

Mathematical Structures For Computer Science A Modern Treatment Of Discrete Mathematics 5th Edition

AS RECOGNIZED, ADVENTURE AS SKILLFULLY AS EXPERIENCE MORE OR LESS LESSON, AMUSEMENT, AS WITH EASE AS HARMONY CAN BE GOTTEN BY JUST CHECKING OUT A EBOOK **MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE A MODERN TREATMENT OF DISCRETE MATHEMATICS 5TH EDITION** AFTER THAT IT IS NOT DIRECTLY DONE, YOU COULD ASSUME EVEN MORE ON THIS LIFE, GOING ON FOR THE WORLD.

WE HAVE ENOUGH MONEY YOU THIS PROPER AS CAPABLY AS SIMPLE SHOWING OFF TO ACQUIRE THOSE ALL. WE PAY FOR MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE A MODERN TREATMENT OF DISCRETE MATHEMATICS 5TH EDITION AND NUMEROUS EBOOK COLLECTIONS FROM FICTIONS TO SCIENTIFIC RESEARCH IN ANY WAY. IN THE MIDDLE OF THEM IS THIS MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE A MODERN TREATMENT OF DISCRETE MATHEMATICS 5TH EDITION THAT CAN BE YOUR PARTNER.

*FOUNDATION MATHEMATICS FOR
COMPUTER SCIENCE* - JOHN VINCE
2015-07-27

JOHN VINCE DESCRIBES A RANGE OF MATHEMATICAL TOPICS TO PROVIDE A FOUNDATION FOR AN UNDERGRADUATE COURSE IN COMPUTER SCIENCE, STARTING WITH A REVIEW OF NUMBER SYSTEMS AND THEIR RELEVANCE TO DIGITAL COMPUTERS, AND FINISHING WITH DIFFERENTIAL AND INTEGRAL CALCULUS. READERS WILL FIND THAT

THE AUTHOR'S VISUAL APPROACH WILL GREATLY IMPROVE THEIR UNDERSTANDING AS TO WHY CERTAIN MATHEMATICAL STRUCTURES EXIST, TOGETHER WITH HOW THEY ARE USED IN REAL-WORLD APPLICATIONS. EACH CHAPTER INCLUDES FULL-COLOUR ILLUSTRATIONS TO CLARIFY THE MATHEMATICAL DESCRIPTIONS, AND IN SOME CASES, EQUATIONS ARE ALSO COLOURED TO REVEAL VITAL ALGEBRAIC PATTERNS. THE NUMEROUS

WORKED EXAMPLES WILL CONSOLIDATE COMPREHENSION OF ABSTRACT MATHEMATICAL CONCEPTS. FOUNDATION MATHEMATICS FOR COMPUTER SCIENCE COVERS NUMBER SYSTEMS, ALGEBRA, LOGIC, TRIGONOMETRY, COORDINATE SYSTEMS, DETERMINANTS, VECTORS, MATRICES, GEOMETRIC MATRIX TRANSFORMS, DIFFERENTIAL AND INTEGRAL CALCULUS, AND REVEALS THE NAMES OF THE MATHEMATICIANS BEHIND SUCH INVENTIONS. DURING THIS JOURNEY, JOHN VINCE TOUCHES UPON MORE ESOTERIC TOPICS SUCH AS QUATERNIONS, OCTONIONS, GRASSMANN ALGEBRA, BARYCENTRIC COORDINATES, TRANSFINITE SETS AND PRIME NUMBERS. WHETHER YOU INTEND TO PURSUE A CAREER IN PROGRAMMING, SCIENTIFIC VISUALISATION, SYSTEMS DESIGN, OR REAL-TIME COMPUTING, YOU SHOULD FIND THE AUTHOR'S LITERARY STYLE REFRESHINGLY LUCID AND ENGAGING, AND PREPARE YOU FOR MORE ADVANCED TEXTS.

DISCRETE STRUCTURES WITH CONTEMPORARY APPLICATIONS -

ALEXANDER STANOYEVITCH
2011-01-19

REFLECTING MANY OF THE RECENT ADVANCES AND TRENDS IN THIS AREA, DISCRETE STRUCTURES WITH CONTEMPORARY APPLICATIONS COVERS THE CORE TOPICS IN DISCRETE STRUCTURES AS WELL AS AN ASSORTMENT OF NOVEL APPLICATIONS-ORIENTED TOPICS. THE APPLICATIONS DESCRIBED INCLUDE SIMULATIONS, GENETIC ALGORITHMS, NETWORK

FLOWS, PROBABILISTIC PRIMALITY TESTS, PUBLIC KEY CRYPTOGRAPHY, AND CODING THEORY. A MODERN AND COMPREHENSIVE INTRODUCTION TO DISCRETE STRUCTURES WITH CLEAR DEFINITIONS AND THEOREMS AND CAREFULLY EXPLAINED PROOFS, THIS CLASSROOM-TESTED TEXT PRESENTS AN ACCESSIBLE YET RIGOROUS TREATMENT OF THE MATERIAL. NUMEROUS WORKED-OUT EXAMPLES ILLUSTRATE KEY POINTS WHILE FIGURES AND TABLES HELP STUDENTS GRASP THE MORE SUBTLE AND DIFFICULT CONCEPTS. "EXERCISES FOR THE READER" ARE INTERSPERSED THROUGHOUT THE TEXT, WITH COMPLETE SOLUTIONS INCLUDED IN AN APPENDIX. IN ADDITION TO THESE, EACH SECTION ENDS WITH EXTENSIVE, CAREFULLY CRAFTED EXERCISE SETS RANGING FROM ROUTINE TO NONTRIVIAL; ANSWERS CAN BE FOUND IN ANOTHER APPENDIX. MOST SECTIONS ALSO CONTAIN COMPUTER EXERCISES THAT GUIDE STUDENTS THROUGH THE PROCESS OF WRITING THEIR OWN PROGRAMS ON ANY COMPUTING PLATFORM. ACCOMMODATES VARIOUS LEVELS OF COMPUTER IMPLEMENTATION ALTHOUGH THE BOOK HIGHLY ENCOURAGES THE USE OF COMPUTING PLATFORMS, IT CAN BE USED WITHOUT COMPUTERS. THE AUTHOR EXPLAINS ALGORITHMS IN ORDINARY ENGLISH AND, WHEN APPROPRIATE, IN A NATURAL AND EASY-TO-UNDERSTAND PSEUDO CODE THAT CAN BE READILY TRANSLATED INTO ANY COMPUTER LANGUAGE. A SUPPORTING WEBSITE PROVIDES AN EXTENSIVE SET OF SAMPLE PROGRAMS.

**MATHEMATICAL STRUCTURES FOR
COMPUTER SCIENCE** - JUDITH L.

GERSTING 2007

THIS EDITION OFFERS A PEDAGOGICALLY RICH AND INTUITIVE INTRODUCTION TO DISCRETE MATHEMATICS STRUCTURES. IT MEETS THE NEEDS OF COMPUTER SCIENCE MAJORS BY BEING BOTH COMPREHENSIVE AND ACCESSIBLE.

