

# Discrete Mathematical Structures With Applications To Computer Science

## Tremblay And Manohar

GETTING THE BOOKS **DISCRETE MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER SCIENCE TREMBLAY AND MANOHAR** NOW IS NOT TYPE OF INSPIRING MEANS. YOU COULD NOT BY YOURSELF GOING IN THE MANNER OF EBOOK STORE OR LIBRARY OR BORROWING FROM YOUR CONNECTIONS TO RIGHT TO USE THEM. THIS IS AN ENORMOUSLY SIMPLE MEANS TO SPECIFICALLY ACQUIRE LEAD BY ON-LINE. THIS ONLINE STATEMENT **DISCRETE MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER SCIENCE TREMBLAY AND MANOHAR** CAN BE ONE OF THE OPTIONS TO ACCOMPANY YOU CONSIDERING HAVING SUPPLEMENTARY TIME.

IT WILL NOT WASTE YOUR TIME. PUT UP WITH ME, THE E-BOOK WILL ENTIRELY CIRCULATE YOU SUPPLEMENTARY SITUATION TO READ. JUST INVEST LITTLE ERA TO GATE THIS ON-LINE BROADCAST **DISCRETE MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER SCIENCE TREMBLAY AND MANOHAR** AS CAPABLY AS EVALUATION THEM WHEREVER YOU ARE NOW.

**DISCRETE MATHEMATICAL STRUCTURES**  
- BERNARD KOLMAN 1996

THIS IS THE ONLY DISCRETE MATH TEXT THAT HAS A THREAD HOLDING THE VARIOUS TOPICS TOGETHER. ONE OF THE SHORTEST BOOKS ON THE MARKET. NEW TO THIS EDITION: STRONGER COVERAGE OF LOGIC, GRAPHS, AND TREES. ALSO INCLUDES SPECIAL STUDENT PROJECTS.

**APPLIED DISCRETE STRUCTURES** - KEN LEVASSEUR 2012-02-25

APPLIED DISCRETE STRUCTURES, IS A TWO SEMESTER UNDERGRADUATE TEXT IN DISCRETE MATHEMATICS, FOCUSING ON THE STRUCTURAL PROPERTIES OF MATHEMATICAL OBJECTS. THESE INCLUDE MATRICES, FUNCTIONS, GRAPHS, TREES, LATTICES AND ALGEBRAIC STRUCTURES. THE ALGEBRAIC STRUCTURES THAT ARE DISCUSSED ARE MONOIDS, GROUPS, RINGS, FIELDS AND VECTOR SPACES. WEBSITE: [HTTP://DISCRETEMATH.ORG](http://discretemath.org)

APPLIED DISCRETE STRUCTURES HAS BEEN APPROVED BY THE AMERICAN INSTITUTE OF MATHEMATICS AS PART OF THEIR OPEN TEXTBOOK INITIATIVE. FOR MORE INFORMATION ON OPEN TEXTBOOKS, VISIT [HTTP://WWW.AIMATH.ORG/TEXTBOOKS/](http://www.aimath.org/textbooks/). THIS VERSION WAS CREATED USING MATHBOOK XML ([HTTPS://MATHBOOK.PUGETSOUND.EDU/](https://mathbook.pugetsound.edu/)) AL DOERR IS EMERITUS PROFESSOR OF MATHEMATICAL SCIENCES AT UMASS LOWELL. HIS INTERESTS INCLUDE ABSTRACT ALGEBRA AND DISCRETE MATHEMATICS. KEN LEVASSEUR IS A PROFESSOR OF MATHEMATICAL SCIENCES AT UMASS LOWELL. HIS INTERESTS INCLUDE DISCRETE MATHEMATICS AND ABSTRACT ALGEBRA, AND THEIR IMPLEMENTATION USING COMPUTER ALGEBRA SYSTEMS. *DISCRETE MATHEMATICS* - N. CHANDRASEKAREN 2015-07-30 NOW IN ITS SECOND EDITION, THIS TEXT PROVIDES AN EXHAUSTIVE PRESENTATION OF THE FUNDAMENTAL CONCEPTS OF DISCRETE MATHEMATICAL STRUCTURES AND THEIR APPLICATIONS IN COMPUTER SCIENCE AND MATHEMATICS. IT AIMS TO DEVELOP THE ABILITY OF THE STUDENTS TO APPLY MATHEMATICAL THOUGHT IN ORDER TO SOLVE COMPUTATION-RELATED PROBLEMS. **DISCRETE MATHEMATICS AND ITS APPLICATIONS** - KENNETH H. ROSEN 2003 DISCRETE MATHEMATICS AND ITS APPLICATIONS IS A FOCUSED INTRODUCTION TO THE PRIMARY THEMES

