

Gordon J. Pace

Mathematics of Discrete Structures for Computer Science

 Springer

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Michael Brown



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Fundamentals of Discrete Math for Computer Science Tom Jenkyns, Ben Stephenson, 2012-10-16 This textbook provides an engaging and motivational introduction to traditional topics in discrete mathematics in a manner specifically designed to appeal to computer science

students The text empowers students to think critically to be effective problem solvers to integrate theory and practice and to recognize the importance of abstraction Clearly structured and interactive in nature the book presents detailed walkthroughs of several algorithms stimulating a conversation with the reader through informal commentary and provocative questions Features no university level background in mathematics required ideally structured for classroom use and self study with modular chapters following ACM curriculum recommendations describes mathematical processes in an algorithmic manner contains examples and exercises throughout the text and highlights the most important concepts in each section selects examples that demonstrate a practical use for the concept in question

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Jon Pierre Fortney, 2020-12-23 Discrete Mathematics for Computer Science An Example Based Introduction is intended for a first or second year discrete mathematics course for computer science majors It covers many important mathematical topics essential for future computer science majors such as algorithms number representations logic set theory Boolean algebra functions combinatorics algorithmic complexity graphs and trees Features Designed to be especially useful for courses at the community college level Ideal as a first or second year textbook for computer science majors or as a general introduction to discrete mathematics Written to be accessible to those with a limited mathematics background and to aid with the transition to abstract thinking Filled with over 200 worked examples boxed for easy reference and over 200 practice problems with answers Contains approximately 40 simple algorithms to aid students in becoming proficient with algorithm control structures and pseudocode Includes an appendix on basic circuit design which provides a real world motivational example for computer science majors by drawing on multiple topics covered in the book to design a circuit that adds two eight digit binary numbers Jon Pierre Fortney graduated from the University of Pennsylvania in 1996 with a BA in Mathematics and Actuarial Science and a BSE in Chemical Engineering Prior to returning to graduate school he worked as both an environmental engineer and as an actuarial analyst He graduated from Arizona State University in 2008 with a PhD in Mathematics specializing in Geometric Mechanics Since 2012 he has worked at Zayed University in Dubai This is his second mathematics textbook

Discrete Mathematics for Computer Science Gary Haggard, John Schlipf, Sue Whitesides, 2006

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Applied Discrete Structures for Computer Science Alan Doerr, Kenneth Levasseur, 1989

Discrete Structures

Andreas Klappenecker, Hyunyoung Lee, 2025-02-18 The aim of this text is to introduce discrete mathematics to beginning students of mathematics or computer science It does this by bringing some coherency into the seemingly incongruent subjects that

compose discrete math such as logic set theory algebra and combinatorics It emphasizes their theoretical foundations and illustrates proofs along the way The book prepares readers for the analysis of algorithms by discussing asymptotic analysis and a discrete calculus for sums The book also deduces combinatorial methods from the foundations that are laid out Unlike other texts on this subject there is a greater emphasis on foundational material that leads to a better understanding To further assist the reader in grasping and practicing concepts roughly 690 exercises are provided at various levels of difficulty Readers are encouraged to study the examples in the text and solve as many of the exercises as possible The text is intended for freshman or sophomore undergraduate students in mathematics computer science or similar majors The assumed background is precalculus The chapter dependency chart included is designed to help students independent readers and instructors follow a systematic path for learning and teaching the material with the option to explore material in later chapters

Discrete Mathematical Structures for Computer Science Bernard Kolman,Robert C. Busby,1984

Discrete Mathematics and Its Applications Kenneth H. Rosen,1999 This text is designed for the sophomore junior level introduction to discrete mathematics taken by students preparing for future coursework in areas such as math computer science and engineering Rosen has become a bestseller largely due to how effectively it addresses the main portion of the discrete market which is typically characterized as the mid to upper level in rigor The strength of Rosen s approach has been the effective balance of theory with relevant applications as well as the overall comprehensive nature of the topic coverage

Mathematical Structures for Computer Science Judith L. Gersting,2014-03-01 Judith Gerstings Mathematical Structures for Computer Science has long been acclaimed for its clear presentation of essential concepts and its exceptional range of applications relevant to computer science majors Now with this new edition it is the first discrete mathematics textbook revised to meet the proposed new ACM IEEE standards for the course

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