Report

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Image 1: Iteration-wise Objective Values for LP

This graph shows the objective values at each iteration of a linear programming (LP) algorithm. The y-axis represents the objective value, and the x-axis shows the iteration number. The rapid decrease between iterations 3 and 4 suggests a significant improvement in the objective value, followed by stabilization, indicating that the algorithm has likely converged to an optimal solution.
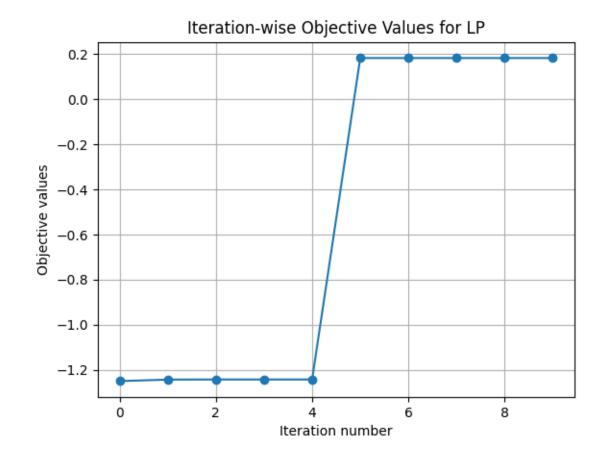
Image 2: Algorithm Path within LP Feasible Region

This plot displays the path taken by the algorithm within the feasible region of the LP problem. Various constraints ($y = 0$, $y = 1$, $x = 2$, $y = -x + 1$) define the feasible region. The graph traces the algorithm's progression from an initial point to the final candidate solution, visually representing how the algorithm navigates through the feasible space to optimize the objective function.
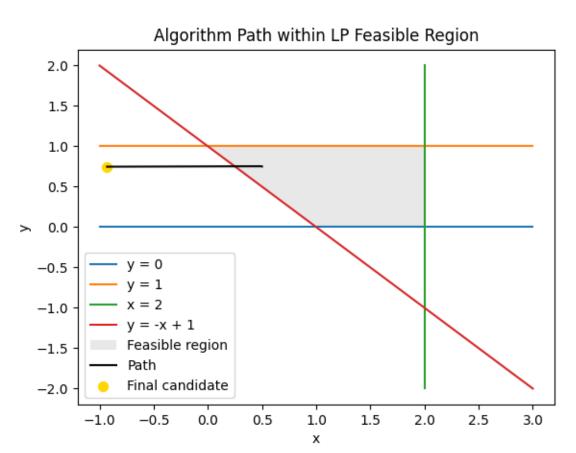
Image 3: Iteration-wise Objective Values for QP

Similar to the first image, this graph shows the objective values per iteration for a quadratic programming (QP) problem. The graph shows a continuous decrease in the objective value, indicating that the algorithm is effectively finding lower values of the objective function, moving towards the minimum.

Image 4: Algorithm Path within QP Feasible Region

This 3D plot illustrates the path of an optimization algorithm in a quadratic programming feasible region. The axes represent the variables of the QP problem (x, y, z), and the path is marked leading to the final candidate solution. This visualization helps in understanding how the algorithm explores the multidimensional feasible space to arrive at an optimal solution.

Iteration-wise Objective Values for LP

Algorithm Path within LP Feasible Region

Iteration-wise Objective Values for QP

Algorithm Path within QP Feasible Region