IN A DISCRETE MATHEMATICS COURSE, AS INTRODUCED THROUGH EXTENSIVE APPLICATIONS, EXPANSIVE DISCUSSION, AND DETAILED EXERCISE SETS. THESE THEMES INCLUDE MATHEMATICAL REASONING, COMBINATORIAL ANALYSIS, DISCRETE STRUCTURES, ALGORITHMIC THINKING, AND ENHANCED PROBLEM-SOLVING SKILLS THROUGH MODELING. ITS INTENT IS TO DEMONSTRATE THE RELEVANCE AND PRACTICALITY OF DISCRETE MATHEMATICS TO ALL STUDENTS. THE FIFTH EDITION INCLUDES A MORE THOROUGH AND LINEAR PRESENTATION OF LOGIC, PROOF TYPES AND PROOF WRITING, AND MATHEMATICAL REASONING. THIS ENHANCED COVERAGE WILL PROVIDE STUDENTS WITH A SOLID UNDERSTANDING OF THE MATERIAL AS IT RELATES TO THEIR IMMEDIATE FIELD OF STUDY AND OTHER RELEVANT SUBJECTS. THE INCLUSION OF APPLICATIONS AND EXAMPLES TO KEY TOPICS HAS BEEN SIGNIFICANTLY ADDRESSED TO ADD CLARITY TO EVERY SUBJECT. TRUE TO THE FOURTH EDITION, THE TEXT-SPECIFIC WEB SITE SUPPLEMENTS THE SUBJECT MATTER IN MEANINGFUL WAYS, OFFERING ADDITIONAL MATERIAL FOR STUDENTS AND INSTRUCTORS. DISCRETE MATH IS AN ACTIVE SUBJECT WITH NEW DISCOVERIES MADE EVERY YEAR. THE CONTINUAL GROWTH AND UPDATES TO THE WEB SITE REFLECT THE ACTIVE NATURE OF THE TOPICS BEING DISCUSSED. THE BOOK IS APPROPRIATE FOR A ONE- OR TWO-TERM INTRODUCTORY DISCRETE MATHEMATICS COURSE TO BE TAKEN BY STUDENTS IN A

WIDE VARIETY OF MAJORS, INCLUDING COMPUTER SCIENCE, MATHEMATICS, AND ENGINEERING. COLLEGE ALGEBRA IS THE ONLY EXPLICIT PREREQUISITE.

*DISCRETE MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER SCIENCE* - JEAN-PAUL TREMBLAY 1987

*DISCRETE MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE* - BERNARD KOLMAN 1987

THIS TEXT HAS BEEN DESIGNED AS A COMPLETE INTRODUCTION TO DISCRETE MATHEMATICS, PRIMARILY FOR COMPUTER SCIENCE MAJORS IN EITHER A ONE OR TWO SEMESTER COURSE. THE TOPICS ADDRESSED ARE OF GENUINE USE IN COMPUTER SCIENCE, AND ARE PRESENTED IN A LOGICALLY COHERENT FASHION. THE MATERIAL HAS BEEN ORGANIZED AND INTERRELATED TO MINIMIZE THE MASS OF DEFINITIONS AND THE ABSTRACTION OF SOME OF THE THEORY. FOR EXAMPLE, RELATIONS AND DIRECTED GRAPHS ARE TREATED AS TWO ASPECTS OF THE SAME MATHEMATICAL IDEA. WHENEVER POSSIBLE EACH NEW IDEA USES PREVIOUSLY ENCOUNTERED MATERIAL, AND THEN DEVELOPED IN SUCH A WAY THAT IT SIMPLIFIES THE MORE COMPLEX IDEAS THAT FOLLOW.

*FOUNDATIONS OF DISCRETE MATHEMATICS WITH ALGORITHMS AND PROGRAMMING* - R. BALAKRISHNAN 2018-10-26

DISCRETE MATHEMATICS HAS PERMEATED THE WHOLE OF MATHEMATICS SO MUCH SO IT HAS

NOW COME TO BE TAUGHT EVEN AT THE HIGH SCHOOL LEVEL. THIS BOOK PRESENTS THE BASICS OF DISCRETE MATHEMATICS AND ITS APPLICATIONS TO DAY-TO-DAY PROBLEMS IN SEVERAL AREAS. THIS BOOK IS INTENDED FOR UNDERGRADUATE STUDENTS OF COMPUTER SCIENCE, MATHEMATICS AND ENGINEERING. A NUMBER OF EXAMPLES HAVE BEEN GIVEN TO ENHANCE THE UNDERSTANDING OF CONCEPTS. THE PROGRAMMING LANGUAGES USED ARE PASCAL AND C.

*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 MATHEMATICAL STRUCTURES AND THEIR APPLICATIONS** - HAROLD S. STONE 1973

