# Software Engineering By Technical Publications Puntambekar

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*Design and analysis of Algorithms,2/e* Himanshu B. Dave This second edition of Design and Analysis of Algorithms continues to provide a comprehensive exposure to the subject with new inputs on contemporary topics in algorithm design and algorithm analysis. Spread over 21 chapters aptly complemented by five appendices, the book interprets core concepts with ease in logical succession to the student's benefit.

**Handbook of Design in Educational Technology** Rosemary Luckin 2013-06-26 The Handbook of Design in Educational Technology provides up-to-date, comprehensive summaries and syntheses of recent research pertinent to the design of information and communication technologies to support learning. Readers can turn to this handbook for expert advice about each stage in the process of designing systems for use in educational settings; from theoretical foundations to the challenges of implementation, the process of evaluating the impact of the design and the manner in which it might be further developed and disseminated. The volume is organized into the following four sections: Theory, Design, Implementation, and Evaluation. The more than forty chapters reflect the international and interdisciplinary nature of the educational technology design research field.

Theory of Computer Science K. L. P. Mishra 2006-01-01 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.

Modern Optimization Methods for Science, Engineering and Technology G. R. Sinha 2019 Achieving a better solution or improving the performance of existing system design is an ongoing a process for which scientists, engineers, mathematicians and researchers have been striving for many years. Ever increasingly practical and robust methods have been developed, and every new generation of computers with their increased power and speed allows for the development and wider application of new types of solutions. This book defines the fundamentals, background and theoretical concepts of optimization principles in a comprehensive manner along with their potential applications and implementation strategies. It encompasses linear programming, multivariable methods for risk assessment, nonlinear methods, ant colony optimization, particle swarm optimization, multi-criterion and topology optimization, learning classifier, case studies on six sigma, performance measures and evaluation, multi-objective optimization problems, machine learning approaches, genetic algorithms and quality of service optimizations. The book will be very useful for wide spectrum of target readers including students and researchers in academia and industry.

Compiler Construction William M. Waite 2012-12-06 Compilers and operating systems constitute the basic interfaces between a programmer and the machine for which he is developing software. In this book we are concerned with the construction of the former. Our intent is to provide the reader with a firm theoretical basis for compiler construction and sound engineering principles for selecting alternate methods, imple menting them, and integrating them into a reliable, economically viable product. The emphasis is upon a clean decomposition employing modules that can be re-used for many compilers, separation of concerns to facilitate team programming, and flexibility to accommodate hardware and system constraints. A reader should be able to understand the questions he must ask when designing a compiler for language X on machine Y, what tradeoffs are possible, and what performance might be obtained. He should not feel that any part of the design rests on whim; each decision must be based upon specific, identifiable characteristics of the source and target languages or upon design goals of the compiler. The vast majority of computer professionals will never write a compiler. Nevertheless, study of compiler technology provides important benefits for almost everyone in the field . • It focuses attention on the basic relationships between languages and machines. Understanding of these relationships eases the inevitable tran sitions to new hardware and programming languages and improves a person's ability to make appropriate tradeoft's in design and implementa tion .

Intelligent Computing and Optimization Pandian Vasant 2019-10-26 This book presents the outcomes of the second edition of the International Conference on Intelligent Computing and Optimization (ICO) – ICO 2019, which took place on October 3–4, 2019, in Koh Samui, Thailand. Bringing together research scholars, experts, and investigators from around the globe, the conference provided a platform to share novel research findings, recent advances and innovative applications in the field. Discussing the need for smart disciplinary processes embedded into interdisciplinary collaborations in the context of meeting the growing global populations' requirements, such as food and health care, the book highlights the role of intelligent computation and

optimization as key technologies in decision-making processes and in providing cutting edge solutions to real-world problems.

**Computer Engineering: Concepts, Methodologies, Tools and Applications** Management Association, Information Resources 2011-12-31 "This reference is a broad, multi-volume collection of the best recent works published under the umbrella of computer engineering, including perspectives on the fundamental aspects, tools and technologies, methods and design, applications, managerial impact, social/behavioral perspectives, critical issues, and emerging trends in the field"--Provided by publisher.

