1. **Record Nr.**   UNINA9910586577103321

    Autore   Nickel Stefan

    Titolo   Decision Optimization with IBM ILOG CPLEX Optimization Studio : A Hands-On Introduction to Modeling with the Optimization Programming Language (OPL) / / by Stefan Nickel, Claudius Steinhardt, Hans Schlenker, Wolfgang Burkart

    Pubbl/distr/stampa Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2022

    ISBN   3-662-65481-4

    Edizione   [1st ed. 2022.]

    Descrizione fisica 1 online resource (279 pages)

    Collana   Graduate Texts in Operations Research, , 2662-6020

    Disciplina   003.35133

    Soggetti   Operations research
                           Business mathematics
                           Management science
                           Computer software
                           Business information services
                           Operations Research and Decision Theory
                           Business Mathematics
                           Operations Research, Management Science
                           Mathematical Software
                           IT in Business

    Lingua di pubblicazione Inglese

    Formato   Materiale a stampa

    Livello bibliografico Monografia

    Nota di bibliografia Includes bibliographical references and index.

    Nota di contenuto Part 1: Lessons -- Chapter 1: Introduction -- Chapter 2: IBM ILOG CPLEX Optimization Studio—A primer -- Chapter 3: Setting up a model -- Chapter 4: Data structures and related OPL language elements -- Chapter 5: Introduction to IBM ILOG Script -- Chapter 6: Modeling with tuples -- Chapter 7: Separating model and data -- Chapter 8: Selected features of OPL and CPLEX Optimization Studio -- Chapter 9: Selected features of IBM ILOG Script -- Chapter 10: Flow control with ILOG Script -- Part 2: Application studies -- Chapter 11: Covering location planning -- Chapter 12: Fleet sizing -- Chapter 13: Location planning -- Chapter 14: Transportation planning -- Chapter 15: Revenue Management -- Chapter 16: Lot sizing.

Sommario/riassunto

This textbook offers a comprehensive, up-to-date introduction to the Optimization Programming Language (OPL). Embedded in the IBM ILOG CPLEX Optimization Studio with its solver engine CPLEX, OPL has been popular for years not only for academic and scientific purposes, but also among practitioners who need to model and solve large-scale real-world business optimization problems. The book covers the recent features of the software and includes ten consecutive tutorials, each with additional exercises, as well as several comprehensive application studies.The book is specifically designed for advanced undergraduate and graduate courses in e.g. management science, operations research, computer science, mathematics, mathematical economics, and industrial engineering. It can also serve as self-study material for practitioners whose work involves the modeling and optimization of planning and decision problems and who need a sound introduction to the software. Solutions to the exercises as well as the source codes from the textbook are available for download (weblink included).