**FUNDAMENTALS OF DISCRETE MATHEMATICAL STRUCTURES** - K. R. CHOWDHARY 2015-01-02

THIS UPDATED TEXT, NOW IN ITS THIRD EDITION, CONTINUES TO PROVIDE THE BASIC CONCEPTS OF DISCRETE MATHEMATICS AND ITS APPLICATIONS AT AN APPROPRIATE LEVEL OF RIGOUR. THE TEXT TEACHES MATHEMATICAL LOGIC, DISCUSSES HOW TO WORK WITH DISCRETE STRUCTURES, ANALYZES COMBINATORIAL APPROACH TO PROBLEM-SOLVING AND DEVELOPS AN ABILITY TO CREATE AND UNDERSTAND MATHEMATICAL MODELS AND ALGORITHMS ESSENTIALS FOR WRITING COMPUTER PROGRAMS. EVERY CONCEPT INTRODUCED IN THE TEXT IS FIRST EXPLAINED FROM THE POINT OF VIEW OF MATHEMATICS, FOLLOWED BY ITS RELATION TO COMPUTER SCIENCE. IN ADDITION, IT OFFERS EXCELLENT COVERAGE OF GRAPH THEORY, MATHEMATICAL REASONING, FOUNDATIONAL MATERIAL ON SET THEORY, RELATIONS AND THEIR COMPUTER REPRESENTATION, SUPPORTED BY A NUMBER OF WORKED-OUT EXAMPLES AND EXERCISES TO REINFORCE THE STUDENTS' SKILL. PRIMARILY INTENDED FOR UNDERGRADUATE STUDENTS OF COMPUTER SCIENCE AND ENGINEERING, AND INFORMATION TECHNOLOGY, THIS TEXT WILL ALSO BE USEFUL FOR UNDERGRADUATE AND POSTGRADUATE STUDENTS OF COMPUTER APPLICATIONS. NEW TO THIS EDITION INCORPORATES MANY NEW SECTIONS AND SUBSECTIONS SUCH AS RECURRENCE RELATIONS WITH CONSTANT COEFFICIENTS, LINEAR RECURRENCE RELATIONS WITH AND WITHOUT

CONSTANT COEFFICIENTS, RULES FOR COUNTING AND SHORTING, PEANO AXIOMS, GRAPH CONNECTING, GRAPH SCANNING ALGORITHM, LEXICOGRAPHIC SHORTING, CHAINS, ANTICHAINS AND ORDER-ISOMORPHISM, COMPLEMENTED LATTICES, ISOMORPHIC ORDER SETS, CYCLIC GROUPS, AUTOMORPHISM GROUPS, ABELIAN GROUPS, GROUP HOMOMORPHISM, SUBGROUPS, PERMUTATION GROUPS, COSETS, AND QUOTIENT SUBGROUPS. INCLUDES MANY NEW WORKED-OUT EXAMPLES, DEFINITIONS, THEOREMS, EXERCISES, AND GATE LEVEL MCQs WITH ANSWERS.

**CONNECTING DISCRETE MATHEMATICS AND COMPUTER SCIENCE** - DAVID LIBEN-NOWELL 2022-08-04  
AN APPROACHABLE TEXTBOOK CONNECTING THE MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE TO BROAD-RANGING AND COMPELLING APPLICATIONS THROUGHOUT THE FIELD.

**MATHEMATICS OF DISCRETE STRUCTURES FOR COMPUTER SCIENCE** - GORDON J. PACE 2012-09-13  
MATHEMATICS PLAYS A KEY ROLE IN COMPUTER SCIENCE, SOME RESEARCHERS WOULD CONSIDER COMPUTERS AS NOTHING BUT THE PHYSICAL EMBODIMENT OF MATHEMATICAL SYSTEMS. AND WHETHER YOU ARE DESIGNING A DIGITAL CIRCUIT, A COMPUTER PROGRAM OR A NEW PROGRAMMING LANGUAGE, YOU NEED MATHEMATICS TO BE ABLE TO REASON ABOUT THE DESIGN -- ITS CORRECTNESS, ROBUSTNESS AND DEPENDABILITY. THIS BOOK COVERS THE FOUNDATIONAL MATHEMATICS

NECESSARY FOR COURSES IN COMPUTER SCIENCE. THE COMMON APPROACH TO PRESENTING MATHEMATICAL CONCEPTS AND OPERATORS IS TO DEFINE THEM IN TERMS OF PROPERTIES THEY SATISFY, AND THEN BASED ON THESE DEFINITIONS DEVELOP WAYS OF COMPUTING THE RESULT OF APPLYING THE OPERATORS AND PROVE THEM CORRECT. THIS BOOK IS MAINLY WRITTEN FOR COMPUTER SCIENCE STUDENTS, SO HERE THE AUTHOR TAKES A DIFFERENT APPROACH: HE STARTS BY DEFINING WAYS OF CALCULATING THE RESULTS OF APPLYING THE OPERATORS AND THEN PROVES THAT THEY SATISFY VARIOUS PROPERTIES. AFTER JUSTIFYING HIS UNDERLYING APPROACH THE AUTHOR OFFERS DETAILED CHAPTERS COVERING PROPOSITIONAL LOGIC, PREDICATE CALCULUS, SETS, RELATIONS, DISCRETE STRUCTURES, STRUCTURED TYPES, NUMBERS, AND REASONING ABOUT PROGRAMS. THE BOOK CONTAINS CHAPTER AND SECTION SUMMARIES, DETAILED PROOFS AND MANY END-OF-SECTION EXERCISES -- KEY TO THE LEARNING PROCESS. THE BOOK IS SUITABLE FOR UNDERGRADUATE AND GRADUATE STUDENTS, AND ALTHOUGH THE TREATMENT FOCUSES ON AREAS WITH FREQUENT APPLICATIONS IN COMPUTER SCIENCE, THE BOOK IS ALSO SUITABLE FOR STUDENTS OF MATHEMATICS AND ENGINEERING.

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](http://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.

**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.

DISCRETE MATHEMATICS FOR COMPUTER SCIENTISTS - JOE L. MOTT 1983

PROVIDES COMPUTER SCIENCE STUDENTS WITH A FOUNDATION IN DISCRETE MATHEMATICS USING RELEVANT COMPUTER SCIENCE APPLICATIONS.