*Software Engineering And Quality Assurance* A.A.Puntambekar 2010

Transdisciplinary Lifecycle Analysis of Systems R. Curran 2015-07-15 Concurrent Engineering (CE) is based on the premise that different phases of a product's lifecycle should be conducted concurrently and initiated as early as possible within the Product Creation Process (PCP). It has become the substantive basic methodology in many industries, including automotive, aerospace, machinery, shipbuilding, consumer goods, process industry and environmental engineering. CE aims to increase the efficiency of the PCP and reduce errors in later phases while incorporating considerations for full lifecycle and through-life operations. This book presents the proceedings of the 22nd ISPE Inc. (International Society for Productivity Enhancement) International Conference on Concurrent Engineering (CE2015) entitled 'Transdisciplinary Lifecycle Analysis of Systems', and held in Delft, the Netherlands, in July 2015. It is the second in the series 'Advances in Transdisciplinary Engineering'. The book includes 63 peer reviewed papers and 2 keynote speeches arranged in 10 sections: keynote speeches; systems engineering; customization and variability management; production oriented design, maintenance and repair; design methods and knowledge-based engineering; multidisciplinary product management; sustainable product development; service oriented design; product lifecycle management; and trends in CE. Containing papers ranging from the theoretical and conceptual to the highly pragmatic, this book will be of interest to all engineering professionals and practitioners; researchers, designers and educators.

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Advanced Java Anuradha A. Puntambekar 2020-12-01 Advanced Java is a textbook specially designed for undergraduate and post graduate students of Computer Science. It focuses on developing the applications both at basic and moderate level. This text book is divided into seven units. The first unit introduces Java network programming. In this unit along with the basic concepts of networking, the programming using Sockets, InetAddress, URL and URLConnection class is discussed in a lucid manner. The second unit is based on JDBC programming. In this unit, connecting with the database is discussed with examples and illustrations. Then next two chapters focuses on server side programming by means of Servlet programming and JSP. In third unit, the illustration of how to create and execute servlets is given. Then the concept of cookies and session management is discussed. In the next subsequent unit the Java Server Pages - its overview and programming is studied. In the last three units the advanced concepts of Java programming such as JSF, Hibernate and Java Web Framework : Spring is discussed. The contents of this textbook is supported with numerous illustrations,

examples, program codes, and screenshots. With its lucid presentation and inclusion of numerous examples the book will be very useful for the readers.

Programming and Problem Solving using Python Anuradha A. Puntambekar 2020-12-01 This textbook is designed to learn python programming from scratch. At the beginning of the book general problem solving concepts such as types of problems, difficulties in problem solving, and problem solving aspects are discussed. From this book, you will start learning the Python programming by knowing about the variables, constants, keywords, data types, indentation and various programming constructs. The most commonly used types such as Lists, Tuples, dictionaries are also discussed with necessary examples and illustrations. The book includes the concepts of functions, lambda functions, modules and strings. In the later part of this book the concept of object oriented programming using Python is discussed in detail. Finally how to handle files and directories using Python is discussed. At the end of book some sample programs in Python are given that are based on the programming constructs. Python will be most demanded language after Java in future. So learning Python is need for today's software professionals. This book serves the purpose of teaching Python programming in the simplest and easiest manner.

