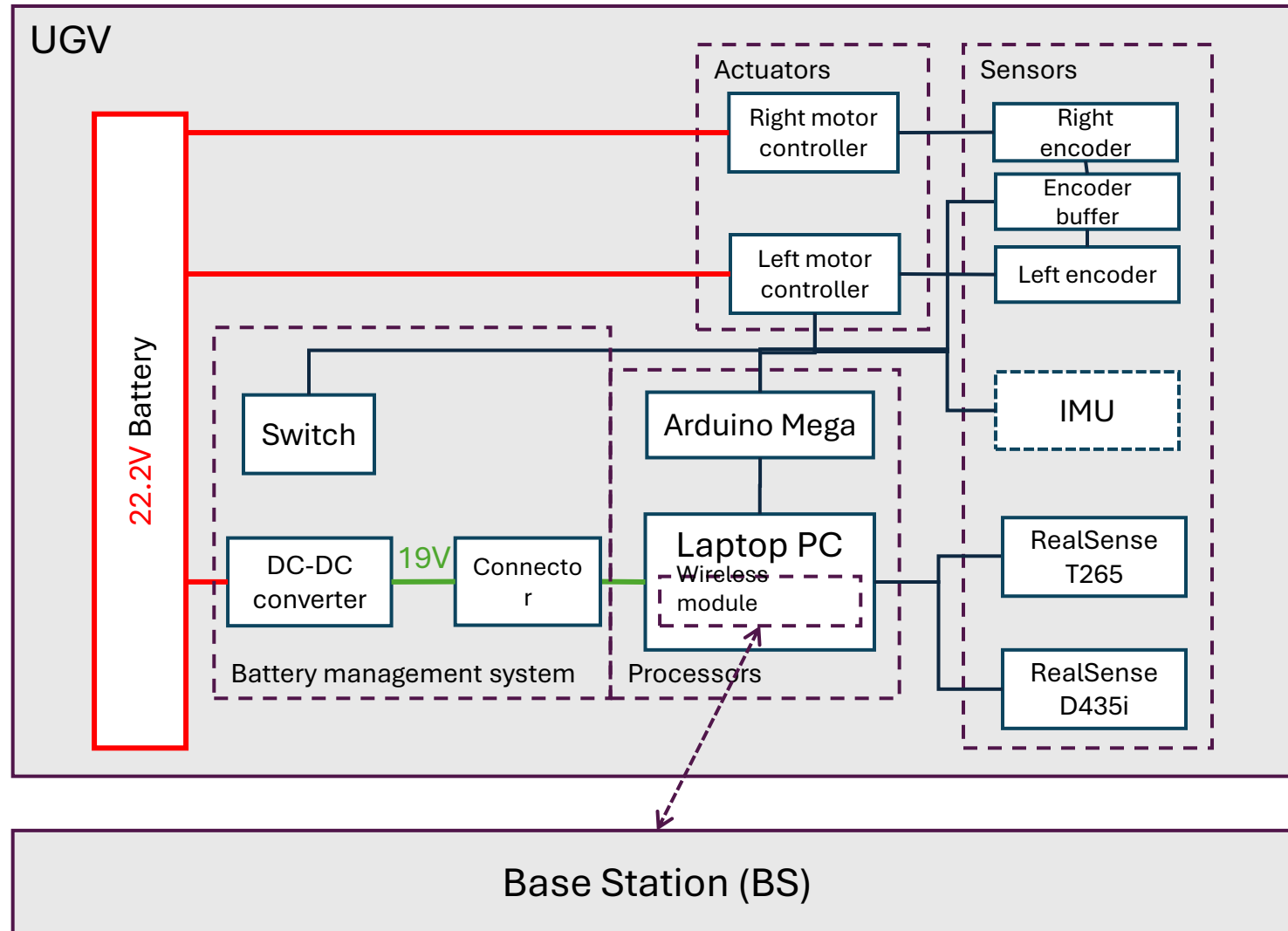
- Battery
- Arduino Mega
- Battery management system

First layer

First Layer



General Integrated System



Homework

- Complete In-class exercise
- Submit a 1-2 page report describing how to connect, read and control servomotors.
- Record a video showing the keyboard command and the motion of servomotors and submit the video in mp4 format (5 sec).