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KEY=AND - BRADFORD BENJAMIN

INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION

Pearson This classic book on formal languages, automata theory, and computational complexity has been updated to present theoretical concepts in a concise and straightforward manner with the increase of hands-on, practical applications. This new edition comes with Gradiance, an online assessment tool developed for computer science. Please note, Gradiance is no longer available with this book, as we no longer support this product.

INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION

PEARSON NEW INTERNATIONAL EDITION

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INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION

PEARSON NEW INTERNATIONAL EDITION

Pearson Higher Ed This classic book on formal languages, automata theory, and computational complexity has been updated to present theoretical concepts in a concise and straightforward manner with the increase of hands-on, practical applications. With eBooks you can: search for key concepts, words and phrases make highlights and notes as you study share your notes with friends eBooks are downloaded to your computer and accessible either offline through the Bookshelf (available as a free download), available online and also via the iPad and Android apps. Upon purchase, you'll gain instant access to this eBook. Time limit The eBooks products do not have an expiry date. You will continue to access your digital ebook products whilst you have your Bookshelf installed.

INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION

Pearson Education India

INTRODUCTION TO AUTOMATA THEORY, FORMAL LANGUAGES AND COMPUTATION

Pearson Education India Formal languages and automata theory is the study of abstract machines and how these can be used for solving problems. The book has a simple and exhaustive approach to topics like automata theory, formal languages and theory of computation. These descriptions are followed by numerous relevant examples related to the topic. A brief introductory chapter on compilers explaining its relation to theory of computation is also given.

INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION: FOR ANNA UNIVERSITY, 3/E

Pearson Education India

INTRODUCTION TO AUTOMATA THEORY, FORMAL LANGUAGES AND COMPUTATION

INTRODUCTION TO FORMAL LANGUAGES, AUTOMATA THEORY AND COMPUTATION

Pearson Education India Introduction to Formal Languages, Automata Theory and Computation presents the theoretical concepts in a concise and clear manner, with an in-depth coverage of formal grammar and basic automata types. The book also examines the underlying theory and principles of computation and is highly suitable to the undergraduate courses in computer science and information technology. An overview of the recent trends in the field and applications are introduced at the appropriate places to stimulate the interest of active learners.

INTRODUCTION TO LANGUAGES AND THE THEORY OF COMPUTATION

McGraw-Hill Science, Engineering & Mathematics Introduction to Languages and the Theory of Computation is an introduction to the theory of computation that emphasizes formal languages, automata and abstract models of

computation, and computability; it also includes an introduction to computational complexity and NP-completeness. Through the study of these topics, students encounter profound computational questions and are introduced to topics that will have an ongoing impact in computer science. Once students have seen some of the many diverse technologies contributing to computer science, they can also begin to appreciate the field as a coherent discipline. A distinctive feature of this text is its gentle and gradual introduction of the necessary mathematical tools in the context in which they are used. Martin takes advantage of the clarity and precision of mathematical language but also provides discussion and examples that make the language intelligible to those just learning to read and speak it. The material is designed to be accessible to students who do not have a strong background in discrete mathematics, but it is also appropriate for students who have had some exposure to discrete math but whose skills in this area need to be consolidated and sharpened.

AN INTRODUCTION TO FORMAL LANGUAGES AND AUTOMATA

Jones & Bartlett Publishers An Introduction to Formal Languages & Automata provides an excellent presentation of the material that is essential to an introductory theory of computation course. The text was designed to familiarize students with the foundations & principles of computer science & to strengthen the students' ability to carry out formal & rigorous mathematical argument. Employing a problem-solving approach, the text provides students insight into the course material by stressing intuitive motivation & illustration of ideas through straightforward explanations & solid mathematical proofs. By emphasizing learning through problem solving, students learn the material primarily through problem-type illustrative examples that show the motivation behind the concepts, as well as their connection to the theorems & definitions.

