The book was found

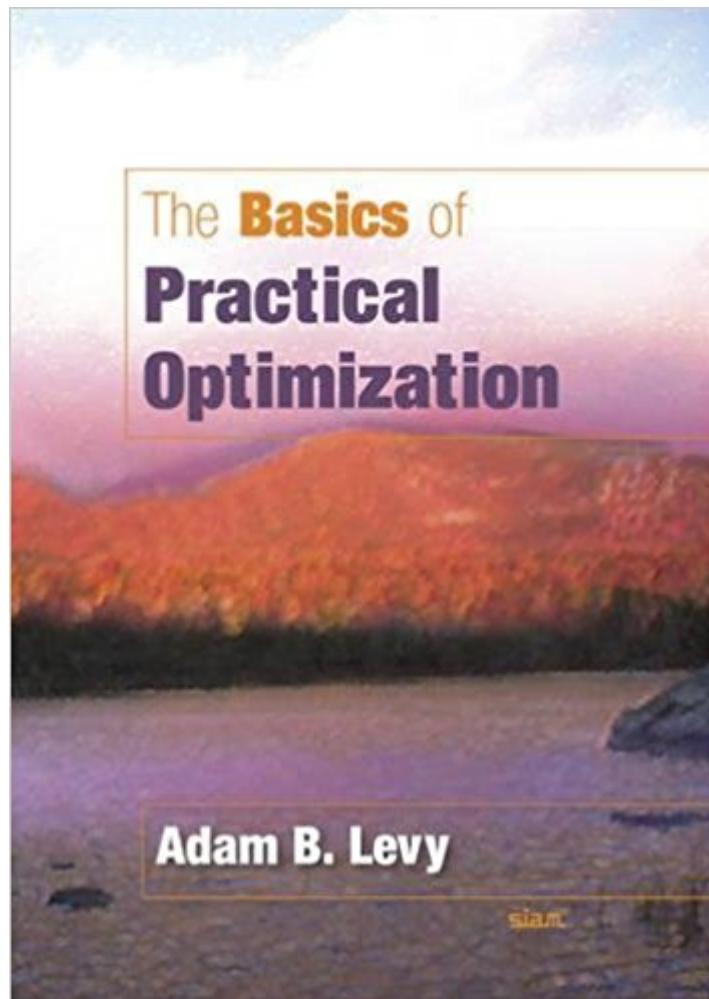# The Basics Of Practical Optimization

The Basics of **Practical Optimization**

Adam B. Levy

siam

Synopsis

This textbook provides undergraduate students with an introduction to optimization and its uses for relevant and realistic problems. The only prerequisite for readers is a basic understanding of multivariable calculus because additional material, such as explanations of matrix tools, are provided in a series of Asides both throughout the text at relevant points and in a handy appendix. The Basics of Practical Optimization presents step-by-step solutions for five prototypical examples that fit the general optimization model, along with instruction on using numerical methods to solve models and making informed use of the results. It also includes information on how to optimize while adjusting the method to accommodate various practical concerns; three fundamentally different approaches to optimizing functions under constraints; and ways to handle the special case when the variables are integers.   The author provides four levels of learn-by-doing activities through the book: Exercises meant to be attempted as they are encountered and that are short enough for in-class use; Problems for lengthier in-class work or homework; Computational Problems for homework or a computer lab session; and Implementations usable as collaborative activities in the computer lab over extended periods of time The accompanying Web site offers the Mathematica notebooks that support the Implementations. Audience: This textbook is appropriate for undergraduate students who have taken a multivariable calculus course.   Contents: List of Figures; List of Tables; Preface; Chapter 1: Modeling; Chapter 2: Impractical Optimization; Chapter 3: Basic Practical Optimization; Chapter 4: Some Practical Modifications; Chapter 5: How Methods Are Ranked; Chapter 6: Constraints; Chapter 7: More Practical Modifications; Chapter 8: Integer Variables; Chapter 9: Other Methods; Appendix of Asides; Bibliography; Index

Book Information

Paperback: 167 pages

Publisher: Society for Industrial and Applied Mathematics (June 10, 2009)

Language: English

ISBN-10: 0898716799

ISBN-13: 978-0898716795

Product Dimensions: 6.8 x 0.4 x 9.7 inches

Shipping Weight: 10.4 ounces (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars   1 customer review

Best Sellers Rank: #799,133 in Books (See Top 100 in Books)   #122 inÃ Â Books > Science & Math > Mathematics > Applied > Linear Programming   #2419 inÃ Â Books > Textbooks > Science

Customer Reviews

Using relevant and realistic problems, this book gives undergraduate students an introduction to optimization and its applications. All that readers need is a basic understanding of multivariable calculus. To build on the material in the text, the author provides many learn-by-doing exercises throughout the book.

Adam Levy is Professor and Chair of the Department of Mathematics at Bowdoin College. He was recognized in 1997 with the college's Sydney B. Korofsky prize for excellence in undergraduate teaching and has published over two dozen journal articles on optimization.

This is a nicely written intro to optimization. This book will be ideal to those who have a background in calculus and would like to take the next step. The authors also have a number of 'asides' to help the reader come up to speed on key concepts such as matrices, quadratic functions, eigenvalues/vectors; these only serve as reminder and to establish notation. However, a reader with a strong background in multi-variable calculus will have no problems following the materials presented in the book. Another nice feature is that the author includes a number of short exercises after each key concept, whose answer(s) serve to concolidate the discussion in subsequent paragraphs.

Download to continue reading...

The Little Book on Digital Marketing SEO - Search Engine Optimization: Tips and tricks for keyword research in SEO or Search Engine Optimization Engineering Design Optimization using Calculus Level Methods: A Casebook Approach: Math Modeling, Simulation, & Optimization Introduction to Linear Optimization (Athena Scientific Series in Optimization and Neural Computation, 6) Pyomo Ã¢â ¬â ¢ Optimization Modeling in Python (Springer Optimization and Its Applications) The Basics of Practical Optimization Basics of R/C Model Aircraft Design: Practical Techniques for Building Better Models: Practical Techniques for Building Better Models WP205 - Bastien Piano Basics - Theory - Primer Level (Primer Level/Bastien Piano Basics Wp205) WP210 - Bastien Piano Basics - Performance - Primer Level (Primer Level/Bastien Piano Basics Wp210) A Workbook for New Testament Syntax: Companion to Basics of New Testament Syntax and Greek Grammar Beyond the Basics How To Play Checkers - The Rules And Basics Of The Checkers Game! Learn The

Checkers Rules And The Checkers Basics Plane Basics (Basics Series) Router Basics (Basics Series) Scroll Saw Basics (Basics Series) Radial Arm Saw Basics (Basics Series) Table Saw Basics (Basics Series) The Complete Beginners Guide to Raising Small Animals: Everything You Need to Know About Raising Cows, Sheep, Chickens, Ducks, Rabbits, and More (Back-To-Basics) (Back to Basics Farming) Back to Basics: A Complete Guide to Traditional Skills (Back to Basics Guides) Common Core Basics, Science Core Subject Module (BASICS & ACHIEVE) Beyond the Basics: Gourd Art (Beyond the Basics (Sterling Publishing)) Beyond the Basics: Mosaics (Beyond the Basics (Sterling Publishing))