DISCRETE MATHEMATICS - PROF.

SUDARSAN NANDA 2022-02-28

THE BOOK CONTAINS TOPICS AS PER THE MODEL SYLLABUS OF THE UNIVERSITY GRANTS COMMISSION (UGC), INDIA AND IS SUITABLE FOR UNDERGRADUATE (B.TECH) STUDENTS OF COMPUTER SCIENCE AND ENGINEERING AND MATHEMATICS AND POSTGRADUATE STUDENTS OF COMPUTER APPLICATION (MCA) AND MATHEMATICS. THE BOOK HAS BEEN MADE SELF-CONTAINED WITH PRELIMINARY CHAPTERS ON MATHEMATICAL LOGIC AND SET THEORY WHICH ALSO FORM THE PART OF THE SYLLABUS. BESIDES THESE TOPICS, THE BOOK CONTAINS SUBJECTS LIKE COMBINATORICS, GRAPH THEORY, ALGEBRAIC STRUCTURES SUCH AS: GROUPS, RINGS, BOOLEAN ALGEBRA AND ALSO TOPICS LIKE FINITE STATE MACHINE (THEORY OF COMPUTATION) AND PROBABILITY. THE BOOK HAS BEEN WRITTEN IN A SIMPLE AND LUCID MANNER, WITH EXAMPLES AND APPLICATIONS TO COMPUTER SCIENCE. FINALLY IT CONTAINS AN ADDITIONAL CHAPTER ON FUZZY SET THEORY.

ELEMENTS OF FINITE MODEL THEORY -

LEONID LIBKIN 2004-07-02

EMPHASIZES THE COMPUTER SCIENCE

ASPECTS OF THE SUBJECT. DETAILS APPLICATIONS IN DATABASES, COMPLEXITY THEORY, AND FORMAL LANGUAGES, AS WELL AS OTHER BRANCHES OF COMPUTER SCIENCE.

MODERN MATHEMATICS AND APPLICATIONS IN COMPUTER GRAPHICS AND VISION - HONGYU GUO

2014-04-01

THIS BOOK PRESENTS A CONCISE EXPOSITION OF MODERN MATHEMATICAL CONCEPTS, MODELS AND METHODS WITH APPLICATIONS IN COMPUTER GRAPHICS, VISION AND MACHINE LEARNING. THE COMPENDIUM IS ORGANIZED IN FOUR PARTS — ALGEBRA, GEOMETRY, TOPOLOGY, AND APPLICATIONS. ONE OF THE FEATURES IS A UNIQUE TREATMENT OF TENSOR AND MANIFOLD TOPICS TO MAKE THEM EASIER FOR THE STUDENTS. ALL PROOFS ARE OMITTED TO GIVE AN EMPHASIS ON THE EXPOSITION OF THE CONCEPTS. EFFORT IS MADE TO HELP STUDENTS TO BUILD INTUITION AND AVOID PARROT-LIKE LEARNING. THERE IS MINIMAL INTER-CHAPTER DEPENDENCY. EACH CHAPTER CAN BE USED AS AN INDEPENDENT CRASH COURSE AND THE READER CAN START READING FROM ANY CHAPTER — ALMOST. THIS BOOK IS INTENDED FOR UPPER LEVEL UNDERGRADUATE STUDENTS, GRADUATE STUDENTS AND RESEARCHERS IN COMPUTER GRAPHICS, GEOMETRIC MODELING, COMPUTER VISION, PATTERN RECOGNITION AND MACHINE LEARNING. IT CAN BE USED AS A REFERENCE BOOK, OR A TEXTBOOK FOR A SELECTED TOPICS COURSE WITH THE INSTRUCTOR'S CHOICE OF ANY OF

THE TOPICS.

ELSEVIER'S DICTIONARY OF COMPUTER SCIENCE AND MATHEMATICS - BOREI?ANA DELI?ISKA 1995

THIS DICTIONARY COVERS BOTH COMPUTER SCIENCE AND MATHEMATICS. SELECTION OF THE TERMS WAS BASED EITHER ON THEIR SIGNIFICANCE OR ON THEIR FREQUENCY OF USE ACCORDING TO AUTHORITATIVE ENCYCLOPEDIA, DICTIONARIES OR TEXTBOOKS. THE MODERN DEVELOPMENTS AND CONTEMPORARY CHANGES IN TERMINOLOGY HAVE BEEN INCLUDED, AS WELL AS RECENTLY ESTABLISHED TERMS. COMPUTER SCIENCE TERMINOLOGY COVERS THE THEORY OF ALGORITHMS, PROGRAMMING LANGUAGES, PROGRAM DEVELOPMENT METHODS, DATA AND FILE STRUCTURES, OPERATING SYSTEMS, COMPUTER ARCHITECTURE, HARDWARE, COMMUNICATIONS, INFORMATION TECHNOLOGY, SYSTEM AND APPLICATION SOFTWARE, MICROPROGRAMMING, ETC. THE MATHEMATICAL TERMINOLOGY EMBRACES ALL THE MAJOR BRANCHES FROM ELEMENTARY TO ADVANCED SUBJECTS: ARITHMETIC, ALGEBRA, GEOMETRY, SET THEORY, DISCRETE MATHEMATICS, LOGIC, LINEAR ALGEBRA, MATRIX ALGEBRA, CALCULUS, DIFFERENTIAL EQUATIONS, NUMERICAL METHODS, MATHEMATICAL PROGRAMMING, MODERN ALGEBRA, COMPUTER ALGEBRA, CATEGORY THEORY, APPLIED MATHEMATICS, THEORY OF AUTOMATA AND FORMAL LANGUAGES, THEORY OF GAMES,

BOOLEAN ALGEBRA, THEORY OF GRAPHS AND SO ON.

MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE - JUDITH L.

GERSTING 2014-01-01

JUDITH GERSTING'S 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.

