RBE501 - Homework 2
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Problem #1 - Inverse Kinematics

For this problem, I implemented a damped least squares algorithm with a lambda of 0.5. It was able to solve all of the possible configurations without issue.

Problem #2 - Inverse Kinematics

For this problem, I implemented a gradient descent algorithm with an alpha of 0.25. It was able to solve all of the possible configurations without issue.

Problem #3 - Inverse Kinematics

For this problem, I implemented a gradient descent algorithm with an alpha of 0.25. It was able to solve all of the possible configurations with the exception of the final one. At the final configuration, the determinant of the Jacobian is only 0.0047673, which is very close to 0. This indicates that the arm is close to a singularity.