

Programming Assignment 2

Numerical Optimization

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[Github link](#)

QP:

Final candidate: [0.49, 0.49, 0.00]

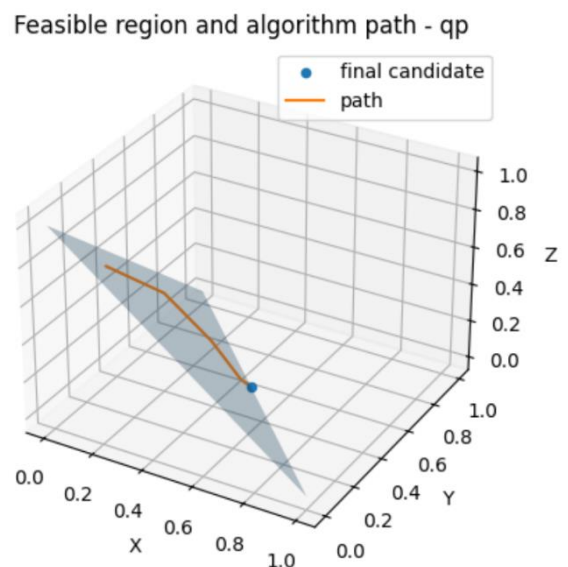
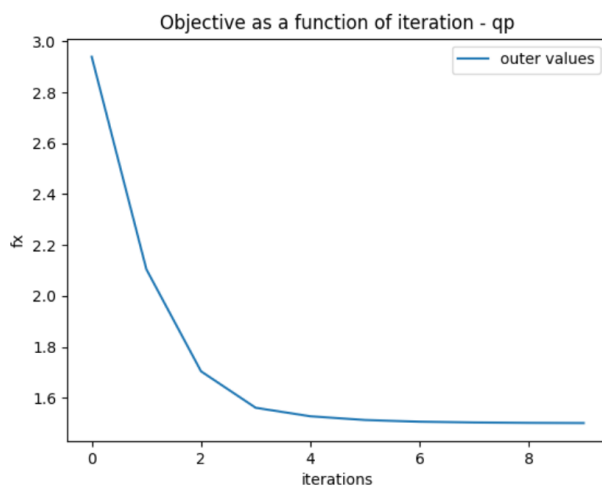
Objective function of final candidate: 1.5

At the solution point, both the inequality and equality constraints are satisfied, demonstrating that the solution meets the requirements of the problem and is feasible.

Visualization:

Feasible Region and Path Taken: The feasible region is a triangle in 3D space. The path taken by the algorithm and the final point is shown in the following plot.

Objective Value vs. Outer Iteration Number: A graph depicting the decrease in objective value across iterations. We can see that the qp is minimized effectively.



LP:

Final candidate: [1.98, 0.98]

Objective function of final candidate: -2.96

The inequality constraints at this point are satisfied, demonstrating that the solution closely aligns with the problem's requirements.

Visualization:

Feasible Region and Path Taken: The feasible region is a polygon in 2D space. The path taken by the algorithm and the final point is shown in the following plot.

Objective Value vs. Outer Iteration Number: A graph depicting the increase in objective value across iterations. We can see that the lp is minimized effectively.

