

1. Record Nr.	UNINA9910812920303321
Autore	Applegate David L
Titolo	The traveling salesman problem : a computational study // David L. Applegate ... [et al.]
Pubbl/distr/stampa	Princeton, : Princeton University Press, c2006
ISBN	1-283-25611-8 9786613256119 1-4008-4110-0
Edizione	[Course Book]
Descrizione fisica	1 online resource (606 p.)
Collana	Princeton series in applied mathematics
Disciplina	511.6
Soggetti	Traveling salesman problem
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"A Princeton University Press e-book."--Cover.
Nota di bibliografia	Includes bibliographical references (p. [541]-581) and index.
Nota di contenuto	Front matter -- Contents -- Preface -- Chapter 1. The Problem -- Chapter 2. Applications -- Chapter 3. Dantzig, Fulkerson, and Johnson -- Chapter 4. History of TSP Computation -- Chapter 5. LP Bounds and Cutting Planes -- Chapter 6. Subtour Cuts and PQ-Trees -- Chapter 7. Cuts from Blossoms and Blocks -- Chapter 8. Combs from Consecutive Ones -- Chapter 9. Combs from Dominoes -- Chapter 10. Cut Metamorphoses -- Chapter 11. Local Cuts -- Chapter 12. Managing the Linear Programming Problems -- Chapter 13. The Linear Programming Solver Chapter 14. Branching -- Chapter 14. Branching -- Chapter 15. Tour Finding -- Chapter 16. Computation -- Chapter 17. The Road Goes On -- Bibliography -- Index
Sommario/riassunto	This book presents the latest findings on one of the most intensely investigated subjects in computational mathematics--the traveling salesman problem. It sounds simple enough: given a set of cities and the cost of travel between each pair of them, the problem challenges you to find the cheapest route by which to visit all the cities and return home to where you began. Though seemingly modest, this exercise has inspired studies by mathematicians, chemists, and physicists. Teachers use it in the classroom. It has practical applications in genetics, telecommunications, and neuroscience. The authors of this book are the same pioneers who for nearly two decades have led the investigation into the traveling salesman problem. They have derived

solutions to almost eighty-six thousand cities, yet a general solution to the problem has yet to be discovered. Here they describe the method and computer code they used to solve a broad range of large-scale problems, and along the way they demonstrate the interplay of applied mathematics with increasingly powerful computing platforms. They also give the fascinating history of the problem--how it developed, and why it continues to intrigue us.

---