

ABSTRACT

AN IMPROVEMENT IN IMPLICIT ENUMERATION

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Zero-one programming can be effectively used to formulate and help resolve many commonly encountered management decision problems. However, the formulation itself often takes on a large-scale that cannot easily be solved by current optimization methods. The most common approach for obtaining an approximate solution is to stop the calculations after a fixed time period and to use the best known solution at that time, even though only a small number of iterations may have been performed.

This paper presents an improved algorithm for solving zero-one programming problems, especially those of large-scale, based on implicit enumeration. The algorithm results in a good initial feasible solution and in rapid convergence to the optimal solution in a small number of iterations. It can also be used to obtain close approximate solutions by stopping the calculation after very few iterations.