ALGORITHMIC PROPERTIES OF STRUCTURES - ERWIN ENGELER 1993

THE WORK OF ERWIN ENGELER IN THE LOGIC AND ALGEBRA OF COMPUTER SCIENCE HAS BEEN INFLUENTIAL BUT HAS BECOME DIFFICULT TO ACCESS BECAUSE IT HAS APPEARED IN DIFFERENT TYPES OF PUBLICATIONS. THIS COLLECTION OF SELECTED PAPERS IS THEREFORE TIMELY AND USEFUL. IT REPRESENTS AN ORIGINAL AND COHERENT APPROACH TO THE BASIC INTERRELATIONSHIPS BETWEEN MATHEMATICS AND COMPUTER SCIENCE. THE VOLUME BEGINS WITH THE AREA OF ENRICHMENT OF CLASSICAL MODEL THEORY BY LANGUAGES WHICH EXPRESS PROPERTIES REPRESENTING THE OUTCOME OF HYPOTHETICAL COMPUTER PROGRAMS EXECUTED IN A GIVEN CLASS OF MATHEMATICAL STRUCTURES, AND IS RELATED TO QUESTIONS OF CORRECTNESS AND PROVABILITY OF PROGRAMS. THIS POINT OF VIEW

ALLOWED THE GENERALIZATION OF CLASSICAL GALOIS THEORY TO THE POINT OF DISCUSSING THE RELATION BETWEEN STRUCTURE AND COMPLEXITY OF SOLUTION PROGRAMS FOR PROBLEMS POSED IN VARIOUS MATHEMATICAL THEORIES. THE ALGEBRAIC APPROACH IS DEEPENED AND ENLARGED IN THE LATER PAPERS BY SHOWING THAT THE ALGORITHMIC ASPECTS OF ANY MATHEMATICAL STRUCTURE CAN BE UNIFORMLY DEALT WITH BY EXPANDING THESE STRUCTURES INTO COMBINATORY ALGEBRAS.

THE NITTY-GRITTY IN THE LIFE OF A UNIVERSITY - WILLIAM J. ADAMS
2007

AN ESTEEMED PROFESSOR AND ONE-TIME CHAIRMAN OF THE MATHEMATICS DEPARTMENT AT NEW YORK'S PACE UNIVERSITY, ADAMS, INTERESTED IN ALL FACETS OF UNIVERSITY ADMINISTRATION, HAS PRODUCED AN ALMOST JEFFERSONIAN VOLUME OF CORRESPONDENCE FROM HIS TENURE. HIS VIEWS ON TEXTBOOK SELECTION, COLLECTIVE BARGAINING AND THE PROPER ROLE OF THE UNIVERSITY HAVE ALL FLOWED FROM HIS NOTEBOOK, AND NO PROBLEM WAS TOO MINUTE TO EVADE HIS SCOPE THE FRIVOLITY OF SOME OF THESE PAPERS IS BALANCED BY ADAMS'S OPINIONS ON WEIGHTIER ISSUES, INCLUDING SEXUAL HARASSMENT AND COMPENSATION IN HIGHER EDUCATION. HIS APPROACH AND FORWARD MANNER ON THESE SITUATIONS, DESPITE HOW GENUINE, SOMETIMES ENGENDERED RESENTMENT FROM HIS FELLOW FACULTY. BUT FOR

THOSE INTERESTED IN THE PARTICULARS OF AN ACADEMIC CAREER, THIS BOOK OFFERS A GLIMPSE OF WHAT LIFE MAY REALLY BE LIKE INSIDE THE IVORY TOWER. - KIRKUS DISCOVERIES-
DISCRETE MATHEMATICS - R. C. PENNER
1999

ALGEBRAIC AND DISCRETE MATHEMATICAL METHODS FOR MODERN BIOLOGY - RAINA ROBEVA
2015-05-09

WRITTEN BY EXPERTS IN BOTH MATHEMATICS AND BIOLOGY, *ALGEBRAIC AND DISCRETE MATHEMATICAL METHODS FOR MODERN BIOLOGY* OFFERS A BRIDGE BETWEEN MATH AND BIOLOGY, PROVIDING A FRAMEWORK FOR SIMULATING, ANALYZING, PREDICTING, AND MODULATING THE BEHAVIOR OF COMPLEX BIOLOGICAL SYSTEMS. EACH CHAPTER BEGINS WITH A QUESTION FROM MODERN BIOLOGY, FOLLOWED BY THE DESCRIPTION OF CERTAIN MATHEMATICAL METHODS AND THEORY APPROPRIATE IN THE SEARCH OF ANSWERS. EVERY TOPIC PROVIDES A FAST-TRACK PATHWAY THROUGH THE PROBLEM BY PRESENTING THE BIOLOGICAL FOUNDATION, COVERING THE RELEVANT MATHEMATICAL THEORY, AND HIGHLIGHTING CONNECTIONS BETWEEN THEM. MANY OF THE PROJECTS AND EXERCISES EMBEDDED IN EACH CHAPTER UTILIZE SPECIALIZED SOFTWARE, PROVIDING STUDENTS WITH MUCH-NEEDED FAMILIARITY AND EXPERIENCE WITH COMPUTING APPLICATIONS, CRITICAL COMPONENTS

OF THE "MODERN BIOLOGY" SKILL SET. THIS BOOK IS APPROPRIATE FOR MATHEMATICS COURSES SUCH AS FINITE MATHEMATICS, DISCRETE STRUCTURES, LINEAR ALGEBRA, ABSTRACT/MODERN ALGEBRA, GRAPH THEORY, PROBABILITY, BIOINFORMATICS, STATISTICS, BIOSTATISTICS, AND MODELING, AS WELL AS FOR BIOLOGY COURSES SUCH AS GENETICS, CELL AND MOLECULAR BIOLOGY, BIOCHEMISTRY, ECOLOGY, AND EVOLUTION. EXAMINES SIGNIFICANT QUESTIONS IN MODERN BIOLOGY AND THEIR MATHEMATICAL TREATMENTS PRESENTS IMPORTANT MATHEMATICAL CONCEPTS AND TOOLS IN THE CONTEXT OF ESSENTIAL BIOLOGY FEATURES MATERIAL OF INTEREST TO STUDENTS IN BOTH MATHEMATICS AND BIOLOGY PRESENTS CHAPTERS IN MODULAR FORMAT SO COVERAGE NEED NOT FOLLOW THE TABLE OF CONTENTS INTRODUCES PROJECTS APPROPRIATE FOR UNDERGRADUATE RESEARCH UTILIZES FREELY ACCESSIBLE SOFTWARE FOR VISUALIZATION, SIMULATION, AND ANALYSIS IN MODERN BIOLOGY REQUIRES NO CALCULUS AS A PREREQUISITE PROVIDES A COMPLETE SOLUTIONS MANUAL FEATURES A COMPANION WEBSITE WITH SUPPLEMENTARY RESOURCES

DISCRETE MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER SCIENCE - JEAN-PAUL TREMBLAY
1975

MODERN LOGIC 1850-1950, EAST AND WEST - FRANCINE F. ABELES
2016-05-26

THIS BOOK PRESENTS DIVERSE TOPICS IN MATHEMATICAL LOGIC SUCH AS PROOF THEORY, META-MATHEMATICS, AND APPLICATIONS OF LOGIC TO MATHEMATICAL STRUCTURES. THE COLLECTION SPANS THE FIRST 100 YEARS OF MODERN LOGIC AND IS DEDICATED TO THE MEMORY OF IRVING ANELLIS, FOUNDER OF THE JOURNAL 'MODERN LOGIC', WHOSE ACADEMIC WORK WAS ESSENTIAL IN PROMOTING THE ALGEBRAIC TRADITION OF LOGIC, AS REPRESENTED BY CHARLES SANDERS PEIRCE. ANELLIS'S ASSOCIATION WITH THE RUSSIAN LOGIC COMMUNITY INTRODUCED THEIR SCHOOL OF LOGIC TO A WIDER AUDIENCE IN THE USA, CANADA AND WESTERN EUROPE. IN ADDITION, THE COLLECTION TAKES A HISTORICAL PERSPECTIVE ON PROOF THEORY AND THE DEVELOPMENT OF LOGIC AND MATHEMATICS IN EASTERN LOGIC, THE SOVIET UNION AND RUSSIA. THE BOOK WILL BE OF INTEREST TO HISTORIANS AND PHILOSOPHERS IN LOGIC AND MATHEMATICS, AND THE MORE SPECIALIZED PAPERS WILL ALSO APPEAL TO MATHEMATICIANS AND LOGICIANS.