DISCRETE MATHEMATICS WITH APPLICATIONS - THOMAS KOSHY  
2004-01-19

THIS APPROACHABLE TEXT STUDIES DISCRETE OBJECTS AND THE RELATIONSHIPS THAT BIND THEM. IT HELPS STUDENTS UNDERSTAND AND APPLY THE POWER OF DISCRETE MATH TO DIGITAL COMPUTER SYSTEMS AND OTHER MODERN APPLICATIONS. IT PROVIDES EXCELLENT PREPARATION FOR COURSES IN LINEAR ALGEBRA, NUMBER THEORY, AND MODERN/ABSTRACT ALGEBRA AND FOR COMPUTER SCIENCE COURSES IN DATA STRUCTURES, ALGORITHMS, PROGRAMMING LANGUAGES, COMPILERS, DATABASES, AND COMPUTATION. \* COVERS ALL RECOMMENDED TOPICS IN A SELF-CONTAINED, COMPREHENSIVE, AND UNDERSTANDABLE FORMAT FOR STUDENTS AND NEW PROFESSIONALS \* EMPHASIZES PROBLEM-SOLVING TECHNIQUES, PATTERN RECOGNITION, CONJECTURING, INDUCTION, APPLICATIONS OF VARYING NATURE, PROOF TECHNIQUES, ALGORITHM DEVELOPMENT AND CORRECTNESS, AND NUMERIC COMPUTATIONS \* WEAVES NUMEROUS APPLICATIONS INTO THE TEXT \* HELPS STUDENTS LEARN BY DOING WITH A WEALTH OF EXAMPLES AND EXERCISES: - 560 EXAMPLES WORKED OUT IN DETAIL - MORE THAN 3,700 EXERCISES - MORE THAN 150 COMPUTER ASSIGNMENTS - MORE THAN 600 WRITING PROJECTS \* INCLUDES CHAPTER SUMMARIES OF IMPORTANT VOCABULARY, FORMULAS, AND PROPERTIES, PLUS THE CHAPTER REVIEW

EXERCISES \* FEATURES INTERESTING ANECDOTES AND BIOGRAPHIES OF 60 MATHEMATICIANS AND COMPUTER SCIENTISTS \* INSTRUCTOR'S MANUAL AVAILABLE FOR ADOPTERS \* STUDENT SOLUTIONS MANUAL AVAILABLE SEPARATELY FOR PURCHASE (ISBN: 0124211828)

**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.

**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.

**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 AND THEIR APPLICATIONS* - HAROLD S. STONE 1973

**INSTRUCTOR'S MANUAL TO ACCOMPANY DISCRETE MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER SCIENCE** - JEAN-PAUL TREMBLAY 1976

DISCRETE MATHEMATICAL STRUCTURES  
- B. V. SENTHIL KUMAR 2019-07-08  
THIS BOOK CONTAINS FUNDAMENTAL CONCEPTS ON DISCRETE MATHEMATICAL STRUCTURES IN AN EASY TO UNDERSTAND STYLE SO THAT THE READER CAN GRASP THE CONTENTS AND EXPLANATION EASILY. THE CONCEPTS OF DISCRETE MATHEMATICAL STRUCTURES HAVE APPLICATION TO COMPUTER SCIENCE, ENGINEERING AND INFORMATION TECHNOLOGY INCLUDING IN CODING TECHNIQUES, SWITCHING CIRCUITS, POINTERS AND LINKED ALLOCATION, ERROR CORRECTIONS, AS WELL AS IN DATA NETWORKING, CHEMISTRY, BIOLOGY AND MANY OTHER SCIENTIFIC AREAS. THE BOOK IS FOR UNDERGRADUATE AND GRADUATE LEVELS LEARNERS AND EDUCATORS ASSOCIATED WITH VARIOUS COURSES AND PROGRAMMES IN MATHEMATICS, COMPUTER SCIENCE, ENGINEERING AND

INFORMATION TECHNOLOGY. THE BOOK SHOULD SERVE AS A TEXT AND REFERENCE GUIDE TO MANY UNDERGRADUATE AND GRADUATE PROGRAMMES OFFERED BY MANY INSTITUTIONS INCLUDING COLLEGES AND UNIVERSITIES. READERS WILL FIND SOLVED EXAMPLES AND END OF CHAPTER EXERCISES TO ENHANCE READER COMPREHENSION. FEATURES OFFERS COMPREHENSIVE COVERAGE OF BASIC IDEAS OF LOGIC, MATHEMATICAL INDUCTION, GRAPH THEORY, ALGEBRAIC STRUCTURES AND LATTICES AND BOOLEAN ALGEBRA PROVIDES END OF CHAPTER SOLVED EXAMPLES AND PRACTICE PROBLEMS DELIVERS MATERIALS ON VALID ARGUMENTS AND RULES OF INFERENCE WITH ILLUSTRATIONS FOCUSES ON ALGEBRAIC STRUCTURES TO ENABLE THE READER TO WORK WITH DISCRETE STRUCTURES  
*PRACTICAL DISCRETE MATHEMATICS* - RYAN T. WHITE 2021-02-22  
A PRACTICAL GUIDE SIMPLIFYING DISCRETE MATH FOR CURIOUS MINDS AND DEMONSTRATING ITS APPLICATION IN SOLVING PROBLEMS RELATED TO SOFTWARE DEVELOPMENT, COMPUTER ALGORITHMS, AND DATA SCIENCE KEY FEATURES APPLY THE MATH OF COUNTABLE OBJECTS TO PRACTICAL PROBLEMS IN COMPUTER SCIENCE EXPLORE MODERN PYTHON LIBRARIES SUCH AS SCIKIT-LEARN, NUMPY, AND SCIPY FOR PERFORMING MATHEMATICS LEARN COMPLEX STATISTICAL AND MATHEMATICAL CONCEPTS WITH THE HELP OF HANDS-ON



