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| 1. Record Nr. | UNINA9910254929403321 |
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| Titolo | Linear and Nonlinear Programming // by David G. Luenberger, Yinyu Ye |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016 |
| ISBN | 3-319-18842-9 |
| Edizione | [4th ed. 2016.] |
| Descrizione fisica | 1 online resource (XIII, 546 p. 90 illus.) |
| Collana | International Series in Operations Research & Management Science, , 0884-8289 ; ; 228 |
| Disciplina | 519.72 |
| Soggetti | Operations research Decision making Management science Mathematical models Engineering economy Operations Research/Decision Theory Operations Research, Management Science Mathematical Modeling and Industrial Mathematics Engineering Economics, Organization, Logistics, Marketing |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Bibliographic Level Mode of Issuance: Monograph |
| Nota di contenuto | Introduction -- Part I Linear Programming -- Basic Properties of Linear Programs -- The Simplex Method -- Duality and Complementarity -- Interior-Point Methods -- Conic Linear Programming -- Part II Unconstrained Problems -- Basic Properties of Solutions and Algorithms -- Basic Descent Methods -- Conjugate Direction Methods -- Quasi-Newton Methods -- Part III Constrained Minimization -- Constrained Minimization Conditions -- Primal Methods -- Penalty and Barrier Methods -- Duality and Dual Methods -- Primal-Dual Methods -- Appendix A: Mathematical Review -- Appendix B: Convex Sets -- Appendix C: Gaussian Elimination -- Appendix D: Basic Network Concepts. |
| Sommario/riassunto | This new edition covers the central concepts of practical optimization techniques, with an emphasis on methods that are both state-of-the- |

art and popular. Again a connection between the purely analytical character of an optimization problem and the behavior of algorithms used to solve the problem. As in the earlier editions, the material in this fourth edition is organized into three separate parts. Part I is a self-contained introduction to linear programming covering numerical algorithms and many of its important special applications. Part II, which is independent of Part I, covers the theory of unconstrained optimization, including both derivations of the appropriate optimality conditions and an introduction to basic algorithms. Part III extends the concepts developed in the second part to constrained optimization problems. It is possible to go directly into Parts II and III omitting Part I, and, in fact, the book has been used in this way in many universities.

<new to="" this="" edition="" is="" a="" chapter="" devoted=""
conic="" linear="" programming,="" powerful="" generalization=""
of="" programming.="" indeed,="" many="" structures="" are=""
possible="" and="" useful="" in="" variety="" applications.="" it=""
must="" be="" recognized,="" however,="" that="" programming=""
an="" advanced="" topic,="" requiring="" special="" study.="" other=""
important="" popular="" topics="" include="" (1)="" accelerated=""
steepest="" descent="" method="" exhibits="" superior=""
convergence="" properties="" (2)="" the="" alternating="" direction=""
with="" multipliers="" (admm)="" can="" implemented=""
distributionally.="" proof="" property="" for="" both="" standard=""
methods="" presented="" 8,="" analysis="" admm="" 14="" as=""
dual="" method.="" previous="" editions,="" end-of-chapter=""
exercises="" appear="" most="" chapters. From the reviews of the Third Edition "...this very well-written book is a classic textbook in Optimization. It should be present in the bookcase of each student, researcher, and specialist from the host of disciplines from which practical optimization applications are drawn." (Jean-Jacques Strodiot, Zentralblatt MATH, Vol.1207, 2011).
