

Updating the Product Form of the Inverse for the Revised Simplex Method

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Summary

A method is proposed by which the number of transformation matrices in the product form of the inverse for the revised simplex method of solution of linear programs need never exceed the number of rows in the problem.

The method is offered with a view to partially alleviating one of the principal disadvantages of the traditional product form algorithm, namely, the need for frequent re-inversions of the basis in order to reduce the number of transformations, without sacrificing too much of its advantages, such as the sparseness of the inverse and the ease with which the inverse is kept current. The chief advantage of this proposal is that the number of nonzeros in the inverse representation is conserved and remains approximately constant after the initial buildup.

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