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE - PETER A. FEJER
1991

THIS BOOK DEALS WITH THOSE TOPICS FROM MATHEMATICS THAT HAVE PROVEN TO BE PARTICULARLY RELEVANT IN COMPUTER SCIENCE. THE PARTICULAR TOPICS ARE MOSTLY OF A SET-THEORETICAL NATURE: SETS, RELATIONS AND FUNCTIONS, PARTIALLY ORDERED SETS, INDUCTION,

ENUMERABILITY, AND DIAGONALIZATION. THIS BOOK IS ORGANIZED BY MATHEMATICAL AREA, WHICH MEANS THAT MATERIAL ON THE SAME COMPUTER SCIENCE TOPIC APPEARS IN MORE THAN ONE PLACE. READERS WILL FIND USEFUL APPLICATIONS IN ALGORITHMS, DATABASES, SEMANTICS OF PROGRAMMING LANGUAGES, FORMAL LANGUAGES, THEORY OF COMPUTATION, AND PROGRAM VERIFICATION. THERE ARE FEW SPECIFIC MATHEMATICAL PREREQUISITES FOR UNDERSTANDING THE MATERIAL IN THIS VOLUME, BUT IT ASSUMES THE MATHEMATICAL MATURITY GAINED FROM A GOOD MATHEMATICS OR COMPUTER SCIENCE UNDERGRADUATE MAJOR.

TRANSACTIONS ON COMPUTATIONAL SCIENCE II - YINGXU WANG
2008-09-16

THE DENOTATIONAL AND EXPRESSIVE NEEDS IN COGNITIVE INFORMATICS, COMPUTATIONAL INTELLIGENCE, SOFTWARE ENGINEERING, AND KNOWLEDGE ENGINEERING HAVE LED TO THE DEVELOPMENT OF NEW FORMS OF MATHEMATICS COLLECTIVELY KNOWN AS DENOTATIONAL MATHEMATICS. DENOTATIONAL MATHEMATICS IS A CATEGORY OF MATHEMATICAL STRUCTURES THAT FORMALIZE RIGOROUS EXPRESSIONS AND LONG-CHAIN INFERENCES OF SYSTEM COMPOSITIONS AND BEHAVIORS WITH ABSTRACT CONCEPTS, COMPLEX RELATIONS, AND DYNAMIC PROCESSES. TYPICAL PARADIGMS OF DENOTATIONAL MATHEMATICS ARE CONCEPT ALGEBRA, SYSTEM ALGEBRA,

REAL-TIME PROCESS ALGEBRA (RTPA), VISUAL SEMANTIC ALGEBRA (VSA), FUZZY LOGIC, AND ROUGH SETS. A WIDE RANGE OF APPLICATIONS OF DENOTATIONAL MATHEMATICS HAVE BEEN IDENTIFIED IN MANY MODERN SCIENCE AND ENGINEERING DISCIPLINES THAT DEAL WITH COMPLEX AND INTRICATE MATHEMATICAL ENTITIES AND STRUCTURES BEYOND NUMBERS, BOOLEAN VARIABLES, AND TRADITIONAL SETS. THIS ISSUE OF SPRINGER'S TRANSACTIONS ON COMPUTATIONAL SCIENCE ON DENOTATIONAL MATHEMATICS FOR COMPUTATIONAL INTELLIGENCE PRESENTS A SNAPSHOT OF CURRENT RESEARCH ON DENOTATIONAL MATHEMATICS AND ITS ENGINEERING APPLICATIONS. THE VOLUME INCLUDES SELECTED AND EXTENDED PAPERS FROM TWO INTERNATIONAL CONFERENCES, NAMELY IEEE ICCI 2006 (ON COGNITIVE INFORMATICS) AND RSKT 2006 (ON ROUGH SETS AND KNOWLEDGE TECHNOLOGY), AS WELL AS NEW CONTRIBUTIONS. THE FOLLOWING FOUR IMPORTANT AREAS IN DENOTATIONAL MATHEMATICS AND ITS APPLICATIONS ARE COVERED: FOUNDATIONS AND APPLICATIONS OF DENOTATIONAL MATHEMATICS, FOCUSING ON: A) TEMPORARY DENOTATIONAL MATHEMATICS FOR COMPUTATIONAL INTELLIGENCE; B) DENOTATIONAL MATHEMATICAL LAWS OF SOFTWARE; C) A COMPARATIVE STUDY OF STOPA AND RTPA; AND D) A DENOTATIONAL MATHEMATICAL MODEL OF ABSTRACT GAMES.

MATHEMATICAL STRUCTURES AND MATHEMATICAL MODELLING

- ISAAK MOISEEVICH IL'IN AGLOM 1986

A SUBSTANTIAL AMOUNT OF THIS BOOK IS DEVOTED TO GENERAL QUESTIONS (INCLUDING SIGNIFICANT MATERIAL FROM THE HISTORY OF SCIENCE, ALLOWING ONE TO FOLLOW THE FORMATION OF MODERN ATTITUDES ON THE ESSENCE OF MATHEMATICS AND THE METHODS OF ITS APPLICATIONS): ONLY CHAPTERS 5 AND 6 ARE DEVOTED TO A SURVEY OF THE BASIC ALGEBRAIC STRUCTURES AND A MORE DETAILED ANALYSIS OF A STRUCTURE ASSOCIATED WITH SOME GEOMETRIC CONSIDERATIONS, ARE OF A MORE CONCRETE CHARACTER.