EXAMPLES AND EXPERT GUIDANCE  
 DESCRIPTION DISCRETE MATHEMATICS  
 DEALS WITH STUDYING COUNTABLE,  
 DISTINCT ELEMENTS, AND ITS PRINCIPLES  
 ARE WIDELY USED IN BUILDING  
 ALGORITHMS FOR COMPUTER SCIENCE  
 AND DATA SCIENCE. THE KNOWLEDGE OF  
 DISCRETE MATH CONCEPTS WILL HELP  
 YOU UNDERSTAND THE ALGORITHMS,  
 BINARY, AND GENERAL MATHEMATICS  
 THAT SIT AT THE CORE OF DATA-  
 DRIVEN TASKS. PRACTICAL DISCRETE  
 MATHEMATICS IS A COMPREHENSIVE  
 INTRODUCTION FOR THOSE WHO ARE  
 NEW TO THE MATHEMATICS OF  
 COUNTABLE OBJECTS. THIS BOOK WILL  
 HELP YOU GET UP TO SPEED WITH USING  
 DISCRETE MATH PRINCIPLES TO TAKE  
 YOUR COMPUTER SCIENCE SKILLS TO A  
 MORE ADVANCED LEVEL. AS YOU LEARN  
 THE LANGUAGE OF DISCRETE  
 MATHEMATICS, YOU'LL ALSO COVER  
 METHODS CRUCIAL TO STUDYING AND  
 DESCRIBING COMPUTER SCIENCE AND  
 MACHINE LEARNING OBJECTS AND  
 ALGORITHMS. THE CHAPTERS THAT  
 FOLLOW WILL GUIDE YOU THROUGH  
 HOW MEMORY AND CPUs WORK. IN  
 ADDITION TO THIS, YOU'LL  
 UNDERSTAND HOW TO ANALYZE DATA  
 FOR USEFUL PATTERNS, BEFORE FINALLY  
 EXPLORING HOW TO APPLY MATH  
 CONCEPTS IN NETWORK ROUTING, WEB  
 SEARCHING, AND DATA SCIENCE. BY THE  
 END OF THIS BOOK, YOU'LL HAVE A  
 DEEPER UNDERSTANDING OF DISCRETE  
 MATH AND ITS APPLICATIONS IN  
 COMPUTER SCIENCE, AND BE READY TO  
 WORK ON REAL-WORLD ALGORITHM  
 DEVELOPMENT AND MACHINE LEARNING.

WHAT YOU WILL LEARN  
 UNDERSTAND  
 THE TERMINOLOGY AND METHODS IN  
 DISCRETE MATH AND THEIR USAGE IN  
 ALGORITHMS AND DATA PROBLEMS  
 USE  
 BOOLEAN ALGEBRA IN FORMAL LOGIC  
 AND ELEMENTARY CONTROL  
 STRUCTURES  
 IMPLEMENT COMBINATORICS  
 TO MEASURE COMPUTATIONAL  
 COMPLEXITY AND MANAGE MEMORY  
 ALLOCATION  
 USE RANDOM VARIABLES,  
 CALCULATE DESCRIPTIVE STATISTICS,  
 AND FIND AVERAGE-CASE  
 COMPUTATIONAL COMPLEXITY  
 SOLVE  
 GRAPH PROBLEMS INVOLVED IN ROUTING,  
 PATHFINDING, AND GRAPH SEARCHES,  
 SUCH AS DEPTH-FIRST SEARCH  
 PERFORM  
 ML TASKS SUCH AS DATA  
 VISUALIZATION, REGRESSION, AND  
 DIMENSIONALITY REDUCTION  
 WHO THIS  
 BOOK IS FOR  
 THIS BOOK IS FOR  
 COMPUTER SCIENTISTS LOOKING TO  
 EXPAND THEIR KNOWLEDGE OF DISCRETE  
 MATH, THE CORE TOPIC OF THEIR FIELD.  
 UNIVERSITY STUDENTS LOOKING TO  
 GET HANDS-ON WITH COMPUTER  
 SCIENCE, MATHEMATICS, STATISTICS,  
 ENGINEERING, OR RELATED DISCIPLINES  
 WILL ALSO FIND THIS BOOK USEFUL.  
 BASIC PYTHON PROGRAMMING SKILLS  
 AND KNOWLEDGE OF ELEMENTARY REAL-  
 NUMBER ALGEBRA ARE REQUIRED TO GET  
 STARTED WITH THIS BOOK.  
*DISCRETE MATHEMATICAL STRUCTURES*  
 - BERNARD KOLMAN 2000  
 FOR ONE/TWO-TERM,  
 FRESHMAN/SOPHOMORE-LEVEL COURSES  
 IN DISCRETE MATHEMATICS. MORE THAN  
 ANY OTHER BOOK IN THE FIELD, THIS  
 TEXT TIES TOGETHER DISCRETE TOPICS  
 WITH A THEME. WRITTEN AT AN

APPROPRIATE LEVEL OF RIGOR WITH A STRONG PEDAGOGICAL FOCUS IT LIMITS DEPTH OF COVERAGE AND AREAS COVERED TO TOPICS OF GENUINE USE IN COMPUTER SCIENCE. AN EMPHASIS ON BOTH BASIC THEORY AND APPLICATIONS PROVIDES STUDENTS WITH A FIRM FOUNDATION FOR MORE ADVANCED COURSES.

