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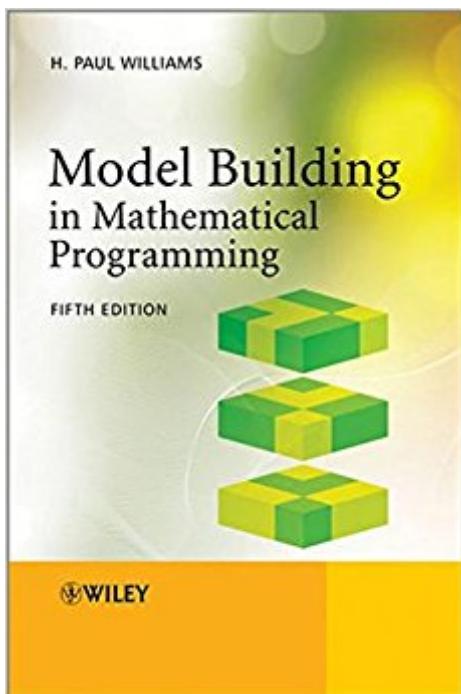# Model Building In Mathematical Programming

H. PAUL WILLIAMS

Model Building
in Mathematical
Programming

FIFTH EDITION

WILEY

Synopsis

The 5th edition of Model Building in Mathematical Programming discusses the general principles of model building in mathematical programming and demonstrates how they can be applied by using several simplified but practical problems from widely different contexts. Suggested formulations and solutions are given together with some computational experience to give the reader a feel for the computational difficulty of solving that particular type of model. Furthermore, this book illustrates the scope and limitations of mathematical programming, and shows how it can be applied to real situations. By emphasizing the importance of the building and interpreting of models rather than the solution process, the author attempts to fill a gap left by the many works which concentrate on the algorithmic side of the subject. Ã Â In this article, H.P. Williams explains his original motivation and objectives in writing the book, how it has been modified and updated over the years, what is new in this edition and why it has maintained its relevance and popularity over the years:Ã Â http://www.statisticsviews.com/details/feature/4566481/Model-Building-in-Mathematical-Programming-published-in-fifth-edition.htmlÃ Â Ã Â

Book Information

Paperback: 432 pages

Publisher: Wiley; 5 edition (March 4, 2013)

Language: English

ISBN-10: 1118443330

ISBN-13: 978-1118443330
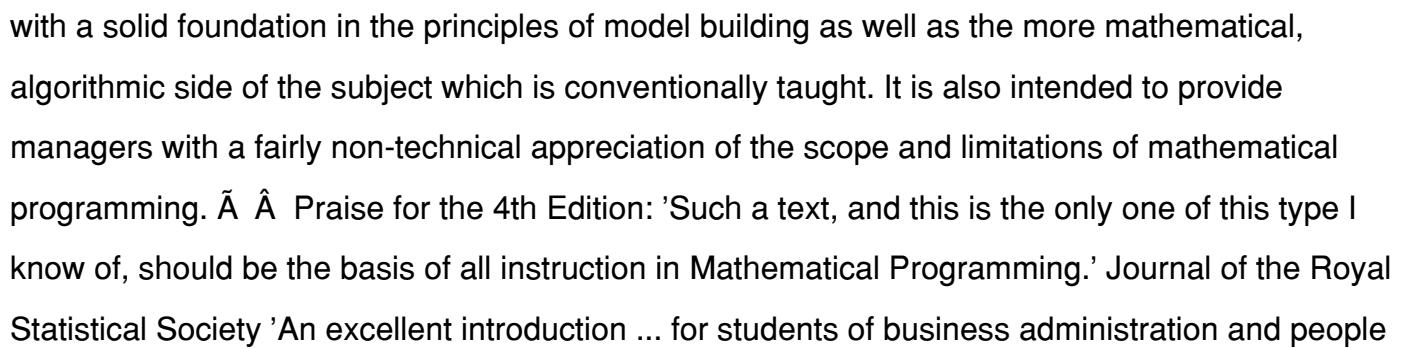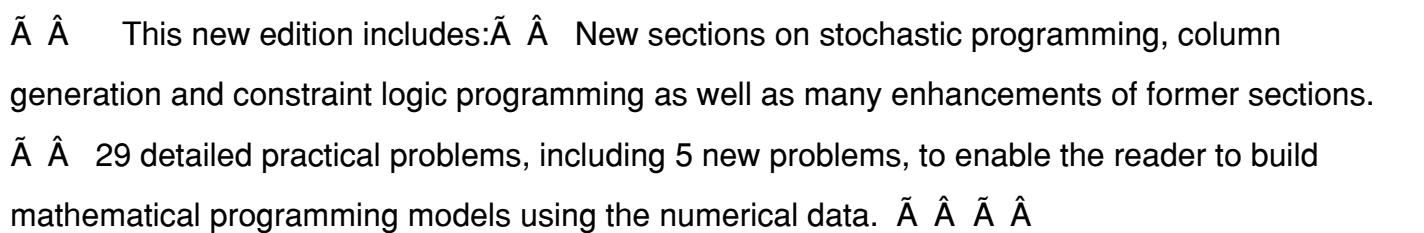
Product Dimensions: 6 x 0.8 x 9.1 inches