DISCRETE MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER

SCIENCE - JEAN-PAUL TREMBLAY 1987

MATHEMATICS FOR COMPUTER SCIENCE

- ERIC LEHMAN 2017-03-08

THIS BOOK COVERS ELEMENTARY DISCRETE MATHEMATICS FOR COMPUTER SCIENCE AND ENGINEERING. IT EMPHASIZES MATHEMATICAL DEFINITIONS AND PROOFS AS WELL AS APPLICABLE METHODS. TOPICS INCLUDE FORMAL LOGIC NOTATION, PROOF METHODS; INDUCTION, WELL-ORDERING; SETS, RELATIONS; ELEMENTARY GRAPH THEORY; INTEGER CONGRUENCES; ASYMPTOTIC NOTATION AND GROWTH OF FUNCTIONS; PERMUTATIONS AND COMBINATIONS, COUNTING PRINCIPLES; DISCRETE PROBABILITY. FURTHER SELECTED TOPICS MAY ALSO BE

COVERED, SUCH AS RECURSIVE DEFINITION AND STRUCTURAL INDUCTION; STATE MACHINES AND INVARIANTS; RECURRENCES; GENERATING FUNCTIONS.

DISCRETE MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE

- BERNARD KOLMAN 1984

DISCRETE MATHEMATICAL STRUCTURES

- MARIO BENEDICTY 1987

MATHEMATICS AND COMPUTER SCIENCE

- DANIEL LE GARDY 2000

THIS IS THE FIRST BOOK WHERE MATHEMATICS AND COMPUTER SCIENCE ARE DIRECTLY CONFRONTED AND JOINED TO TACKLE INTRICATE PROBLEMS IN COMPUTER SCIENCE WITH DEEP MATHEMATICAL APPROACHES. IT CONTAINS A COLLECTION OF REFEREED PAPERS PRESENTED AT THE COLLOQUIUM ON MATHEMATICS AND COMPUTER SCIENCE HELD AT THE UNIVERSITY OF VERSAILLES-ST-QUENTIN ON SEPTEMBER 18-20, 2000. THE COLLOQUIUM WAS A MEETING PLACE FOR RESEARCHERS IN MATHEMATICS AND COMPUTER SCIENCE AND THUS AN IMPORTANT OPPORTUNITY TO EXCHANGE IDEAS AND POINTS OF VIEW, AND TO PRESENT NEW APPROACHES AND NEW RESULTS IN THE COMMON AREAS SUCH AS ALGORITHMS ANALYSIS, TREES, COMBINATORICS, OPTIMIZATION, PERFORMANCE EVALUATION AND PROBABILITIES. THE BOOK IS INTENDED FOR A LARGE PUBLIC IN APPLIED MATHEMATICS, DISCRETE MATHEMATICS AND COMPUTER SCIENCE,

INCLUDING RESEARCHERS, TEACHERS, GRADUATE STUDENTS AND ENGINEERS. IT PROVIDES AN OVERVIEW OF THE CURRENT QUESTIONS IN COMPUTER SCIENCE AND RELATED MODERN MATHEMATICAL METHODS. THE RANGE OF APPLICATIONS IS VERY WIDE AND REACHES BEYOND COMPUTER SCIENCE.

APPLIED DISCRETE STRUCTURES FOR COMPUTER SCIENCE - ALAN DOERR 1989

ALGORITHMS AND DATA STRUCTURES IN C++ - ALAN PARKER 2018-05-11
ALGORITHMS AND DATA STRUCTURES IN C++ INTRODUCES MODERN ISSUES IN THE THEORY OF ALGORITHMS, EMPHASIZING COMPLEXITY, GRAPHS, PARALLEL PROCESSING, AND VISUALIZATION. TO ACCOMPLISH THIS, THE BOOK USES AN APPROPRIATE SUBSET OF FREQUENTLY UTILIZED AND REPRESENTATIVE ALGORITHMS AND APPLICATIONS IN ORDER TO DEMONSTRATE THE UNIQUE AND MODERN ASPECTS OF THE C++ PROGRAMMING LANGUAGE. WHAT MAKES THIS BOOK SO VALUABLE IS THAT MANY COMPLETE C++ PROGRAMS HAVE BEEN COMPILED AND EXECUTED ON MULTIPLE PLATFORMS. EACH PROGRAM PRESENTED IS A STAND-ALONE FUNCTIONAL PROGRAM. A NUMBER OF APPLICATIONS THAT EXERCISE SIGNIFICANT FEATURES OF C++, INCLUDING TEMPLATES AND POLYMORPHISMS, IS INCLUDED. THE BOOK IS A PERFECT TEXT FOR COMPUTER SCIENCE AND ENGINEERING STUDENTS IN TRADITIONAL ALGORITHMS OR DATA STRUCTURES COURSES. IT

WILL ALSO BENEFIT PROFESSIONALS IN ALL FIELDS OF COMPUTER SCIENCE AND ENGINEERING.

DISCRETE STRUCTURES, LOGIC, AND COMPUTABILITY - JAMES L. HEIN 2001

DISCRETE STRUCTURE, LOGIC, AND COMPUTABILITY INTRODUCES THE BEGINNING COMPUTER SCIENCE STUDENT TO SOME OF THE FUNDAMENTAL IDEAS AND TECHNIQUES USED BY COMPUTER SCIENTISTS TODAY, FOCUSING ON DISCRETE STRUCTURES, LOGIC, AND COMPUTABILITY. THE EMPHASIS IS ON THE COMPUTATIONAL ASPECTS, SO THAT THE READER CAN SEE HOW THE CONCEPTS ARE ACTUALLY USED.

BECAUSE OF LOGIC'S FUNDAMENTAL IMPORTANCE TO COMPUTER SCIENCE, THE TOPIC IS EXAMINED EXTENSIVELY IN THREE PHASES THAT COVER INFORMAL LOGIC, THE TECHNIQUE OF INDUCTIVE PROOF; AND FORMAL LOGIC AND ITS APPLICATIONS TO COMPUTER SCIENCE.

DISCRETE MATHEMATICS - PROOF TECHNIQUES AND MATHEMATICAL STRUCTURES - ROBERT CLARK PENNER 1999-10-19

THIS BOOK OFFERS AN INTRODUCTION TO MATHEMATICAL PROOFS AND TO THE FUNDAMENTALS OF MODERN MATHEMATICS. NO REAL PREREQUISITES ARE NEEDED OTHER THAN A SUITABLE LEVEL OF MATHEMATICAL MATURITY. THE TEXT IS DIVIDED INTO TWO PARTS, THE FIRST OF WHICH CONSTITUTES THE CORE OF A ONE-SEMESTER COURSE COVERING PROOFS, PREDICATE CALCULUS, SET THEORY, ELEMENTARY NUMBER THEORY, RELATIONS, AND FUNCTIONS, AND THE SECOND OF WHICH

APPLIES THIS MATERIAL TO A MORE ADVANCED STUDY OF SELECTED TOPICS IN PURE MATHEMATICS, APPLIED MATHEMATICS, AND COMPUTER SCIENCE, SPECIFICALLY CARDINALITY, COMBINATORICS, FINITE-STATE AUTOMATA, AND GRAPHS. IN BOTH PARTS, DEEPER AND MORE INTERESTING MATERIAL IS TREATED IN OPTIONAL SECTIONS, AND THE TEXT HAS BEEN KEPT FLEXIBLE BY ALLOWING MANY DIFFERENT POSSIBLE COURSES OR EMPHASES BASED UPON DIFFERENT PATHS THROUGH THE VOLUME.