**Encyclopedia of the Sciences of Learning** Norbert M. Seel 2011-10-05 Over the past century, educational psychologists and researchers have posited many theories to explain how individuals learn, i.e. how they acquire, organize and deploy knowledge and skills. The 20th century can be considered the century of psychology on learning and related fields of interest (such as motivation, cognition, metacognition etc.) and it is fascinating to see the various mainstreams of learning, remembered and forgotten over the 20th century and note that basic assumptions of early theories survived several paradigm shifts of psychology and epistemology. Beyond folk psychology and its naïve theories of learning, psychological learning theories can be grouped into some basic categories, such as behaviorist learning theories, connectionist learning theories, cognitive learning theories, constructivist learning theories, and social learning theories. Learning theories are not limited to psychology and related fields of interest but rather we can find the topic of learning in various disciplines, such as philosophy and epistemology, education, information science, biology, and – as a result of the emergence of computer technologies – especially also in the field of computer sciences and artificial intelligence. As a consequence, machine learning struck a chord in the 1980s and became an important field of the learning sciences in general. As the learning sciences became more specialized and complex, the various fields of interest were widely spread and separated from each other; as a consequence, even presently, there is no comprehensive overview of the sciences of learning or the central theoretical concepts and vocabulary on which researchers rely. The Encyclopedia of the Sciences of Learning provides an up-to-date, broad and authoritative coverage of the specific terms mostly used in the sciences of learning and its related fields, including relevant areas of instruction, pedagogy, cognitive sciences, and especially machine learning and knowledge engineering. This modern compendium will be an indispensable source of information for scientists, educators, engineers, and technical staff active in all fields of learning. More specifically, the Encyclopedia provides fast access to the most relevant theoretical terms provides up-to-date, broad and authoritative coverage of the most important theories within the various fields of the learning sciences and adjacent sciences and communication technologies; supplies clear and precise explanations of the theoretical

terms, cross-references to related entries and up-to-date references to important research and publications. The Encyclopedia also contains biographical entries of individuals who have substantially contributed to the sciences of learning; the entries are written by a distinguished panel of researchers in the various fields of the learning sciences.

Analyzing Interactions in CSCL Sadhana Puntambekar 2011-01-11 Analyzing Interactions in CSCL: Methodology, Approaches, and Issues deepens the understanding of ways to document and analyze interactions in CSCL and informs the design of the next generation of CSCL tools. It provides researchers with several alternative methodologies, theoretical underpinnings of the methods used, data indicating how the method worked, guidance for using the methods, implications for understanding collaborative processes and their effect on learning outcomes and implications for design. CSCL research tends to span across several disciplines such as education, psychology, computer science and artificial intelligence. As a result, the methods for data collection and analysis are interdisciplinary, from fields such as sociology, anthropology, psychology, computer science, and artificial intelligence. This book brings perspectives together, and provides researchers with an array of methodologies to document and analyze collaborative interactions.

**Advanced Data Structures** Anuradha A. Puntambekar 2020-12-01 Advanced Data Structures is a core subject in Computer Science. It includes a solid introduction to algorithms, data structures and uses C++ syntax and structure in the design of data structures. This textbook helps the students to make the transition from fundamentals of data structures to an advanced level of data structures and their applications. At the beginning, the non-linear data structures such as trees and graphs are discussed in the first two units. In the third unit, the concept of hashing is discussed. In this, the hashing methods, collision handling techniques, concept of dictionary and skip lists are discussed. Next two units are based on search trees and multiway trees. These are basically the advanced level tree structures such as AVL trees, Optimal Binary Search Trees (OBST), B trees, B+ trees, Trie trees, Red-black trees, KD trees and AA trees. Sufficient number of examples and programming illustrations are supported for better understanding of the complex concepts in the simplest manner. Finally, the file organization is discussed, in which various file organization techniques and implementation is illustrated. The objective of this book is to enable students to have the much-needed foundation for advanced technical skill, leading to better problem-solving approach.

Compiler Design Anuradha A. Puntambekar 2011

**Software Process Modeling** Silvia T. Acuna 2006-01-27 This book brings together experts to discuss relevant results in software process modeling, and expresses their personal view of this field. It is designed for a professional audience of researchers and practitioners in industry, and graduate-level students.

Analysis and Design of Algorithms Anuradha A. Puntambekar 2020-12-01 This well-organized textbook provides the design techniques of algorithms in a simple and straight forward manner. The book begins with a description of the fundamental concepts such as algorithm, functions and relations, vectors and matrices. Then it focuses on efficiency analysis of algorithms. In this unit, the technique of computing time complexity of the

algorithm is discussed along with illustrative examples. Gradually, the text discusses various algorithmic strategies such as divide and conquer, dynamic programming, Greedy algorithm, backtracking and branch and bound. Finally the string matching algorithms and introduction to NP completeness is discussed. Each algorithmic strategy is explained in stepwise manner, followed by examples and pseudo code. Thus this book helps the reader to learn the analysis and design of algorithms in the most lucid way.

