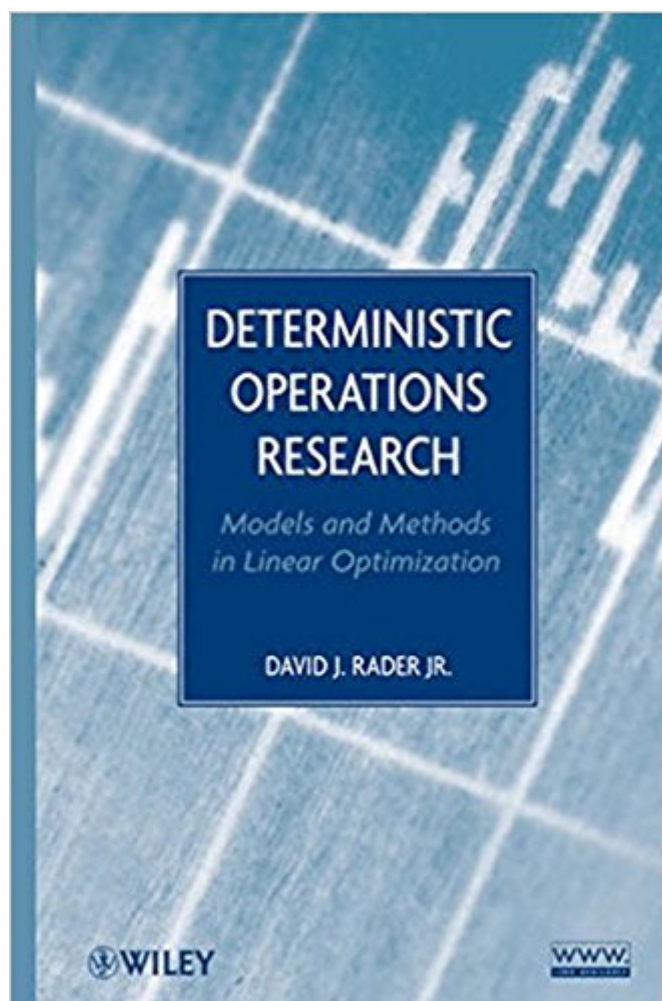The book was found

Deterministic Operations Research: Models And Methods In Linear Optimization

Synopsis

Uniquely blends mathematical theory and algorithm design for understanding and modeling real-world problems Optimization modeling and algorithms are key components to problem-solving across various fields of research, from operations research and mathematics to computer science and engineering. Addressing the importance of the algorithm design process. Deterministic Operations Research focuses on the design of solution methods for both continuous and discrete linear optimization problems. The result is a clear-cut resource for understanding three cornerstones of deterministic operations research: modeling real-world problems as linear optimization problem; designing the necessary algorithms to solve these problems; and using mathematical theory to justify algorithmic development. Treating real-world examples as mathematical problems, the author begins with an introduction to operations research and optimization modeling that includes applications form sports scheduling an the airline industry. Subsequent chapters discuss algorithm design for continuous linear optimization problems, covering topics such as convexity. FarkasÃ¢â¬â„¢ Lemma, and the study of polyhedral before culminating in a discussion of the Simplex Method. The book also addresses linear programming duality theory and its use in algorithm design as well as the Dual Simplex Method. Dantzig-Wolfe decomposition, and a primal-dual interior point algorithm. The final chapters present network optimization and integer programming problems, highlighting various specialized topics including label-correcting algorithms for the shortest path problem, preprocessing and probing in integer programming, lifting of valid inequalities, and branch and cut algorithms. Concepts and approaches are introduced by outlining examples that demonstrate and motivate theoretical concepts. The accessible presentation of advanced ideas makes core aspects easy to understand and encourages readers to understand how to think about the problem, not just what to think. Relevant historical summaries can be found throughout the book, and each chapter is designed as the continuation of the Ã¢â¬Å"storyÃ¢â¬Å• of how to both model and solve optimization problems by using the specific problems-linear and integer programs-as guides. The bookÃ¢â¬â„¢s various examples are accompanied by the appropriate models and calculations, and a related Web site features these models along with MapleÃ¢â Â¢ and MATLABÃ Â® content for the discussed calculations. Thoroughly class-tested to ensure a straightforward, hands-on approach, Deterministic Operations Research is an excellent book for operations research of linear optimization courses at the upper-undergraduate and graduate levels. It also serves as an insightful reference for individuals working in the fields of mathematics, engineering, computer science, and operations research who use and design algorithms to solve problem in their everyday work.

Book Information

Hardcover: 632 pages

Publisher: Wiley; 1 edition (September 7, 2010)

Language: English

ISBN-10: 0470484519

ISBN-13: 978-0470484517

Product Dimensions: 6.5 x 1.5 x 9.4 inches

Shipping Weight: 2.5 pounds (View shipping rates and policies)

Average Customer Review: 3.4 out of 5 stars   6 customer reviews

Best Sellers Rank: #200,631 in Books (See Top 100 in Books)   #21 inÃ Â Books > Science & Math > Mathematics > Applied > Linear Programming   #83 inÃ Â Books > Science & Math > Mathematics > Pure Mathematics > Discrete Mathematics   #2781 inÃ Â Books > Textbooks > Science & Mathematics > Mathematics

Customer Reviews

Ã¢â ¬Å"Dr. Phillips has used other texts, but he is especially enthused with this book, influenced by student feedback. He says, Ã¢â ¬Å"Algorithmic ideas are introduced at a pace that emphasizes and encourages intuitive understanding.Ã¢â ¬Â•Ã Â (Informs Journal on Computing, 1 June 2012) "The book is aimed at serving upper-undergraduate and graduate students of all fields as a comprehensive textbook or as a reference for studies on the subject." (Zentralblatt MATH, 2011) "The result is a clear-cut resource for understanding three cornerstones of deterministic operations research: modeling real-world problems as linear optimization problems; designing the necessary algorithms to solve these problems; and using mathematical theory to justify algorithmic development." (InfoTECH Spotlight - TMCnet, 8 February 2011) Ã Â

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Plenty of wrong answers, not enough explanation.

Great condition

A refreshed and more aligned approach to general constrained optimization concepts and techniques.

Great book for beginner to get some idea about the modeling.

Compared to other standard Operations Research (OR) books, this one is not friendly at all. The explanations and examples don't help much when trying to solve the problems at the end of each chapter. It has no solutions to selected problems or at least a student solution's manual so the student doesn't know if he/she is doing ok.

very well. Beyond what I expected! The price made it that much better... The seller was great he reached out to me asking how I liked the item and I felt he was genuinely caring what my opinion . Great product as a gift to my colleague, Nice and valuable. so fast, receive it next day .

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