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* - KOLMAN BERNARD 1999

COMBINING A CAREFUL SELECTION OF TOPICS WITH COVERAGE OF THEIR "GENUINE" APPLICATIONS IN COMPUTER SCIENCE, THIS BOOK, MORE THAN ANY OTHER IN THIS FIELD, IS CLEARLY AND CONCISELY WRITTEN, PRESENTING THE BASIC IDEAS OF DISCRETE

MATHEMATICAL STRUCTURES IN A MANNER THAT IS UNDERSTANDABLE. LIMITING ITS SCOPE AND DEPTH OF TOPICS TO THOSE THAT READERS CAN ACTUALLY UTILIZE, THIS BOOK COVERS FIRST THE FUNDAMENTALS, THEN FOLLOWS WITH LOGIC, COUNTING, RELATIONS AND DIGRAPHS, FUNCTIONS, ORDER RELATIONS AND STRUCTURES, TREES, GRAPH THEORY, SEMIGROUPS AND GROUPS, LANGUAGES AND FINITE-STATE MACHINES, AND GROUPS AND CODING. WITH ITS COMPREHENSIVE APPENDICES AND INDEX, THIS BOOK CAN BE AN EXCELLENT REFERENCE WORK FOR MATHEMATICIANS AND THOSE IN THE FIELD OF COMPUTER SCIENCE.

**DISCRETE MATHEMATICS USING A COMPUTER** - CORDELIA HALL 2013-04-17

SEVERAL AREAS OF MATHEMATICS FIND APPLICATION THROUGHOUT COMPUTER SCIENCE, AND ALL STUDENTS OF COMPUTER SCIENCE NEED A PRACTICAL WORKING UNDERSTANDING OF THEM. THESE CORE SUBJECTS ARE CENTRED ON LOGIC, SETS, RECURSION, INDUCTION, RELATIONS AND FUNCTIONS. THE MATERIAL IS OFTEN CALLED DISCRETE MATHEMATICS, TO DISTINGUISH IT FROM THE TRADITIONAL TOPICS OF CONTINUOUS MATHEMATICS SUCH AS INTEGRATION AND DIFFERENTIAL EQUATIONS. THE CENTRAL THEME OF THIS BOOK IS THE CONNECTION BETWEEN COMPUTING AND DISCRETE MATHEMATICS. THIS CONNECTION IS USEFUL IN BOTH DIRECTIONS: • MATHEMATICS IS USED IN MANY BRANCHES OF COMPUTER SCIENCE, IN

APPLICATIONS INCLUDING PROGRAM SPECIFICATION, DATA STRUCTURES, DESIGN AND ANALYSIS OF ALGORITHMS, DATABASE SYSTEMS, HARDWARE DESIGN, REASONING ABOUT THE CORRECTNESS OF IMPLEMENTATIONS, AND MUCH MORE;

• COMPUTERS CAN HELP TO MAKE THE MATHEMATICS EASIER TO LEARN AND USE, BY MAKING MATHEMATICAL TERMS EXECUTABLE, MAKING ABSTRACT CONCEPTS MORE CONCRETE, AND THROUGH THE USE OF SOFTWARE TOOLS SUCH AS PROOF CHECKERS.

THESE CONNECTIONS ARE EMPHASISED THROUGHOUT THE BOOK. SOFTWARE TOOLS (SEE APPENDIX A) ENABLE THE COMPUTER TO SERVE AS A CALCULATOR, BUT INSTEAD OF JUST DOING ARITHMETIC AND TRIGONOMETRIC FUNCTIONS, IT WILL BE USED TO CALCULATE WITH SETS, RELATIONS, FUNCTIONS, PREDICATES AND INFERENCES. THERE ARE ALSO SPECIAL SOFTWARE TOOLS, FOR EXAMPLE A PROOF CHECKER FOR LOGICAL PROOFS USING NATURAL DEDUCTION.

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.

*DISCRETE MATHEMATICAL STRUCTURES* - BERNARD KOLMAN 2013-08-29

DISCRETE MATHEMATICAL STRUCTURES, SIXTH 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.

INTRODUCTORY DISCRETE MATHEMATICS - V. K. BALAKRISHNAN 2012-04-30

THIS CONCISE, UNDERGRADUATE-LEVEL TEXT FOCUSES ON COMBINATORICS, GRAPH THEORY WITH APPLICATIONS TO SOME STANDARD NETWORK OPTIMIZATION PROBLEMS, AND ALGORITHMS. MORE THAN 200 EXERCISES, MANY WITH COMPLETE SOLUTIONS. 1991 EDITION.