INTRODUCTION TO AUTOMATA THEORY, LANGUAGES AND COMPUTATION

INTRODUCTION TO THE THEORY OF COMPUTATION

Cengage Learning Now you can clearly present even the most complex computational theory topics to your students with Sipser's distinct, market-leading INTRODUCTION TO THE THEORY OF COMPUTATION, 3E. The number one choice for today's computational theory course, this highly anticipated revision retains the unmatched clarity and thorough coverage that make it a leading text for upper-level undergraduate and introductory graduate students. This edition continues author Michael Sipser's well-known, approachable style with timely revisions, additional exercises, and more memorable examples in key areas. A new first-of-its-kind theoretical treatment of deterministic context-free languages is ideal for a better understanding of parsing and LR(k) grammars. This edition's refined presentation ensures a trusted accuracy and clarity that make the challenging study of computational theory accessible and intuitive to students while maintaining the subject's rigor and formalism. Readers gain a solid understanding of the fundamental mathematical properties of computer hardware, software, and applications with a blend of practical and philosophical coverage and mathematical treatments, including advanced theorems and proofs. INTRODUCTION TO THE THEORY OF COMPUTATION, 3E's comprehensive coverage makes this an ideal ongoing reference tool for those studying theoretical computing. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

THEORY OF AUTOMATA, FORMAL LANGUAGES AND COMPUTATION (AS PER UPTU SYLLABUS)

New Age International This Book Is Aimed At Providing An Introduction To The Basic Models Of Computability To The Undergraduate Students. This Book Is Devoted To Finite Automata And Their Properties. Pushdown Automata Provides A Class Of Models And Enables The Analysis Of Context-Free Languages. Turing Machines Have Been Introduced And The Book Discusses Computability And Decidability. A Number Of Problems With Solutions Have Been Provided For Each Chapter. A Lot Of Exercises Have Been Given With Hints/Answers To Most Of These Tutorial Problems.

STRUCTURE AND INTERPRETATION OF COMPUTER PROGRAMS - 2ND EDITION

Justin Kelly Structure and Interpretation of Computer Programs by Harold Abelson and Gerald Jay Sussman is licensed under a Creative Commons Attribution-NonCommercial 3.0 License.

THEORY OF COMPUTER SCIENCE

AUTOMATA, LANGUAGES AND COMPUTATION

PHI Learning Pvt. Ltd. This Third Edition, in response to the enthusiastic reception given by academia and students to the previous edition, offers a cohesive presentation of all aspects of theoretical computer science, namely automata, formal languages, computability, and complexity. Besides, it includes coverage of mathematical preliminaries. **NEW TO THIS EDITION** • Expanded sections on pigeonhole principle and the principle of induction (both in Chapter 2) • A rigorous proof of Kleene's theorem (Chapter 5) • Major changes in the chapter on Turing machines (TMs) - A new section on high-level description of TMs - Techniques for the construction of TMs - Multitape TM and nondeterministic TM • A new chapter (Chapter 10) on decidability and recursively enumerable languages • A new chapter (Chapter 12) on complexity theory and NP-complete problems • A section on quantum computation in Chapter 12. • **KEY FEATURES** • Objective-type questions in each chapter—with answers provided at the end of the book. • Eighty-three additional solved examples—added as Supplementary Examples in each chapter. • Detailed solutions at the end of the book to chapter-end exercises. The book is designed to meet the needs of the undergraduate and postgraduate students of

computer science and engineering as well as those of the students offering courses in computer applications.

AUTOMATA THEORY AND FORMAL LANGUAGES

Walter de Gruyter GmbH & Co KG The book is a concise, self-contained and fully updated introduction to automata theory - a fundamental topic of computer sciences and engineering. The material is presented in a rigorous yet convincing way and is supplied with a wealth of examples, exercises and down-to-the earth convincing explanatory notes. An ideal text to a spectrum of one-term courses in computer sciences, both at the senior undergraduate and graduate students.

AUTOMATA AND COMPUTABILITY

Springer These are my lecture notes from CS381/481: Automata and Computability Theory, a one-semester senior-level course I have taught at Cornell University for many years. I took this course myself in the fall of 1974 as a first-year Ph.D. student at Cornell from Juris Hartmanis and have been in love with the subject ever since. The course is required for computer science majors at Cornell. It exists in two forms: CS481, an honors version; and CS381, a somewhat gentler paced version. The syllabus is roughly the same, but CS481 goes deeper into the subject, covers more material, and is taught at a more abstract level. Students are encouraged to start off in one or the other, then switch within the first few weeks if they find the other version more suitable to their level of mathematical skill. The purpose of this course is twofold: to introduce computer science students to the rich heritage of models and abstractions that have arisen over the years; and to develop the capacity to form abstractions of their own and reason in terms of them.

