Cormen, Thomas H.; **Leiserson, Charles E.**; **Rivest, Ronald L.**; **Stein, Clifford**
Introduction to algorithms. 2nd ed. (English) ‖Zbl 1047.68161‖
Cambridge, MA: MIT Press (ISBN 0-262-03293-7/hbk; 0-262-53196-8/pbk). xxii, 1180 p. (2001).

Publisher's description: There are books on algorithms that are rigorous but incomplete and others that cover masses of material but lack rigor. Introduction to Algorithms combines rigor and comprehensiveness.

The book covers a broad range of algorithms in depth, yet makes their design and analysis accessible to all levels of readers. Each chapter is relatively self-contained and can be used as a unit of study. The algorithms are described in English and in a pseudocode designed to be readable by anyone who has done a little programming. The explanations have been kept elementary without sacrificing depth of coverage or mathematical rigor.

The first edition became the standard reference for professionals and a widely used text in universities worldwide. The second edition features new chapters on the role of algorithms, probabilistic analysis and randomized algorithms, and linear programming, as well as extensive revisions to virtually every section of the book. In a subtle but important change, loop invariants are introduced early and used throughout the text to prove algorithm correctness. Without changing the mathematical and analytic focus, the authors have moved much of the mathematical foundations material from Part I to an appendix and have included additional motivational material at the beginning.

MSC:

68W05	Nonnumerical algorithms
90C05	Linear programming
68W40	Analysis of algorithms
68-01	Introductory exposition (textbooks, tutorial papers, etc.) pertaining to computer science
05-01	Introductory exposition (textbooks, tutorial papers, etc.) pertaining to combinatorics
05C85	Graph algorithms (graph-theoretic aspects)
68P05	Data structures
68P10	Searching and sorting
68Q25	Analysis of algorithms and problem complexity
68W20	Randomized algorithms

Cited in **8** Reviews
Cited in **1009** Documents

Keywords:

probabilistic analysis; randomized algorithms; linear programming