Solving the Generalized Trapezoidal Fuzzy Number Linear Programming Problem

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ABSTRACT

This research was aimed to determine a ranking function of generalized trapezoidal fuzzy number and the optimum solution of a generalized trapezoidal fuzzy numbers linear programming problem using generalized fuzzy simplex method. The results of this research: we have defined a ranking function of thegeneralized trapezoidal fuzzy numbers is . Based on this definition We have constructed an algorithm to solve the generalized trapezoidal fuzzy numbers linear programming problem that is called as generalized fuzzy simplex method.

Generalization of "DKN Fuzzy Simpleks" application program was developed to solve trapezoidal fuzzy linear program (FLP) with an objective function to maximize. The method used in this application is fuzzy simplex. The research stage begins by examining the classical simplex method and fuzzy simplex. Both methods are adopted to arrange the algorithm of generalized fuzzy simplex that used to solve trapezoidal FLP with maximum unstandard case. Then the algorithm implemented in computer program with MATLAB based. The result obtain from this research is the algorithm of generalized fuzzy simplex can solve a maximum unstandard case of trapezoidal FLP. The algorithm can be used to computer program so that it could make new application, which is "Big M Fuzzy Simplex" as generalization of the application for 'DKN Fuzzy Simpleks'

Kata Kunci: *fuzzy linear programming, generalized trapezoidal fuzzy number, fuzzy simplex method, Big M Fuzzy*