A CONCISE INTRODUCTION TO LANGUAGES AND MACHINES

Springer Science & Business Media A Concise Introduction to Languages, Machines and Logic provides an accessible introduction to three key topics within computer science: formal languages, abstract machines and formal logic. Written in an easy-to-read, informal style, this textbook assumes only a basic knowledge of programming on the part of the reader. The approach is deliberately non-mathematical, and features: - Clear explanations of formal notation and jargon, - Extensive use of examples to illustrate algorithms and proofs, - Pictorial representations of key concepts, - Chapter opening overviews providing an introduction and guidance to each topic, - End-of-chapter exercises and solutions, - Offers an intuitive approach to the topics. This reader-friendly textbook has been written with undergraduates in mind and will be suitable for use on course covering formal languages, formal logic, computability and automata theory. It will also make an excellent supplementary text for courses on algorithm complexity and compilers.

AN INTRODUCTION TO FORMAL LANGUAGES AND MACHINE COMPUTATION

World Scientific This book provides a concise and modern introduction to Formal Languages and Machine Computation, a group of disparate topics in the theory of computation, which includes formal languages, automata theory, Turing machines, computability, complexity, number-theoretic computation, public-key cryptography, and some new models of computation, such as quantum and biological computation. As the theory of computation is a subject based on mathematics, a thorough introduction to a number of relevant mathematical topics, including mathematical logic, set theory, graph theory, modern abstract algebra, and particularly number theory, is given in the first chapter of the book. The book can be used either as a textbook for an undergraduate course, for a first-year graduate course, or as a basic reference in the field.

OUTLINES AND HIGHLIGHTS FOR INTRODUCTION TO AUTOMATA THEORY, LANGUAGES, AND COMPUTATION BY HOPCROFT AND MOTWANI AND ULLMAN

Never HIGHLIGHT a Book Again Includes all testable terms, concepts, persons, places, and events. Cram101 Just the FACTS101 studyguides gives all of the outlines, highlights, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanies: 9780201441246. This item is printed on demand.

INTRODUCTION TO THE THEORY OF COMPUTATION

Thomson/Course Technology "Intended as an upper-level undergraduate or introductory graduate text in computer science theory," this book lucidly covers the key concepts and theorems of the theory of computation. The presentation is remarkably clear; for example, the "proof idea," which offers the reader an intuitive feel for how the proof was constructed, accompanies many of the theorems and a proof. Introduction to the Theory of Computation covers the usual topics for this type of text plus it features a solid section on complexity theory--including an entire chapter on space complexity. The final chapter introduces more advanced topics, such as the discussion of complexity classes associated with probabilistic algorithms.

AUTOMATA AND LANGUAGES

THEORY AND APPLICATIONS

Springer Science & Business Media A step-by-step development of the theory of automata, languages and computation. Intended for use as the basis of an introductory course at both junior and senior levels, the text is organized so as to allow the design of various courses based on selected material. It features basic models of

computation, formal languages and their properties; computability, decidability and complexity; a discussion of modern trends in the theory of automata and formal languages; design of programming languages, including the development of a new programming language; and compiler design, including the construction of a complete compiler. Alexander Meduna uses clear definitions, easy-to-follow proofs and helpful examples to make formerly obscure concepts easy to understand. He also includes challenging exercises and programming projects to enhance the reader's comprehension, and many 'real world' illustrations and applications in practical computer science.

FORMAL LANGUAGES AND THEIR RELATION TO AUTOMATA [BY] JOHN E. HOPCROFT [AND] JEFFREY D. ULLMAN

LANGUAGE AND AUTOMATA THEORY AND APPLICATIONS

13TH INTERNATIONAL CONFERENCE, LATA 2019, ST. PETERSBURG, RUSSIA, MARCH 26-29, 2019, PROCEEDINGS

Springer This book constitutes the refereed proceedings of the 13th International Conference on Language and Automata Theory and Applications, LATA 2019, held in St. Petersburg, Russia, in March 2019. The 31 revised full papers presented together with 5 invited talks were carefully reviewed and selected from 98 submissions. The papers cover the following topics: Automata; Complexity; Grammars; Languages; Graphs, trees and rewriting; and Words and codes.

