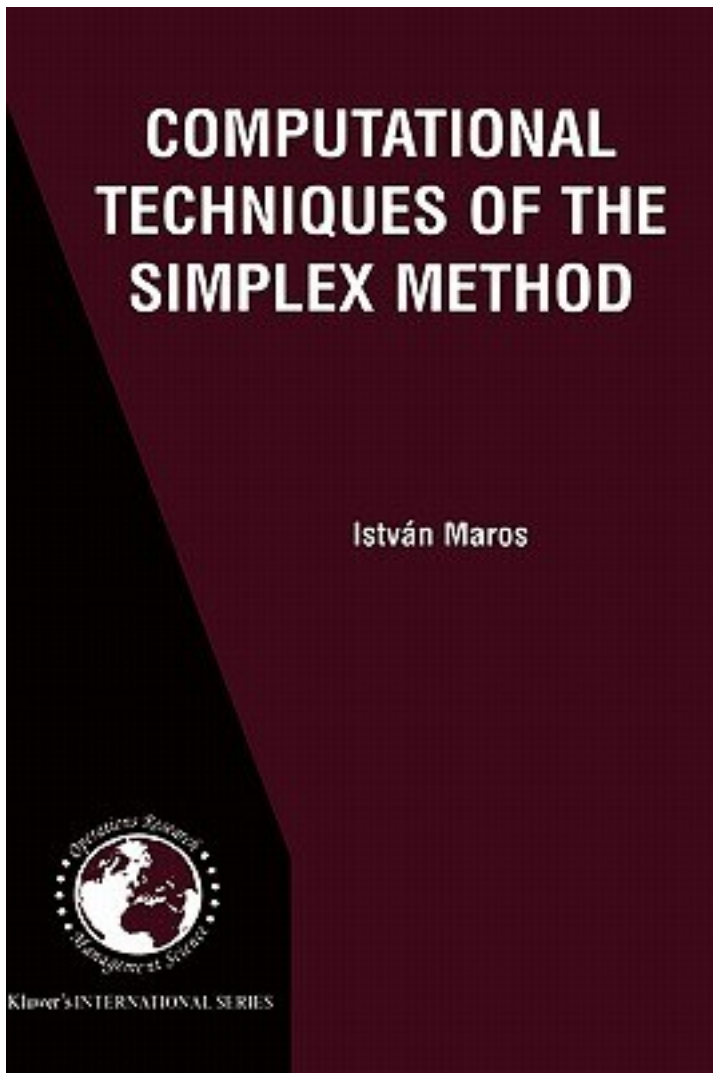


Computational Techniques of the Simplex Method



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著者:Maros, Istvan

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In the book Istvan Maros is publishing now, he discloses his secrets and presents them to the interested readers. The book is, however, not only about that. It presents a comprehensive description of those algorithmic elements which are needed for a state-of-the-art implementation of the simplex method, in a novel and attractive setting. Several of the results are of his own.

The main feature of the book is the presentation of a huge richness of algorithms and algorithmic components not seen in any other book on the simplex method so far. The author combines them with some known data structure methods in an intuitive way. Of particular importance are the use of piecewise linear objective functions in phase-1 and phase-2 of the dual algorithms that not only make the dual a perfect alternative to the primal but also boosts the performance of mixed

integer programming algorithms by greatly reducing the effort needed

for reoptimization in branch and bound/cut. All algorithmic elements presented in the book have been thoroughly tested.

The book can be used by specialists who develop LP solver codes customized for special purposes. It can also be used as a textbook, to teach graduate course, as well as a monograph helping to do research on the subject. It is clearly written, easy to read and deserves to be on the bookshelf of every mathematical programmer.

作者介绍:

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Part I: Preliminaries.

1. The linear programming problem.

2. The simplex method.

3. Large-scale LP problems.

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8. Basis inverse, factorization.

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