

RBE 500 - Homework 4

Part 1 (5 pts):

4.6 (1 pt) First parametrically compute, then evaluate by plugging the values in.

4.10 (2 pts)

4.15 (2 pts)

Part 2 (5 pts):

This week we will add a new subscriber to the previous week's node that would calculate the inverse kinematics of the robot.

- Please do not create a new node; use the same one from the previous week. Do not delete anything from the previous week's implementation. Just add another subscriber that would listen to a geometry_msgs/Pose type message
http://docs.ros.org/api/geometry_msgs/html/msg/Pose.html
- The callback function of the subscriber would calculate the q values for a given pose message and print them on the screen.
- Testing Step 1: Test your node with by publishing an end effector position to the topic using the "ros2 topic pub..." command. Please do this with at least two different end effector positions.
- Testing Step 2: Verify your results: again using the "ros2 topic..." command, give the resulting q values of Testing Step 1 as an input to your forward kinematics topic, and see if you are getting the same end effector position that you have input in the first place. Please do this for all the test cases (at least two set of q values) that you had in Testing Step 1.

Deliverables: Please submit

- your ROS package,
- screenshot of your code that is commented in detail.
- screenshot of the terminal response for Testing Step 1 and Testing Step 2.

As you can see I do not ask for an additional report for Part 2 of this HW, but please be sure that your code is commented in detail so that every stage is explained.