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	Autore	Kurgalin Sergei
	Titolo	The Discrete Math Workbook [[electronic resource]] : A Companion Manual Using Python / / by Sergei Kurgalin, Sergei Borzunov
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	ISBN	3-030-42221-6
	Edizione	[2nd ed. 2020.]
	Descrizione fisica	1 online resource (XVII, 500 p. 333 illus., 19 illus. in color.)
	Collana	Texts in Computer Science, , 1868-0941
	Disciplina	004.0151
	Soggetti	Computer science—Mathematics
		Algorithms
		Discrete mathematics
		Computers
		Discrete Mathematics in Computer Science
		Algorithm Analysis and Problem Complexity
		Discrete Mathematics
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	Lingua di pubblicazione	Inglese
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	Nota di contenuto	Fundamentals of Mathematical Logic -- Set Theory -- Relations and Functions -- Combinatorics -- Graphs -- Boolean Algebra -- Complex Numbers -- Recurrence Relations -- Concept of an Algorithm, Correctness of Algorithms -- Turing Machine -- Asymptotic Analysis -- Basic Algorithms -- Parallel Algorithms.
	Sommario/riassunto	This practically-focused study guide introduces the fundamentals of discrete mathematics through an extensive set of classroom-tested problems. Each chapter presents a concise introduction to the relevant theory, followed by a detailed account of common challenges and methods for overcoming these. The reader is then encouraged to practice solving such problems for themselves, by tackling a varied selection of questions and assignments of different levels of complexity. This updated second edition now covers the design and analysis of algorithms using Python, and features more than 50 new problems, complete with solutions. Topics and features: Provides a

substantial collection of problems and examples of varying levels of difficulty, suitable for both laboratory practical training and self-study Offers detailed solutions to each problem, applying commonly-used methods and computational schemes Introduces the fundamentals of mathematical logic, the theory of algorithms, Boolean algebra, graph theory, sets, relations, functions, and combinatorics Presents more advanced material on the design and analysis of algorithms, including Turing machines, asymptotic analysis, and parallel algorithms Includes reference lists of trigonometric and finite summation formulae in an appendix, together with basic rules for differential and integral calculus This hands-on workbook is an invaluable resource for undergraduate students of computer science, informatics, and electronic engineering. Suitable for use in a one- or two-semester course on discrete mathematics, the text emphasizes the skills required to develop and implement an algorithm in a specific programming language. Dr. Sergei Kurgalin is a Professor and Head of the Department of Digital Technologies at Voronezh State University, Russia. Dr. Sergei Borzunov is an Associate Professor at the same institution.