International Handbook of the Learning Sciences Frank Fischer 2018-04-19 The International Handbook of the Learning Sciences is a comprehensive collection of international perspectives on this interdisciplinary field. In more than 50 chapters, leading experts synthesize past, current, and emerging theoretical and empirical directions for learning sciences research. The three sections of the handbook capture, respectively: foundational contributions from multiple disciplines and the ways in which the learning sciences has fashioned these into its own brand of use-oriented theory, design, and evidence; learning sciences approaches to designing, researching, and evaluating learning broadly construed; and the methodological diversity of learning sciences research, assessment, and analytic approaches. This pioneering collection is the definitive volume of international learning sciences scholarship and an essential text for scholars in this area.

Object Oriented and Multicore Programming Anuradha A. Puntambekar 2020-12-01 This book covers the object oriented programming aspects using C++ programming. It focuses on developing the applications both at basic and moderate level. In this book there are number of illustrative programming examples that help the students to understand the concepts. Starting from introduction to object oriented programming, handling of control statements using C++, arrays, objects and classes, this book moves gradually towards the concept of overloading, inheritance, Exception handling, and I/O operations. In the later part of this book, concept of multicore programming is discussed. This chapter also focuses on the operating system's role in multicore programming. Then in the next subsequent unit, the concept of processes, interface classes and predicates is discussed. Lastly, the creation and handling of threads, thread scheduling and priorities are illustrated with the help of simple and easy to understand programs. Then there is a discussion on how the communication and synchronization of concurrent tasks take place. This book doesn't just provide a collection of ready-made programs but teaching you the basics of object oriented programming through C++ and multicore programming quickly and painlessly.

Object Oriented Programming Anuradha A. Puntambekar 2020-12-01 This book covers the object oriented programming aspects using Java programming. It focuses on developing the applications both at basic and moderate level. In this book there are number of illustrative programming examples that help the students to understand the concepts. Starting from introduction to Java programming, handling of control statements, arrays, objects and classes, this book moves gradually towards Exception handling, Interfaces, Collection classes and concurrent programming with the help of Java threads. In addition, the book also covers JAVAFX basics, Event driven programming, Animations, creating GUI applications and multimedia using JAVAFX. Explanation of all the object oriented programming concepts is given in simple and expressive language. Also, the Java programs are followed by step by step explanation. This book explains the object oriented programming concepts in such a way that even if the reader having no Java programming background can

develop the applications with ease.

**The Valuation of Digital Intangibles** Roberto Moro Visconti 2020-02-17 This book offers a primer on the valuation of digital intangibles, a trending class of immaterial assets. Startups like successful unicorns, as well as consolidated firms desperately working to re-engineer their business models, are now trying to go digital and to reap higher returns by exploiting new intangibles. This book is innovative in its design and concept since it tackles a frontier topic with an original methodology, combining academic rigor with practical insights. Digital intangibles range from digitized versions of traditional immaterial assets (brands, patents, know-how, etc.) to more trendy applications like big data, Internet of Things, interoperable databases, artificial intelligence, digital newspapers, social networks, blockchains, FinTech applications, etc. This book comprehensively addresses related valuation issues, and demonstrates how best practices can be applied to specific asset appraisals, making it of interest to researchers, students, and practitioners alike.

