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Nota di contenuto	Cover; Title Page; Copyright; Contents; Preface; PART I: Complexity of CombinatorialOptimization Problems; Chapter 1: Basic Concepts in Algorithmsand Complexity Theory; 1.1. Algorithmic complexity; 1.2. Problem complexity; 1.3. The classes P, NP and NPO; 1.4. Karp and Turing reductions; 1.5. NP-completeness; 1.6. Two examples of NP-complete problems; 1.6.1. MIN VERTEX COVER; 1.6.2. MAX STABLE; 1.7. A few words on strong and weak NP-completeness; 1.8. A few other well-known complexity classes; 1.9. Bibliography; Chapter 2: Randomized Complexity; 2.1. Deterministic and probabilistic algorithms 2.1.1. Complexity of a Las Vegas algorithm2.1.2. Probabilistic complexity of a problem; 2.2. Lower bound technique; 2.2.1. Definitions and notations; 2.2.2. Minimax theorem; 2.2.3. The Loomis lemma and the Yao principle; 2.3. Elementary intersection problem; 2.3.1. Upper bound; 2.3.2. Lower bound; 2.3.3. Probabilistic complexity; 2.4. Conclusion; 2.5. Bibliography; PART II: Classical Solution Methods; Chapter 3: Branch-and-Bound Methods; 3.1. Introduction; 3.2. Branch-and-bound method principles; 3.2.1. Principle of separation; 3.2.2. Pruning principles; 3.2.2.1. Bound

Sommario/riassunto

Combinatorial optimization is a multidisciplinary scientific area, lying in the interface of three major scientific domains: mathematics, theoretical computer science and management. The three volumes of the Combinatorial Optimization series aim to cover a wide range of topics in this area. These topics also deal with fundamental notions and approaches as with several classical applications of combinatorial optimization.Concepts of Combinatorial Optimization, is divided into three parts:- On the complexity of combinatorial optimization problems, presenting basics about worst-case and randomi