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Autore	Kolman Bernard
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Nota di contenuto	Front Cover; Elementary Linear Programming with Applications; Copyright Page; Dedication; Table of Contents; Preface; Acknowledgments; Prologue; Chapter 0. Review of Linear Algebra (Optional); 0.1 Matrices; 0.2 Gauss-Jordan Reduction; 0.3 The Inverse of a Matrix; 0.4 Subspaces; 0.5 Linear Independence and Basis; Further Reading; Chapter 1. Introduction to Linear Programming; 1.1 The Linear Programming Problem; 1.2 Matrix Notation; 1.3 Geometry of Linear Programming Problems; 1.4 The Extreme Point Theorem; 1.5 Basic Solutions; Further Reading; Chapter 2. The Simplex Method 2.1 The Simplex Method for Problems in Standard Form2.2 Degeneracy and Cycling (Optional); 2.3 Artificial Variables; Further Reading; Chapter 3. Further Topics in Linear Programming; 3.1 Duality; 3.2 The Duality Theorem; 3.3 Computational Relations between the Primal and Dual Problems; 3.4 The Dual Simplex Method; 3.5 The Revised Simplex Method; 3.6 Sensitivity Analysis; 3.7 Computer Aspects (Optional); Further Reading; Chapter 4. Integer Programming; 4.1 Examples; 4.2 Cutting Plane Methods; 4.3 Branch and Bound Methods; 4.4 Computer Aspects (Optional); Further Reading Chapter 5. Special Types of Linear Programming Problems5.1 The Transportation Problem; 5.2 The Assignment Problem; 5.3 Graphs and Networks: Basic Definitions; 5.4 The Maximal Flow Problem; 5.5 The Shortest Route Problem; 5.6 The Critical Path Method; 5.7 Computer

Aspects (Optional); APPENDIX A: Karmarkar's Algorithm; APPENDIX B: Microcomputer Software; APPENDIX C: SMPX; Answers to Odd-Numbered Exercises; Index

Sommario/riassunto

Linear programming finds the least expensive way to meet given needs with available resources. Its results are used in every area of engineering and commerce: agriculture, oil refining, banking, and air transport. Authors Kolman and Beck present the basic notions of linear programming and illustrate how they are used to solve important common problems. The software on the included disk leads students step-by-step through the calculations. The Second Edition is completely revised and provides additional review material on linear algebra as well as complete coverage of elementary linear program