*Learning to Think Spatially* National Research Council 2005-02-03 Spatial thinkingâ€"a constructive combination of concepts of space, tools of representation, and processes of reasoningâ€"uses space to structure problems, find answers, and express solutions. It is powerful and pervasive in science, the workplace, and everyday life. By visualizing relationships within spatial structures, we can perceive, remember, and analyze the static and dynamic properties of objects and the relationships between objects. Despite its crucial role underpinning the National Standards for Science and Mathematics, spatial thinking is currently not systematically incorporated into the K-12 curriculum. Learning to Think Spatially: GIS as a Support System in the K-12 Curriculum examines how spatial thinking might be incorporated into existing standards-based instruction across the school curriculum. Spatial thinking must be recognized as a fundamental part of K-12 education and as an integrator and a facilitator for problem solving across the curriculum. With advances in computing technologies and the increasing availability of geospatial data, spatial thinking will play a significant role in the information- based economy of the 21st-century. Using appropriately designed support systems tailored to the K-12 context, spatial thinking can be taught formally to all students. A geographic information system (GIS) offers one example of a high-technology support system that can enable students and teachers to practice and apply spatial thinking in many areas of the curriculum.

*Software Engineering* 2011

Numerical Methods & Optimization Anup Goel 2021-01-01 Numerical method is a mathematical tool designed to solve numerical problems. The implementation of a numerical method with an appropriate convergence check in a programming language is called a numerical algorithm. Numerical analysis is the study of algorithms that use numerical approximation for the problems of mathematical analysis. Numerical analysis naturally finds application in all fields of engineering and the physical sciences. Numerical methods are used to approach the solution of the problem and the use of computer improves the accuracy of the solution and working speed. Optimization is the process of finding the conditions that give the maximum or minimum

value of a function. For optimization purpose, linear programming technique helps the management in decision making process. This technique is used in almost every functional area of business. This book include flowcharts and programs for various numerical methods by using MATLAB language. My hope is that this book, through its careful explanations of concepts, practical examples and figures bridges the gap between knowledge and proper application of that knowledge.

*Software Engineering* A. A. Puntambekar 2007

**Object Oriented Programming** Anuradha A. Puntambekar 2020-12-01 This textbook is written with the intension of teaching C++ programming in step by step manner along with programming examples and logic explanation. The book begins with the fundamental concepts of Object Oriented Programming and introducing C++ as object oriented programming language. Gradually, the book covers all the object oriented features such as polymorphism, inheritance, virtual functions, templates, exception handling and files and streams. At the end of this book the concept of Standard Template Library (STL) is discussed. In this, the implementation of container, algorithms and iterators is illustrated in much easier way. This book teaches - how to program in the powerful C++ language assuming no prior knowledge of programming in the most lucid manner.

*Service Fascination* Christian Zagel 2015-12-10 Christian Zagel presents a new way of innovating, measuring, and improving self-service systems for retail environments in the context of Customer Experience Management. He shows that technology is used to evoke positive emotions during the shopping experience to not only satisfy the consumer, but also to stimulate fascination for brands and their products. The author's findings illustrate that a customer's experience with a brand is not only determined by the products themselves, but rather by a combination of multiple experiences. Whilst there has been a notable rise in the number of sales channels, the ability to differentiate from competitors is still strongest where the brands have most influence: The physical point of sale.

Probability and Queueing Theory S. Palaniammal 2011

**Data Structures** Anuradha A. Puntambekar 2020-12-01 The book has been developed to provide comprehensive and consistent coverage of both the concepts of data structures as well as implementation of these concepts using C programming. The book utilizes a systematic approach wherein each data structure is explained using examples followed by its implementation using a programming language. It begins with the introduction to data types. In this, an overview of various types of data structures is given and asymptotic notations, best case, worst case and average case time complexity is discussed. The book then focuses on the linear data structures such as arrays, stacks, queues and linked lists. In these units each concept is followed by its implementation and logic explanation part. The book then covers the non-linear data structures such as trees and graphs. These data structures are very well explained with the help of illustrative diagrams, examples and implementations. The text book then covers two important topics - hashing and file structures. While explaining the hashing - various hashing methods, and collision handling techniques are explained with necessary illustrations and examples. File structures are demonstrated by implementing sequential, index

sequential and random file organization. Finally searching and sorting algorithms, their implementation and time complexities are discussed. The sorting and searching methods are illustrated systematically with the help of examples. The explanation in this book is in a very simple language along with clear and concise form which will help the students to have clear-cut understanding of the subject.

