1. Record Nr. UNINA9910812487503321 Autore Deroussi Laurent Titolo Metaheuristics for logistics . Volume 4 / / Laurent Deroussi Pubbl/distr/stampa London, England; ; Hoboken, New Jersey:,: iSTE:,: Wiley,, 2016 ©2016 **ISBN** 1-119-13666-0 1-119-13659-8 Edizione [1st edition] Descrizione fisica 1 online resource (177 p.) Collana Computer Engineering Series Disciplina 388.310285 Soggetti Transportation problems (Programming) Mathematical optimization Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Table of Contents; Title; Copyright; Introduction; PART 1: Basic Notions; 1 Introductory Problems; 1.1. The "swing states" problem; 1.2. Adel and his camels; 1.3. Sauron's forges; 2 A Review of Logistic Problems; 2.1. Some history; 2.2. Some polynomial problems; 2.3. Packing problems; 2.4. Routing problems; 2.5. Production scheduling problems; 2.6. Lotsizing problems; 2.7. Facility location problems; 2.8. Conclusion; 3 An Introduction to Metaheuristics; 3.1. Optimization problems; 3.2. Metaheuristics: basic notions; 3.3. Individual-based metaheuristics; 3.4. Population-based metaheuristics 3.5. Conclusion4 A First Implementation of Metaheuristics; 4.1. Representing a list of objects; 4.2. The implementation of a local search; 4.3. The implementation of individual-based metaheuristics; 4.14. Conclusion; PART 2: Advanced Notions; 5 The Traveling Salesman Problem; 5.1. Representing a solution: the two-level tree structure; 5.2. Constructing initial solutions; 5.3. Neighborhood systems; 5.4. Some results; 5.5. Conclusion; 6 The Flow-Shop Problem; 6.1. Representation and assessment of a solution; 6.2. Construction of the initial solution; 6.3. Neighborhood systems; 6.4. Results 6.5. Conclusion 7 Some Elements for Other Logistic Problems; 7.1. Direct representation versus indirect representation; 7.2. Conditioning

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Sommario/riassunto

This book describes the main classical combinatorial problems that can be encountered when designing a logistics network or driving a supply chain. It shows how these problems can be tackled by metaheuristics, both separately and using an integrated approach. A huge number of techniques, from the simplest to the most advanced ones, are given for helping the reader to implement efficient solutions that meet its needs. A lot of books have been written about metaheuristics (methods for solving hard optimization problems) and supply chain management (the field in which we find a huge number of combinatorial optimization problems) in the last decades. So, the main reason of this book is to describe how these methods can be implemented for this class of problems.