Assignment 2:

Plots:

Joint 1 Trajectory

Joint 2 Trajectory

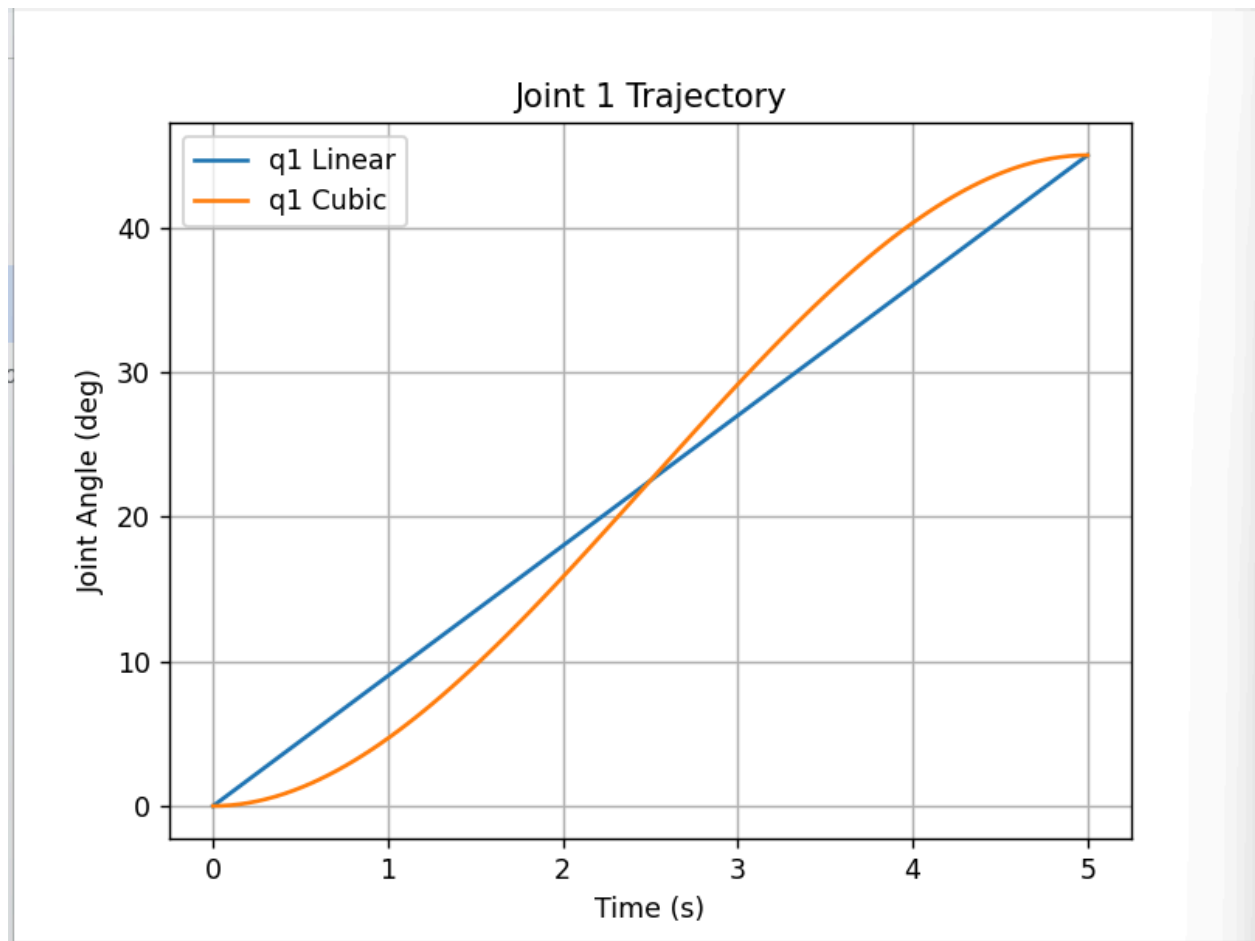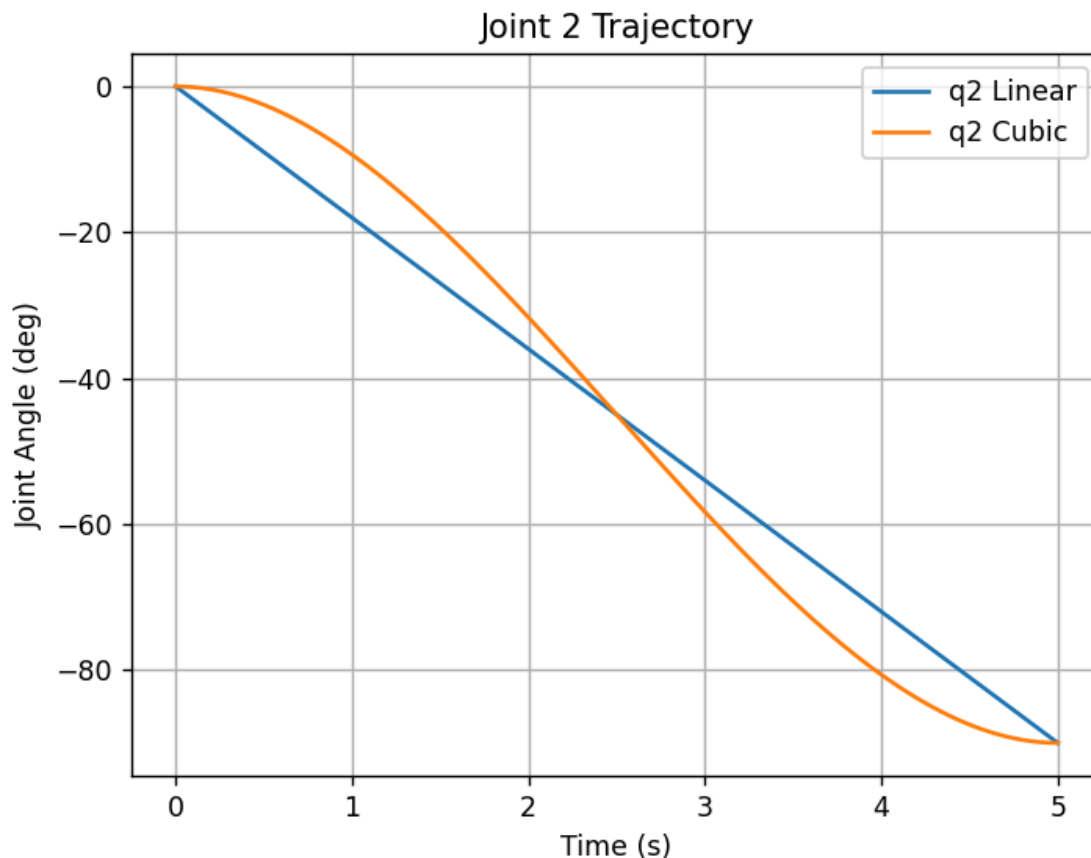## Discussion:

In the linear joint-space trajectory, the joint angles vary linearly with time, resulting in constant velocity but abrupt changes in velocity at the start and end of motion. This can cause jerky movements.

The cubic polynomial trajectory ensures zero velocity at both the start and end of motion, producing a smoother transition between configurations. This smoothness reduces mechanical wear and improves motion safety.

Compared to linear interpolation, polynomial trajectories are more suitable for real robots because they provide smoother acceleration and deceleration profiles. Therefore, smooth polynomial trajectories are preferred for practical robotic applications.