**DISCRETE MATHEMATICS FOR COMPUTER SCIENTISTS** - STEIN CLIFFORD 2010-09

**DISCRETE MATHEMATICS AND ITS APPLICATIONS** - KENNETH H. ROSEN 2012

DISCRETE MATHEMATICAL STRUCTURES, 1/E - U.S. GUPTA  
DISCRETE MATHEMATICAL STRUCTURES

PROVIDES COMPREHENSIVE, REASONABLY RIGOROUS AND SIMPLE EXPLANATION OF THE CONCEPTS WITH THE HELP OF NUMEROUS APPLICATIONS FROM COMPUTER SCIENCE AND ENGINEERING. EVERY CHAPTER IS EQUIPPED WITH A GOOD NUMBER OF SOLVED EXAMPLES THAT ELUCIDATE THE DEFINITIONS AND THEOREMS DISCUSSED. CHAPTER-END EXERCISES ARE GRADED, WITH THE EASIER ONES IN THE BEGINNING AND THEN THE COMPLEX ONES, TO HELP STUDENTS FOR EASY SOLVING.

DISCRETE MATHEMATICAL STRU - JEAN-PAUL TREMBLAY 2001-02

**DISCRETE MATHEMATICS** - OSCAR LEVIN 2018-12-31

NOTE: THIS IS THE 3RD EDITION. IF YOU NEED THE 2ND EDITION FOR A COURSE YOU ARE TAKING, IT CAN BE FOUND AS A "OTHER FORMAT" ON AMAZON, OR BY SEARCHING ITS ISBN: 1534970746

THIS GENTLE INTRODUCTION TO DISCRETE MATHEMATICS IS WRITTEN FOR FIRST AND SECOND YEAR MATH MAJORS, ESPECIALLY THOSE WHO INTEND TO TEACH. THE TEXT BEGAN AS A SET OF LECTURE NOTES FOR THE DISCRETE MATHEMATICS COURSE AT THE UNIVERSITY OF NORTHERN COLORADO. THIS COURSE SERVES BOTH AS AN INTRODUCTION TO TOPICS IN DISCRETE MATH AND AS THE "INTRODUCTION TO PROOF" COURSE FOR MATH MAJORS. THE COURSE IS USUALLY TAUGHT WITH A LARGE AMOUNT OF STUDENT INQUIRY, AND THIS TEXT IS WRITTEN TO HELP FACILITATE THIS. FOUR MAIN TOPICS

ARE COVERED: COUNTING, SEQUENCES, LOGIC, AND GRAPH THEORY. ALONG THE WAY PROOFS ARE INTRODUCED, INCLUDING PROOFS BY CONTRADICTION, PROOFS BY INDUCTION, AND COMBINATORIAL PROOFS. THE BOOK CONTAINS OVER 470 EXERCISES, INCLUDING 275 WITH SOLUTIONS AND OVER 100 WITH HINTS. THERE ARE ALSO INVESTIGATE! ACTIVITIES THROUGHOUT THE TEXT TO SUPPORT ACTIVE, INQUIRY BASED LEARNING.

WHILE THERE ARE MANY FINE DISCRETE MATH TEXTBOOKS AVAILABLE, THIS TEXT HAS THE FOLLOWING ADVANTAGES: IT IS WRITTEN TO BE USED IN AN INQUIRY RICH COURSE. IT IS WRITTEN TO BE USED IN A COURSE FOR FUTURE MATH TEACHERS. IT IS OPEN SOURCE, WITH LOW COST PRINT EDITIONS AND FREE ELECTRONIC EDITIONS. THIS THIRD EDITION BRINGS IMPROVED EXPOSITION, A NEW SECTION ON TREES, AND A BUNCH OF NEW AND IMPROVED EXERCISES. FOR A COMPLETE LIST OF CHANGES, AND TO VIEW THE FREE ELECTRONIC VERSION OF THE TEXT, VISIT THE BOOK'S WEBSITE AT [DISCRETE.OPENMATHBOOKS.ORG](http://DISCRETE.OPENMATHBOOKS.ORG)

**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 MATHEMATICAL STRUCTURES WITH APPLICATIONS TO COMPUTER

SCIENCE - JEAN-PAUL TREMBLAY 1975

DISCRETE COMPUTATIONAL  
STRUCTURES - ROBERT R. KORFHAGE  
2014-05-12

DISCRETE COMPUTATIONAL STRUCTURES DESCRIBES DISCRETE MATHEMATICAL CONCEPTS THAT ARE IMPORTANT TO COMPUTING, COVERING NECESSARY MATHEMATICAL FUNDAMENTALS, COMPUTER REPRESENTATION OF SETS, GRAPH THEORY, STORAGE MINIMIZATION, AND BANDWIDTH. THE BOOK ALSO EXPLAINS CONCEPTUAL FRAMEWORK (GORN TREES, SEARCHING, SUBROUTINES) AND DIRECTED GRAPHS (FLOWCHARTS, CRITICAL PATHS, INFORMATION NETWORK). THE TEXT DISCUSSES ALGEBRA PARTICULARLY AS IT APPLIES TO CONCENTRATES ON SEMIGROUPS, GROUPS, LATTICES, PROPOSITIONAL CALCULUS, INCLUDING A NEW TABULAR METHOD OF BOOLEAN FUNCTION MINIMIZATION. THE TEXT EMPHASIZES COMBINATORICS AND PROBABILITY. EXAMPLES SHOW DIFFERENT TECHNIQUES OF THE GENERAL PROCESS OF ENUMERATING OBJECTS. COMBINATORICS COVER PERMUTATIONS, ENUMERATORS FOR COMBINATIONS, STIRLING NUMBERS, CYCLE CLASSES OF PERMUTATIONS, PARTITIONS, AND COMPOSITIONS. THE BOOK CITES AS EXAMPLE THE INTERPLAY BETWEEN DISCRETE MATHEMATICS AND COMPUTING USING A SYSTEM OF DISTINCT REPRESENTATIVES (SDR) PROBLEM. THE PROBLEM, ORIGINATING FROM GROUP THEORY, GRAPH THEORY,