LANGUAGE AND AUTOMATA THEORY AND APPLICATIONS

15TH INTERNATIONAL CONFERENCE, LATA 2021, MILAN, ITALY, MARCH 1-5, 2021, PROCEEDINGS

Springer Nature This book constitutes the proceedings of the 15th International Conference on Language and Automata Theory and Applications, LATA 2021, held in Milan, Italy, in March 2021. The 26 full papers presented in this volume were carefully reviewed and selected from 52 submissions. They were organized in topical sections named: algebraic structures; automata; complexity; learning; logics and languages; trees and graphs; and words and strings.

AUTOMATA THEORY AND FORMAL LANGUAGES:

Pearson Education India The organized and accessible format of Automata Theory and Formal Languages allows students to learn important concepts in an easy-to-understand, question-and-answer format. This portable learning tool has been designed as a one-stop reference for students to understand and master the subjects by themselves.

INTRODUCTION TO COMPUTER THEORY

John Wiley & Sons Incorporated Designed for undergraduate courses in computer theory, this textbook covers three areas: formal languages, automata theory and Turing machines. The author substitutes graphic representation for symbolic proofs, making it accessible even to students with little mathematical background.

THEORY OF FINITE AUTOMATA

WITH AN INTRODUCTION TO FORMAL LANGUAGES

THEORY OF COMPUTATION

FORMAL LANGUAGES, AUTOMATA, AND COMPLEXITY

Pearson College Division Preliminaries; Finite automata and regular languages; Pushdown automata and context-free languages; Turing machines and phrase-structure languages; Computability; Complexity; Appendices.

AUTOMATA, COMPUTABILITY AND COMPLEXITY

THEORY AND APPLICATIONS

Prentice Hall The theoretical underpinnings of computing form a standard part of almost every computer science curriculum. But the classic treatment of this material isolates it from the myriad ways in which the theory influences the design of modern hardware and software systems. The goal of this book is to change that. The book is organized into a core set of chapters (that cover the standard material suggested by the title), followed by a set of appendix chapters that highlight application areas including programming language design, compilers, software verification, networks, security, natural language processing, artificial intelligence, game playing, and computational biology. The core material includes discussions of finite state machines, Markov models, hidden Markov models (HMMs), regular expressions, context-free grammars, pushdown automata, Chomsky and Greibach normal forms, context-free parsing, pumping theorems for regular and context-free languages, closure theorems and decision procedures for regular and context-free languages, Turing machines, nondeterminism, decidability and undecidability, the Church-Turing thesis, reduction proofs, Post Correspondence problem, tiling problems, the undecidability of first-order logic, asymptotic dominance, time and space complexity, the Cook-Levin theorem, NP-completeness, Savitch's Theorem, time and space hierarchy theorems, randomized algorithms and heuristic search. Throughout the discussion of these topics there are pointers into the application chapters. So, for example, the chapter that describes reduction proofs of undecidability has a link to the security chapter, which shows a reduction proof of the undecidability of the safety of a simple

protection framework.

ELEMENTS OF AUTOMATA THEORY

Cambridge University Press

LANGUAGES AND MACHINES: AN INTRODUCTION TO THE THEORY OF COMPUTER SCIENCE, 3/E

Pearson Education India

A SECOND COURSE IN FORMAL LANGUAGES AND AUTOMATA THEORY

Cambridge University Press Written for graduate students and advanced undergraduates in computer science, *A Second Course in Formal Languages and Automata Theory* treats topics in the theory of computation not usually covered in a first course. After a review of basic concepts, the book covers combinatorics on words, regular languages, context-free languages, parsing and recognition, Turing machines, and other language classes. Many topics often absent from other textbooks, such as repetitions in words, state complexity, the interchange lemma, 2DPDAs, and the incompressibility method, are covered here. The author places particular emphasis on the resources needed to represent certain languages. The book also includes a diverse collection of more than 200 exercises, suggestions for term projects, and research problems that remain open.