Shipping Weight: 1.2 pounds (View shipping rates and policies)

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Best Sellers Rank: #683,440 in Books (See Top 100 in Books)   #103 inÃ Â Books > Science & Math > Mathematics > Applied > Linear Programming   #639 inÃ Â Books > Business & Money > Management & Leadership > Management Science   #767 inÃ Â Books > Business & Money > Management & Leadership > Production & Operations

Customer Reviews

Model Building in Mathematical Programming covers a wide range of applications in many diverse areas, such as operational research, systems engineering, agriculture, energy planning, mining, logistics and distribution, computer science, management science, statistics, applied mathematics and mathematical biology. Model Building in Mathematical Programming aims to provide students

with a solid foundation in the principles of model building as well as the more mathematical, algorithmic side of the subject which is conventionally taught. It is also intended to provide managers with a fairly non-technical appreciation of the scope and limitations of mathematical programming. Ã Â Praise for the 4th Edition: 'Such a text, and this is the only one of this type I know of, should be the basis of all instruction in Mathematical Programming.' Journal of the Royal Statistical Society 'An excellent introduction ... for students of business administration and people who want to see the utility of operations research.' European Journal of Operational Research Ã Â Ã Â   This new edition includes:Ã Â New sections on stochastic programming, column generation and constraint logic programming as well as many enhancements of former sections. Ã Â 29 detailed practical problems, including 5 new problems, to enable the reader to build mathematical programming models using the numerical data. Ã Â Ã Â

H. Paul Williams, London School of Economics, UK

The fifth edition came out in 2013 and it's exactly what I was looking for. It's current and it feels current. It's well-written and organized, with many worked examples, including 29 problems in chapters 12-14.These 29 examples are pretty clever, and make up all of Section II (chapters 12-14). For example, 12.1 describes a food manufacturing (blending) problem in sufficient detail for you to create a model. 13.1 describes the model, broken down into a one-month solution (13.1.1) and the more-complex ongoing production problem (31.1.2). Last, 14.1 describes the answer you get from the model in 13.1.I'm not trained in OR, but have a bit of practical experience in creating a model in GMPL, and the book's exactly what I needed. It talks about mathematical modeling in general and touches on things like constraint programming, then covers designing a linear model, structured linear models (i.e. linear models with sub models), and various linear model applications. Then it covers the interpretation of linear models, and looks at non-linear models before falling into the longest part (two chapters) on integer programming. That's Section I, which is followed by Section II and its 29 examples.If you're new to linear programming or have some self-taught experience, this is a perfect book. It has a lot of insights, well-organized, and the examples are very valuable. I'm totally satisfied!

This book has no code. It isn't written for any particular solver. It simply (and critically importantly) helps you think about a very broad range of problems and then do the math formulation for them. With that you can implement the result in whatever API for whatever solver you want. A really great

book that has and will stand the test of time (with a few small exceptions given some new modeling techniques).

It is a perfect book for who want to learn Mathematical Modeling and Mathematical Programming for linear and non linear optimization and multigoal programming

Great book!!

The first edition was excellent and Paul Williams has added scope and more examples to each new edition. An essential companion for all Operations Research students and for experienced professionals.

Nice book for beginners not much complicated math. I would have loved to have it in hard cover though. Have to see how long the paperback is gonna last with my intense use.

Great examples, concise and well structured reference

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