<u>Internet Programming</u> Anuradha A. Puntambekar 2020-12-01 This textbook provides comprehensive introduction to scripting languages that are used for creating web based applications. The book is divided into five different sections. In the first section the book introduces web site basics, HTTP, HTML5 and CSS3. The second and third section is based on client side and server side scripting. In these sections, the client side scripting such as JavaScript, DHTML and JSON is introduced. The sever side programming includes Servlet programming and JSP. In this section Java Database Connectivity is introduced and Simple Web Applications based on database connectivity have been developed. The fourth section deals with PHP and XML. The last section includes introduction to AJAX and Web Services. A database driven web service is developed and explained in step by step manner. At the end of the book some sample programs based on various scripting languages are given. The books helps the reader to learn the internet programming in the most lucid way. Various programming examples discussed in this book will motivate the students to learn the subject.

**Data Structures Using C++** D. S. Malik 2009-07-31 Now in its second edition, D.S. Malik brings his proven approach to C++ programming to the CS2 course. Clearly written with the student in mind, this text focuses on Data Structures and includes advanced topics in C++ such as Linked Lists and the Standard Template Library (STL). The text features abundant visual diagrams, examples, and extended Programming Examples, all of which serve to illuminate difficult concepts. Complete programming code and clear display of syntax, explanation, and example are used throughout the text, and each chapter concludes with a robust exercise set. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

*Microprocessors & Microcontrollers* Atul P. Godse 2008 Pentium Microprocessor Historical evolution of 80286, 386 and 486 processors, Pentium features and architecture, Pin description, Functional description, Pentium real mode, Pentium RISC features, Pentium super-scalar architecture - pipelining, Instruction paring rules, Branch prediction, Instruction and data caches The floating-point unit.Bus Cycles and Memory OrganisationInitialization and configuration, Bus operations-reset, Non pipelined and pipelined (read and write), Memory organisation and I/O organisation, Data transfer mechanism-8 bit, 16 bit, 32 bit data bus interface.Pentium programmingProgrammer's model, Register set, Addressing modes, Instruction set, Data types, Data transfer instructions, String instructions, Arithmetic instructions, Logical instructions, Bit manipulation instructions, Program transfer instructions and Processor control instructions.Protected ModeIntroduction, Segmentation-support registers, Related instructions descriptors, Memory management through segmentation, Logical to linear address translation, Protection by segmentation, Privilege level-protection, Related instructions, Inter-privilege level transfer of control, Paging-support registers, descriptors, Linear to physical address translation, TLB, Page level protection, Virtual memory.Multitasking, Interrupts Exceptions and I/OMultitasking - Support registers, Related descriptors, Task switching, I/O Permission bit

map. Virtual mode - features, Address generation, Privilege level, Instructions and registers available, entering and leaving V86 mode. Interrupt structure - Real, Protected and Virtual 8086 modes, I/O handling in Pentium, Comparison of all three modes.8051 Micro-controllerMicro-controller MCS-51 family architecture, On-chip data memory and program memory organization - Register set, Register bank, SFRs, External data memory and program memory, Interrupts structure, Timers and their programming, Serial port and programming, Other features, Design of minimum system using 8051 micro-controller for various applications.PIC Micro-controllerOverview and features of PIC16C, PIC 16F8XX, Pin diagram, Capture mode, Compare mode, PWM mode, Block diagram, Programmer's model PIC, Reset and clocking.Memory organization - program memory, data memory, Flash, EEPROM, PIC 16F8XX addressing modes, Instruction set, programming, I/O ports, Interrupts, Timers, ADC.