INTRODUCTION TO SWITCHING AND AUTOMATA THEORY

MODERN APPLICATIONS OF AUTOMATA THEORY

World Scientific

FORMAL LANGUAGES AND AUTOMATA THEORY

Market_Desc: Primary MarketVTU CSE/IT Discipline, 5th SemCourse: Formal Languages and Automata TheoryCourse Code: 06CS56Secondary MarketBPUT PECS5304 Theory of Computation 5th SemBPUT PECS5304 Theory of Computation 5th SemGNDU CS-404 Formal Language & Automata Theory, 7th SemWBUT CS402 Formal Language & Automata Theory, 4th SemPTU CS-404 Formal Language & Automata Theory, 7th/8th SemRGPV CS 5511/ CS505 Theory of Computation, 5th SemRTU 6CS5 Theory Of Computation, 6th SemCSV TU 322514(22) Theory of Computation, 5th SemUPTU, 7th Sem Elective ECS-072 Computational ComplexityJNTU, CSE/IT, 5th Sem Formal Languages and Automata TheoryAnna University, CSE/IT, 5th Sem Theory of Computation Special Features: · Content organization aligned with the teaching modules and well-accepted by students.· Introductory chapter covers the prerequisite concepts of discrete mathematics required for the course.· Emphasis on understanding concepts through explanatory examples.· Theorems limited to requirement of an undergraduate level, and the proofs kept as simple as possible.· Self-explanatory figures provided to enhance clarity of concepts.· Quantitative aspect addressed through a wide variety of solved problems within the chapter and worked out problems at the end of the chapter.· Solved model question papers appended the end of the book to get familiar with the examination pattern.· Excellent pedagogy includesü 40+ Theorems and explanatory examplesü 150+ Figures and tablesü 110+ Solved and worked-out problemsü 170+ Exercise questions About The Book: Formal Languages and Automata theory presents the theoretical aspects of computer science, and helps define infinite languages in finite ways; construct algorithms for related problems and decide whether a string is in language or not. These are of practical importance in construction of compilers and designing of programming languages, thus establishing the course as a core paper in third/fourth year of various universities.This book adopts a holistic approach to learning from fundamentals of formal languages to undecidability problems. Its organization follows the order in which the course is taught over the years, and is well-accepted by the student community. The contents of each topic motivate the reader to easily understand the concepts rather than remember and reproduce.

PRACTICAL DISCRETE MATHEMATICS

DISCOVER MATH PRINCIPLES THAT FUEL ALGORITHMS FOR COMPUTER SCIENCE AND MACHINE LEARNING WITH PYTHON

Packt Publishing Ltd 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 FeaturesApply the math of countable objects to practical problems in computer scienceExplore modern Python libraries such as scikit-learn, NumPy, and SciPy for performing mathematicsLearn complex statistical and mathematical concepts with the help of hands-on examples and expert guidanceBook 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.

FORMAL LANGUAGES AND AUTOMATA THEORY

Oxford University Press, USA Theory of Automata is designed to serve as a textbook for undergraduate students of B..E, B.Tech. CSE and MCA/IT. It attempts to help students grasp the essential concepts involved in automata theory.

INTRODUCTION TO THEORY OF AUTOMATA, FORMAL LANGUAGES, AND COMPUTATION

PHI Learning Pvt. Ltd. The Theory of Computation or Automata and Formal Languages assumes significance as it has a wide range of applications in compiler design, robotics, Artificial Intelligence (AI), and knowledge engineering. This compact and well-organized book provides a clear analysis of the subject with its emphasis on concepts which are reinforced with a large number of worked-out examples. The book begins with an overview of mathematical preliminaries. The initial chapters discuss in detail about the basic concepts of formal languages and automata, the finite automata, regular languages and regular expressions, and properties of regular languages. The text then goes on to give a detailed description of context-free languages, pushdown automata and computability of Turing machine, with its complexity and recursive features. The book concludes by giving clear insights into the theory of computability and computational complexity. This text is primarily designed for undergraduate (BE/B.Tech.) students of Computer Science and Engineering (CSE) and Information Technology (IT), postgraduate students (M.Sc.) of Computer Science, and Master of Computer Applications (MCA). Salient Features

- One complete chapter devoted to a discussion on undecidable problems.
- Numerous worked-out examples given to illustrate the concepts.
- Exercises at the end of each chapter to drill the students in self-study.
- Sufficient theories with proofs.

COMPUTABILITY

AN INTRODUCTION TO RECURSIVE FUNCTION THEORY

Cambridge University Press What can computers do in principle? What are their inherent theoretical limitations? The theoretical framework which enables such questions to be answered has been developed over the last fifty years from the idea of a computable function - a function whose values can be calculated in an automatic way.