### Programming Assignment #1 (PA1): Due Monday, Sept 18th by midnight EST

### ROS Basics

* + The ROS core systems: Packaging, Buildsystems, Messaging, CLI & GUI tools, creating packages, nodes, topics, services, and parameters.
  + Writing a Simple Publisher and Subscriber (Python)
  + Examining the Simple Publisher and Subscriber
  + Writing a Simple Service and Client (Python)
  + Examining the Simple Service and Client
* Reading
  + ROS
    - [ROS Introduction](http://wiki.ros.org/ROS/Introduction)
    - [ROS Get Started Guide](http://wiki.ros.org/ROS/StartGuide) Introduction, Concepts, Higher-Level Concepts,Client Libraries,,Technical Overview
    - [ROS developer's guide](http://wiki.ros.org/DevelopersGuide)
    - [ROS Python Style Guide](http://wiki.ros.org/PyStyleGuide)
  + Useful cheat-sheets:
    - [ROS cheat-sheet for Kinetic and Catkin](http://www.ros.org/news/2015/05/ros-cheatsheet-updated-for-indigo-igloo.html)
  + Documentation on command line tools
    - [rosnode](http://wiki.ros.org/rosservice)
    - [rostopic](http://wiki.ros.org/rostopic)
    - [rosparam](http://wiki.ros.org/rosparam)
    - [rosmsg](http://wiki.ros.org/rosmsg)
* Assignments to do this week
* Install ROS Noetic http://wiki.ros.org/noetic/Installation/Ubuntu
  + Complete these [Tutorials](http://wiki.ros.org/ROS/Tutorials)
    - Installing and Configuring Your ROS Environment. ***NOTE:****in this course we will exclusively use Ubuntu 20.04 LTS and the stable ROS Noetic Release*
    - Navigating the ROS Filesystem
    - Creating a ROS Package
    - Building a ROS Package
    - Understanding ROS Nodes
    - Understanding ROS Topics
    - Understanding ROS Services and Parameters
    - Using rqt\_console and roslaunch
    - Using rosed to edit files in ROS
    - Creating a ROS msg and a ROS srv
    - Writing a publisher and subscriber in Python
    - Writing a Simple Publisher and Subscriber Python
    - Examining the Simple Publisher and Subscriber
    - Writing a service and client in Python
    - Examining the Simple Service and Client
* Assignments to hand in this week
* Assignment#2: Assignments to hand in by the deadline.
  + Write and test a publisher node that publishes a TOPIC and subscriber node that subscribes to this TOPIC.
  + Write and test a server node that provides a SERVICE and client node that calls this SERVICE
    - Check in the assignment into your gitlab account under PA1