AND SET THEORY CAN BE WORKED OUT BY THE STUDENT WITH A NETWORK MODEL INVOLVING COMPUTERS TO GENERATE AND ANALYZE DIFFERENT SCENARIOS. THE BOOK IS INTENDED FOR SOPHOMORE OR JUNIOR LEVEL, CORRESPONDING TO THE COURSE B3, "INTRODUCTION TO DISCRETE STRUCTURES," IN THE ACM CURRICULUM 68, AS WELL AS FOR MATHEMATICIANS OR PROFESSORS OF COMPUTER ENGINEERING AND ADVANCED MATHEMATICS.

**DISCRETE MATHEMATICS RESEARCH  
PROGRESS** - KENNETH BRIAN MOORE  
2008

DISCRETE MATHEMATICS, ALSO CALLED FINITE MATHEMATICS OR DECISION MATHS, IS THE STUDY OF MATHEMATICAL STRUCTURES THAT ARE FUNDAMENTALLY DISCRETE, IN THE SENSE OF NOT SUPPORTING OR REQUIRING THE NOTION OF CONTINUITY. MOST, IF NOT ALL, OF THE OBJECTS STUDIED IN FINITE MATHEMATICS ARE COUNTABLE SETS, SUCH AS INTEGERS, FINITE GRAPHS, AND FORMAL LANGUAGES. DISCRETE MATHEMATICS HAS BECOME POPULAR IN RECENT DECADES BECAUSE OF ITS APPLICATIONS TO COMPUTER SCIENCE. CONCEPTS AND NOTATIONS FROM DISCRETE MATHEMATICS ARE USEFUL TO STUDY OR DESCRIBE OBJECTS OR PROBLEMS IN COMPUTER ALGORITHMS AND PROGRAMMING LANGUAGES. IN SOME MATHEMATICS CURRICULA, FINITE MATHEMATICS COURSES COVER DISCRETE MATHEMATICAL CONCEPTS FOR BUSINESS, WHILE DISCRETE

MATHEMATICS COURSES EMPHASISE CONCEPTS FOR COMPUTER SCIENCE MAJORS.

*DISCRETE MATHEMATICS* - ROWAN GARNIER 2009-11-09

TAKING AN APPROACH TO THE SUBJECT THAT IS SUITABLE FOR A BROAD READERSHIP, *DISCRETE MATHEMATICS: PROOFS, STRUCTURES, AND APPLICATIONS*, THIRD EDITION PROVIDES A RIGOROUS YET ACCESSIBLE EXPOSITION OF DISCRETE MATHEMATICS, INCLUDING THE CORE MATHEMATICAL FOUNDATION OF COMPUTER SCIENCE. THE APPROACH IS COMPREHENSIVE YET MAINTAINS AN EASY-TO-FOLLOW PROGRESSION FROM THE BASIC MATHEMATICAL IDEAS TO THE MORE SOPHISTICATED CONCEPTS EXAMINED LATER IN THE BOOK. THIS EDITION PRESERVES THE PHILOSOPHY OF ITS PREDECESSORS WHILE UPDATING AND REVISING SOME OF THE CONTENT. NEW TO THE THIRD EDITION IN THE EXPANDED FIRST CHAPTER, THE TEXT INCLUDES A NEW SECTION ON THE

FORMAL PROOF OF THE VALIDITY OF ARGUMENTS IN PROPOSITIONAL LOGIC BEFORE MOVING ON TO PREDICATE LOGIC. THIS EDITION ALSO CONTAINS A NEW CHAPTER ON ELEMENTARY NUMBER THEORY AND CONGRUENCES. THIS CHAPTER EXPLORES GROUPS THAT ARISE IN MODULAR ARITHMETIC AND RSA ENCRYPTION, A WIDELY USED PUBLIC KEY ENCRYPTION SCHEME THAT ENABLES PRACTICAL AND SECURE MEANS OF ENCRYPTING DATA. THIS THIRD EDITION ALSO OFFERS A DETAILED SOLUTIONS MANUAL FOR QUALIFYING INSTRUCTORS. EXPLORING THE RELATIONSHIP BETWEEN MATHEMATICS AND COMPUTER SCIENCE, THIS TEXT CONTINUES TO PROVIDE A SECURE GROUNDING IN THE THEORY OF DISCRETE MATHEMATICS AND TO AUGMENT THE THEORETICAL FOUNDATION WITH SALIENT APPLICATIONS. IT IS DESIGNED TO HELP READERS DEVELOP THE RIGOROUS LOGICAL THINKING REQUIRED TO ADAPT TO THE DEMANDS OF THE EVER-EVOLVING DISCIPLINE OF COMPUTER SCIENCE.