**Intelligent Computing & Optimization** Pandian Vasant 2018-09-27 This book includes innovative research work presented at ICO'2018, the 1st International Conference on Intelligent Computing and Optimization, held in Pattaya, Thailand on October 4–5, 2018. The conference presented topics ranging from power quality, reliability, security assurance, cloud computing, smart cities, renewable energy, agro-engineering, smart vehicles, deep learning, block chain, power systems, AI, machine learning, manufacturing systems, and big-data analytics. This volume focuses on subjects related to innovative computing, uncertainty management and optimization approaches to real-world problems in big-data, smart cities, sustainability, meta-heuristics, cyber-security, IoTs, economics and finance, renewable energy, energy and electricity systems, and block chain. Presenting cutting-edge methodologies with real-world application problems and their solutions, the book is useful for researchers, managers, executives, students, academicians, practicing scientists, and decision makers from all around the globe. It offers the academic and the applied communities a compendium and a research resource with significant insights and inspiration for innovative scientific education, investigation and collaboration, to overcome "hard problems" among the emerging challenges today and in the future.

**Automata and Computability** Anuradha A. Puntambekar 2020-12-01 The book has been developed to provide comprehensive and consistent coverage of concepts of automata theory, formal languages and computation. This book begins by giving prerequisites for the subject, like strings, languages, types of automata, deterministic and non-deterministic automata. It proceeds forward to discuss advanced concepts like regular expressions, context free grammar and pushdown automata. The text then goes on to give a detailed description of context free and non context free languages and Turing Machine with its complexity. This compact and well-organized book provides a clear understanding of the subject with its emphasis on concepts along with a large number of examples.

**Client Side Scripting** Anuradha A. Puntambekar 2020-12-01 JavaScript is an important scripting language for almost every modern web application. It is simple for beginners but complex when you build a full-scale application. The book is extremely user-friendly. It assumes no programming experience and helps the students to learn the JavaScript in step by step manner with the help of illustrative examples. The first two units cover the fundamental concepts of JavaScript such as variables, operators, control structures, arrays, functions and strings. In the third unit, the concept of form and event handling is discussed. This feature of

JavaScript help us to design the interactive web page with graphical user interface. In the next subsequent chapter, the book demonstrates how to create and manage cookies, how to create browser history, implementation of form validation with the help of regular expressions, creating rollover effects and creating and handling frames. At the end, the book illustrates creation of banner, management of status bar and creation of slideshows using JavaScript. This book serves the purpose of teaching JavaScript in the simplest and easiest manner.

*Web Based Application Development* Anuradha A. Puntambekar 2020-12-01 This textbook has been written in such a way that the concepts are explained with the help of examples. The book covers the topics right from basics of PHP programming such as variables, data types, operators, control structures, arrays to graphics. The book also covers implementation of object oriented concepts such as classes, objects, inheritance, overloading and so on. In the next subsequent unit, the textbook covers creating and validating forms. Finally, the book explains how to connect to database using PHP and MySQL laying more stress on examples. Thus this book helps the students to learn the PHP programming in the most lucid way.

*COMPUTER ORGANIZATION AND DESIGN* P. PAL CHAUDHURI 2008-04-15 The merging of computer and communication technologies with consumer electronics has opened up new vistas for a wide variety of designs of computing systems for diverse application areas. This revised and updated third edition on Computer Organization and Design strives to make the students keep pace with the changes, both in technology and pedagogy in the fast growing discipline of computer science and engineering. The basic principles of how the intended behaviour of complex functions can be realized with the interconnected network of digital blocks are explained in an easy-to-understand style. WHAT IS NEW TO THIS EDITION : Includes a new chapter on Computer Networking, Internet, and Wireless Networks. Introduces topics such as wireless input-output devices, RAID technology built around disk arrays, USB, SCSI, etc. Key Features Provides a large number of design problems and their solutions in each chapter. Presents state-of-the-art memory technology which includes EEPROM and Flash Memory apart from Main Storage, Cache, Virtual Memory, Associative Memory, Magnetic Bubble, and Charged Couple Device. Shows how the basic data types and data structures are supported in hardware. Besides students, practising engineers should find reading this design-oriented text both useful and rewarding.

**PRINCIPLES OF TRANSPORTATION ENGINEERING** PARTHA CHAKROBORTY 2003-01-01 This detailed introduction to transportation engineering is designed to serve as a comprehensive text for under-graduate as well as first-year master's students in civil engineering. In order to keep the treatment focused, the emphasis is on roadways (highways) based transportation systems, from the perspective of Indian conditions.