DISCRETE MATHEMATICS AND GRAPH THEORY - K. ERCIYES 2021-01-28

THIS TEXTBOOK CAN SERVE AS A COMPREHENSIVE MANUAL OF DISCRETE MATHEMATICS AND GRAPH THEORY FOR NON-COMPUTER SCIENCE MAJORS; AS A REFERENCE AND STUDY AID FOR PROFESSIONALS AND RESEARCHERS WHO HAVE NOT TAKEN ANY DISCRETE MATH COURSE BEFORE. IT CAN ALSO BE USED AS A REFERENCE BOOK FOR A COURSE ON DISCRETE MATHEMATICS IN COMPUTER SCIENCE OR MATHEMATICS CURRICULA. THE STUDY OF DISCRETE MATHEMATICS IS ONE OF THE FIRST COURSES ON CURRICULA IN VARIOUS DISCIPLINES SUCH AS COMPUTER SCIENCE, MATHEMATICS AND ENGINEERING EDUCATION PRACTICES. GRAPHS ARE KEY DATA STRUCTURES USED TO REPRESENT NETWORKS, CHEMICAL STRUCTURES, GAMES ETC. AND ARE INCREASINGLY USED MORE IN VARIOUS APPLICATIONS SUCH AS BIOINFORMATICS AND THE INTERNET. GRAPH THEORY HAS GONE THROUGH AN

UNPRECEDENTED GROWTH IN THE LAST FEW DECADES BOTH IN TERMS OF THEORY AND IMPLEMENTATIONS; HENCE IT DESERVES A THOROUGH TREATMENT WHICH IS NOT ADEQUATELY FOUND IN ANY OTHER CONTEMPORARY BOOKS ON DISCRETE MATHEMATICS, WHEREAS ABOUT 40% OF THIS TEXTBOOK IS DEVOTED TO GRAPH THEORY. THE TEXT FOLLOWS AN ALGORITHMIC APPROACH FOR DISCRETE MATHEMATICS AND GRAPH PROBLEMS WHERE APPLICABLE, TO REINFORCE LEARNING AND TO SHOW HOW TO IMPLEMENT THE CONCEPTS IN REAL-WORLD APPLICATIONS.

LITERARY MATHEMATICS - MICHAEL GAVIN 2022-10-25

ACROSS THE HUMANITIES AND SOCIAL SCIENCES, SCHOLARS INCREASINGLY USE QUANTITATIVE METHODS TO STUDY TEXTUAL DATA. CONSIDERED TOGETHER, THIS RESEARCH REPRESENTS AN EXTRAORDINARY EVENT IN THE LONG HISTORY OF TEXTUALITY. MORE OR LESS ALL AT ONCE, THE CORPUS HAS EMERGED AS A MAJOR GENRE OF CULTURAL AND SCIENTIFIC KNOWLEDGE. IN LITERARY MATHEMATICS, MICHAEL GAVIN GRAPPLES WITH THIS DEVELOPMENT, DESCRIBING HOW QUANTITATIVE METHODS FOR THE STUDY OF TEXTUAL DATA OFFER POWERFUL TOOLS FOR HISTORICAL INQUIRY AND SOMETIMES UNEXPECTED PERSPECTIVES ON THEORETICAL ISSUES OF CONCERN TO LITERARY STUDIES. STUDENT-FRIENDLY AND ACCESSIBLE, THE BOOK ADVANCES THIS ARGUMENT THROUGH CASE STUDIES DRAWN FROM THE EARLY ENGLISH BOOKS ONLINE

CORPUS. GAVIN SHOWS HOW A COPUBLICATION NETWORK OF PRINTERS AND AUTHORS REVEALS AN UNCANNILY ACCURATE PICTURE OF HISTORICAL PERIODIZATION; THAT A VECTOR-SPACE SEMANTIC MODEL PARSSES HISTORICAL CONCEPTS IN INCREDIBLY FINE DETAIL; AND THAT A GEOSPATIAL ANALYSIS OF EARLY MODERN DISCOURSE OFFERS A SURPRISING PANORAMIC GLIMPSE INTO THE PERIOD'S NOTION OF WORLD GEOGRAPHY. ACROSS THESE CASE STUDIES, GAVIN CHALLENGES READERS TO CONSIDER WHY CORPUS-BASED METHODS WORK SO EFFECTIVELY AND ASKS WHETHER THE SUCCESSES OF FORMAL MODELING OUGHT TO INSPIRE HUMANISTS TO RECONSIDER FUNDAMENTAL THEORETICAL ASSUMPTIONS ABOUT TEXTUALITY AND MEANING. AS GAVIN REVEALS, BY EMBRACING THE EXPRESSIVE POWER OF MATHEMATICS, SCHOLARS CAN ADD NEW DIMENSIONS TO DIGITAL HUMANITIES RESEARCH AND FIND NEW CONNECTIONS WITH THE SOCIAL SCIENCES.

MATHEMATICS AND COMPUTATION, A CONTEMPORARY VIEW

- HANS MUNTHE-KAAS 2008-10-23
THE 2006 ABEL SYMPOSIUM IS FOCUSING ON CONTEMPORARY RESEARCH INVOLVING INTERACTION BETWEEN COMPUTER SCIENCE, COMPUTATIONAL SCIENCE AND MATHEMATICS. IN RECENT YEARS, COMPUTATION HAS BEEN AFFECTING PURE MATHEMATICS IN FUNDAMENTAL WAYS. CONVERSELY, IDEAS AND METHODS OF PURE MATHEMATICS ARE

BECOMING INCREASINGLY IMPORTANT WITHIN COMPUTATIONAL AND APPLIED MATHEMATICS. AT THE CORE OF COMPUTER SCIENCE IS THE STUDY OF COMPUTABILITY AND COMPLEXITY FOR DISCRETE MATHEMATICAL STRUCTURES. STUDYING THE FOUNDATIONS OF COMPUTATIONAL MATHEMATICS RAISES SIMILAR QUESTIONS CONCERNING CONTINUOUS MATHEMATICAL STRUCTURES. THERE ARE SEVERAL REASONS FOR THESE DEVELOPMENTS. THE EXPONENTIAL GROWTH OF COMPUTING POWER IS BRINGING COMPUTATIONAL METHODS INTO EVER NEW APPLICATION AREAS. EQUALLY IMPORTANT IS THE ADVANCE OF SOFTWARE AND PROGRAMMING LANGUAGES, WHICH TO AN INCREASING DEGREE ALLOWS THE REPRESENTATION OF ABSTRACT MATHEMATICAL STRUCTURES IN PROGRAM CODE. SYMBOLIC COMPUTING IS BRINGING ALGORITHMS FROM MATHEMATICAL ANALYSIS INTO THE HANDS OF PURE AND APPLIED MATHEMATICIANS, AND THE COMBINATION OF SYMBOLIC AND NUMERICAL TECHNIQUES IS BECOMING INCREASINGLY IMPORTANT BOTH IN COMPUTATIONAL SCIENCE AND IN AREAS OF PURE MATHEMATICS.

