

ECE 417 --- ROBOTICS

Lab 4, Spring 2021

For this lab you will program the inverse kinematics for the Lab-Volt robot. Add the following routine to the ones developed previously.

Write a routine which will take a 4x4 homogeneous matrix as input and will output the required joint angles for the Lab-Volt robot. You may assume that the desired position and orientation is obtainable. Your routine should return the "elbow up" solution with θ_3 positive. This routine should be tested as follows: input the 5 joint angles from the keyboard, use the forward kinematics routine of Lab #3 to compute the transformation matrix, call the routine here to recompute the joint angles, then print the recomputed angles.