

Sanskar Anil Nalkande 19110201

ITR Mini project

Task 1:

Run task1.py and move the cursor within the workspace, and the position of two links will be rendered.

Task 1 with dynamics:

Run task1_dynamics. You may input your trajectory by giving x and y coordinates in terms of time. Change the trajectory in lines 42 and 43. You can change the masses of links in lines 12 and 13.

Task 2:

Run task2.py. Change wall orientation in lines 18 and 19. Other parameters that can be changed are written there.

Task 3:

Run task3.py. In this task, I have also added a damping factor feature. If it is set to zero in line 34, the simulation will behave like a normal spring. The effect of increasing it can be seen in the simulation. Other factors such as the mean position of the spring, initial position of the end effector and stiffness of the spring can also be changed there.

Task 4:

After running task4.py, you will see a figure made of three arcs. This region represents the workspace if the angles are limited between 35 and 145 degrees. You can move inside this region and see that q_1 and q_2 never go beyond the given range.