CONCRETE MATHEMATICS: A FOUNDATION FOR COMPUTER SCIENCE - RONALD L. GRAHAM 1994

A MODERN APPROACH TO DISCRETE MATHEMATICS AND STRUCTURE - J. K. MANTRI 2009

LOGIC OF MATHEMATICS - ZOFIA

ADAMOWICZ 2011-09-26

A THOROUGH, ACCESSIBLE, AND RIGOROUS PRESENTATION OF THE CENTRAL THEOREMS OF MATHEMATICAL LOGIC . . . IDEAL FOR ADVANCED STUDENTS OF MATHEMATICS, COMPUTER SCIENCE, AND LOGIC

LOGIC OF MATHEMATICS COMBINES A FULL-SCALE INTRODUCTORY COURSE IN MATHEMATICAL LOGIC AND MODEL THEORY WITH A RANGE OF SPECIALLY SELECTED, MORE ADVANCED THEOREMS. USING A STRICT MATHEMATICAL APPROACH, THIS IS THE ONLY BOOK AVAILABLE THAT CONTAINS COMPLETE AND PRECISE PROOFS OF ALL OF THESE IMPORTANT THEOREMS: * GÖDEL'S THEOREMS OF COMPLETENESS AND INCOMPLETENESS * THE INDEPENDENCE OF GOODSTEIN'S THEOREM FROM PEANO ARITHMETIC * TARSKI'S THEOREM ON REAL CLOSED FIELDS * MATIYASEVICH'S THEOREM ON DIOPHANTINE FORMULAS

LOGIC OF MATHEMATICS ALSO FEATURES: * FULL COVERAGE OF MODEL THEORETICAL TOPICS SUCH AS DEFINABILITY, COMPACTNESS, ULTRAPRODUCTS, REALIZATION, AND OMISSION OF TYPES * CLEAR, CONCISE EXPLANATIONS OF ALL KEY CONCEPTS, FROM BOOLEAN ALGEBRAS TO SKOLEM-LÖWENHEIM CONSTRUCTIONS AND OTHER TOPICS * CAREFULLY CHOSEN EXERCISES FOR EACH CHAPTER, PLUS HELPFUL SOLUTION HINTS

AT LAST, HERE IS A REFRESHINGLY CLEAR, CONCISE, AND MATHEMATICALLY RIGOROUS PRESENTATION OF THE BASIC CONCEPTS

OF MATHEMATICAL LOGIC-REQUIRING ONLY A STANDARD FAMILIARITY WITH ABSTRACT ALGEBRA. EMPLOYING A STRICT MATHEMATICAL APPROACH THAT EMPHASIZES RELATIONAL STRUCTURES OVER LOGICAL LANGUAGE, THIS CAREFULLY ORGANIZED TEXT IS DIVIDED INTO TWO PARTS, WHICH EXPLAIN THE ESSENTIALS OF THE SUBJECT IN SPECIFIC AND STRAIGHTFORWARD TERMS. PART I CONTAINS A THOROUGH INTRODUCTION TO MATHEMATICAL LOGIC AND MODEL THEORY-INCLUDING A FULL DISCUSSION OF TERMS, FORMULAS, AND OTHER FUNDAMENTALS, PLUS DETAILED COVERAGE OF RELATIONAL STRUCTURES AND BOOLEAN ALGEBRAS, GÖDEL'S COMPLETENESS THEOREM, MODELS OF PEANO ARITHMETIC, AND MUCH MORE. PART II FOCUSES ON A NUMBER OF ADVANCED THEOREMS THAT ARE CENTRAL TO THE FIELD, SUCH AS GÖDEL'S FIRST AND SECOND THEOREMS OF INCOMPLETENESS, THE INDEPENDENCE PROOF OF GOODSTEIN'S THEOREM FROM PEANO ARITHMETIC, TARSKI'S THEOREM ON REAL CLOSED FIELDS, AND OTHERS. NO OTHER TEXT CONTAINS COMPLETE AND PRECISE PROOFS OF ALL OF THESE THEOREMS. WITH A SOLID AND COMPREHENSIVE PROGRAM OF EXERCISES AND SELECTED SOLUTION HINTS, LOGIC OF MATHEMATICS IS IDEAL FOR CLASSROOM USE-THE PERFECT TEXTBOOK FOR ADVANCED STUDENTS OF MATHEMATICS, COMPUTER SCIENCE, AND LOGIC.

DISCRETE MATHEMATICS FOR COMPUTER SCIENCE - GARY HAGGARD

2005

MASTER THE FUNDAMENTALS OF DISCRETE MATHEMATICS WITH DISCRETE MATHEMATICS FOR COMPUTER SCIENCE WITH STUDENT SOLUTIONS MANUAL CD-ROM! AN INCREASING NUMBER OF COMPUTER SCIENTISTS FROM DIVERSE AREAS ARE USING DISCRETE MATHEMATICAL STRUCTURES TO EXPLAIN CONCEPTS AND PROBLEMS AND THIS MATHEMATICS TEXT SHOWS YOU HOW TO EXPRESS PRECISE IDEAS IN CLEAR MATHEMATICAL LANGUAGE. THROUGH A WEALTH OF EXERCISES AND EXAMPLES, YOU WILL LEARN HOW MASTERING DISCRETE MATHEMATICS WILL HELP YOU DEVELOP IMPORTANT REASONING SKILLS THAT WILL CONTINUE TO BE USEFUL THROUGHOUT YOUR CAREER.

DISCRETE MATHEMATICAL STRUCTURES (CLASSIC VERSION) - BERNARD KOLMAN 2017-03-20

THIS TITLE IS PART OF THE PEARSON MODERN CLASSICS SERIES. PEARSON MODERN CLASSICS ARE ACCLAIMED TITLES AT A VALUE PRICE. PLEASE VISIT WWW.PEARSONHIGHERED.COM/MATH-CLASSICS-SERIES FOR A COMPLETE LIST OF TITLES. DISCRETE MATHEMATICAL STRUCTURES, 6TH EDITION, OFFERS A CLEAR AND CONCISE PRESENTATION OF THE FUNDAMENTAL CONCEPTS OF DISCRETE MATHEMATICS. IDEAL FOR A ONE-SEMESTER INTRODUCTORY COURSE, THIS TEXT CONTAINS MORE GENUINE COMPUTER SCIENCE APPLICATIONS THAN ANY OTHER TEXT IN THE FIELD. THIS BOOK IS WRITTEN AT AN APPROPRIATE

LEVEL FOR A WIDE VARIETY OF MAJORS AND NON-MAJORS, AND ASSUMES A COLLEGE ALGEBRA COURSE AS A PREREQUISITE.

