

Visualizing Linear Programming

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Abstract

Linear Programming (LP) is a mathematical technique for optimizing a linear objective function, such as maximizing profit or minimizing cost, subject to a set of linear constraints. This project focuses on developing an interactive learning tool for LP using GeoGebra, a dynamic graphing and algebra platform. By leveraging GeoGebra's capabilities, the project will model real-world linear programming problems, allowing users to visualize and explore feasible regions, objective functions, and optimal solutions. This interactive approach aims to enhance understanding of LP concepts and improve problem-solving skills by providing an engaging and immersive educational experience. The project is intended to support students and educators in fields such as economics, business, and engineering, where LP plays a critical role in decision-making and optimization tasks.

Keywords

Linear Programming, Optimization, GeoGebra, Feasible Region, Objective Function, Interactive Learning, Visualization, Problem-Solving Skills, Decision-Making, Mathematical Modeling.