Record Nr. UNINA9910457591403321 Autore Lee Jon <1960-> Titolo A first course in combinatorial optimization / / Jon Lee [[electronic resource]] Cambridge:,: Cambridge University Press,, 2004 Pubbl/distr/stampa 1-107-14425-6 **ISBN** 0-511-64815-4 0-511-18783-1 0-511-56155-5 0-511-61665-1 0-511-18690-8 Descrizione fisica 1 online resource (xvi, 211 pages): digital, PDF file(s) Collana Cambridge texts in applied mathematics:: 36 Disciplina 519.6/4 Soggetti Combinatorial optimization Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Title from publisher's bibliographic system (viewed on 05 Oct 2015). Nota di bibliografia Includes bibliographical references (p. 207-208) and indexes. Polytopes and Linear Programming -- 1. Matroids and the Greedy Nota di contenuto Algorithm -- 2. Minimum-Weight Dipaths -- 3. Matroid Intersection --4. Matching -- 5. Flows and Cuts -- 6. Cutting Planes -- 7. Branch-&-Bound -- 8. Optimizing Submodular Functions. A First Course in Combinatorial Optimization is a 2004 text for a one-Sommario/riassunto semester introductory graduate-level course for students of operations research, mathematics, and computer science. It is a self-contained treatment of the subject, requiring only some mathematical maturity. Topics include: linear and integer programming, polytopes, matroids and matroid optimization, shortest paths, and network flows. Central to the exposition is the polyhedral viewpoint, which is the key principle underlying the successful integer-programming approach to combinatorial-optimization problems. Another key unifying topic is matroids. The author does not dwell on data structures and implementation details, preferring to focus on the key mathematical ideas that lead to useful models and algorithms. Problems and exercises are included throughout as well as references for further study.