STRUCTURES IN LOGIC AND COMPUTER SCIENCE - ANDRZEJ EHRENFEUCHT 1997-07-23

THE BOOK SUMMARISES CONTEMPORARY KNOWLEDGE ABOUT THE THEORY OF ATOMIC AND MOLECULAR CLUSTERS. NEW RESULTS ARE DISCUSSED ON A HIGH THEORETICAL LEVEL. ACCESS TO THIS FIELD OF RESEARCH IS GIVEN BY AN EXPLANATION OF THE VARIOUS SUBJECTS IN INTRODUCTORY CHAPTERS.

FINITE MODEL THEORY AND ITS APPLICATIONS - ERICH GRÄDEL 2007-06-04

FINITE MODEL THEORY, AS UNDERSTOOD HERE, IS AN AREA OF MATHEMATICAL LOGIC THAT HAS DEVELOPED IN CLOSE CONNECTION WITH APPLICATIONS TO COMPUTER SCIENCE, IN PARTICULAR THE THEORY OF COMPUTATIONAL COMPLEXITY AND DATABASE THEORY. ONE OF THE FUNDAMENTAL INSIGHTS OF MATHEMATICAL LOGIC IS THAT OUR UNDERSTANDING OF MATHEMATICAL PHENOMENA IS ENRICHED BY ELEVATING THE LANGUAGES WE USE TO DESCRIBE MATHEMATICAL STRUCTURES TO OBJECTS OF EXPLICIT STUDY. IF MATHEMATICS IS THE SCIENCE OF PATTERNS, THEN THE MEDIA THROUGH WHICH WE DISCERN PATTERNS, AS WELL AS THE STRUCTURES IN WHICH WE DISCERN THEM, COMMAND OUR ATTENTION. IT IS THIS ASPECT OF LOGIC WHICH IS MOST PROMINENT IN

MODEL THEORY, “THE BRANCH OF MATHEMATICAL LOGIC WHICH DEALS WITH THE RELATION BETWEEN A FORMAL LANGUAGE AND ITS INTERPRETATIONS”. NO WONDER, THEN, THAT MATHEMATICAL LOGIC, AND FINITE MODEL THEORY IN PARTICULAR, SHOULD FIND MANIFOLD APPLICATIONS IN COMPUTER SCIENCE: FROM SPECIFYING PROGRAMS TO QUERYING DATABASES, COMPUTER SCIENCE IS RIFE WITH PHENOMENA WHOSE UNDERSTANDING REQUIRES CLOSE ATTENTION TO THE INTERACTION BETWEEN LANGUAGE AND STRUCTURE. THIS VOLUME GIVES A BROAD OVERVIEW OF SOME CENTRAL THEMES OF FINITE MODEL THEORY: EXPRESSIVE POWER, DESCRIPTIVE COMPLEXITY, AND ZERO-ONE LAWS, TOGETHER WITH SELECTED APPLICATIONS TO DATABASE THEORY AND ARTIFICIAL INTELLIGENCE, ESPECIALLY CONSTRAINT DATABASES AND CONSTRAINT SATISFACTION PROBLEMS. THE FINAL CHAPTER PROVIDES A CONCISE MODERN INTRODUCTION TO MODAL LOGIC, WHICH EMPHASIZES THE CONTINUITY IN SPIRIT AND TECHNIQUE WITH FINITE MODEL THEORY.

DISCRETE MATHEMATICS WITH APPLICATIONS - SUSANNA S. EPP
2018-12-17

KNOWN FOR ITS ACCESSIBLE, PRECISE APPROACH, EPP'S DISCRETE MATHEMATICS WITH APPLICATIONS, 5TH EDITION, INTRODUCES DISCRETE MATHEMATICS WITH CLARITY AND PRECISION. COVERAGE EMPHASIZES THE MAJOR THEMES OF DISCRETE MATHEMATICS AS

WELL AS THE REASONING THAT UNDERLIES MATHEMATICAL THOUGHT. STUDENTS LEARN TO THINK ABSTRACTLY AS THEY STUDY THE IDEAS OF LOGIC AND PROOF. WHILE LEARNING ABOUT LOGIC CIRCUITS AND COMPUTER ADDITION, ALGORITHM ANALYSIS, RECURSIVE THINKING, COMPUTABILITY, AUTOMATA, CRYPTOGRAPHY AND COMBINATORICS, STUDENTS DISCOVER THAT IDEAS OF DISCRETE MATHEMATICS UNDERLIE AND ARE ESSENTIAL TO TODAY'S SCIENCE AND TECHNOLOGY. THE AUTHOR'S EMPHASIS ON REASONING PROVIDES A FOUNDATION FOR COMPUTER SCIENCE AND UPPER-LEVEL MATHEMATICS COURSES. IMPORTANT NOTICE: MEDIA CONTENT REFERENCED WITHIN THE PRODUCT DESCRIPTION OR THE PRODUCT TEXT MAY NOT BE AVAILABLE IN THE EBOOK VERSION.

DISCRETE MATHEMATICAL STRUCTURES
- D. S. MALIK 2004

TEACHES STUDENTS THE MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE, INCLUDING LOGIC, BOOLEAN ALGEBRA, BASIC GRAPH THEORY, FINITE STATE MACHINES, GRAMMARS AND ALGORITHMS, AND HELPS THEM UNDERSTAND MATHEMATICAL REASONING FOR READING, COMPREHENSION AND CONSTRUCTION OF MATHEMATICAL ARGUMENTS.

THE CARNEGIE-MELLON CURRICULUM FOR UNDERGRADUATE COMPUTER SCIENCE - MARY SHAW 2012-12-06
THIS CURRICULUM AND ITS DESCRIPTION WERE DEVELOPED DURING THE PERIOD

1981 - 1984

MATHEMATICAL LOGIC FOR COMPUTER SCIENCE - ZHONGWAN LU 1998

MATHEMATICAL LOGIC IS ESSENTIALLY RELATED TO COMPUTER SCIENCE. THIS BOOK DESCRIBES THE ASPECTS OF MATHEMATICAL LOGIC THAT ARE CLOSELY RELATED TO EACH OTHER, INCLUDING CLASSICAL LOGIC,

CONSTRUCTIVE LOGIC, AND MODAL LOGIC. THIS BOOK IS INTENDED TO ATTEND TO BOTH THE PECULIARITIES OF LOGICAL SYSTEMS AND THE REQUIREMENTS OF COMPUTER SCIENCE. IN THIS EDITION, THE REVISIONS ESSENTIALLY INVOLVE REWRITING THE PROOFS, INCREASING THE EXPLANATIONS, AND ADOPTING NEW TERMS AND NOTATIONS.