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INTRODUCTION TO INFORMATION TECHNOLOGY

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## LEBLANC CARTER

**GROUND BREAKING INVENTIONS IN INFORMATION AND COMMUNICATION TECHNOLOGY** Thakur Publication Private Limited

The Seventh International Symposium on Spatial and Temporal Databases (SSTD 2001), held in Redondo Beach, CA, USA, July 12-15, 2001, brought together leading researchers and developers in the area of spatial, temporal, and spatio-temporal databases to discuss the state of the art in spatial and temporal data management and applications, and to understand the challenges and - search directions in the advancing area of data management for moving objects. The symposium served as a forum for disseminating research in spatial and temporal data management, and for maximizing the interchange of knowledge among researchers from the established spatial and temporal database communities. The exchange of research ideas and results not only contributes to the academic arena, but also benefits the user and commercial communities. SSTD 2001 was the seventh in the series of symposia that started in Santa Barbara a dozen years ago and has since been held every two years, in Zurich, Singapore, Portland (Maine), Berlin, and Hong Kong. By 1999, the series had become well established as the premier international forum devoted solely to spatial database management, and it was decided to extend the scope of the series to also cover temporal database management. This extended scope was chosen due, in part, to the increasing importance of research that considers spatial and temporal aspects jointly.

**ESSENTIALS OF E-COMMERCE TECHNOLOGY** PHI Learning Pvt. Ltd.

In the late 1800s, Indians seemed to be a people left behind by the Industrial Revolution, dismissed as "not a mechanical race." Today Indians are among the world's leaders in engineering and technology. In this international history spanning nearly 150 years, Ross Bassett—drawing on a unique database of every Indian to graduate from the Massachusetts Institute of Technology between its founding and 2000—charts their ascent to the pinnacle of high-tech professions. As a group of Indians sought a way forward for their country, they saw a future in technology. Bassett examines the tensions and surprising congruences between this technological vision and Mahatma Gandhi's nonindustrial modernity. India's first prime minister, Jawaharlal Nehru, sought to use MIT-trained engineers to build an India where the government controlled technology for the benefit of the people. In the private sector, Indian business families sent their sons to MIT, while MIT graduates established India's

information technology industry. By the 1960s, students from the Indian Institutes of Technology (modeled on MIT) were drawn to the United States for graduate training, and many of them stayed, as prominent industrialists, academics, and entrepreneurs. The MIT-educated Indian engineer became an integral part of a global system of technology-based capitalism and focused less on India and its problems—a technological Indian created at the expense of a technological India.

**COMPUTER PROGRAMMING IN C, SECOND EDITION** PHI Learning Pvt. Ltd.

Designed as an introductory text for the students of computer science, computer applications, electronics engineering and information technology for their first course on the organization and architecture of computers, this accessible, student friendly text gives a clear and in-depth analysis of the basic principles underlying the subject. This self-contained text devotes one full chapter to the basics of digital logic. While the initial chapters describe in detail about computer organization, including CPU design, ALU design, memory design and I/O organization, the text also deals with Assembly Language Programming for Pentium using NASM assembler. What distinguishes the text is the special attention it pays to Cache and Virtual Memory organization, as well as to RISC architecture and the intricacies of pipelining. All these discussions are climaxed by an illuminating discussion on parallel computers which shows how processors are interconnected to create a variety of parallel computers. **KEY FEATURES** □ Self-contained presentation starting with data representation and ending with advanced parallel computer architecture. □ Systematic and logical organization of topics. □ Large number of worked-out examples and exercises. □ Contains basics of assembly language programming. □ Each chapter has learning objectives and a detailed summary to help students to quickly revise the material.

**COMPUTER PROGRAMMING IN FORTRAN 90 AND 95** PHI Learning Pvt. Ltd.

An introductory level text for high school students, this book elucidates the step-by-step procedures used to solve problems and demonstrates the simplicity with which one can read and write computer programmes using BASIC language. It explains how a computer works, using an elementary model of the computer. All programmes are worked out on the IBM PC and involve a minimum of mathematics. This new edition is thoroughly revised and updated to incorporate recent developments in the field. It also contains a large number of worked-out examples and exercises with solutions to assist self-study. It can be used by all interested beginners and laymen as well.

**Data Warehousing and Knowledge Discovery** Springer Nature

Multidimensional Databases: Problems and Solutions strives to be the point of reference for the most important issues in the field of multidimensional databases. This book provides a brief history of the field and distinguishes between what is new in recent research and what is merely a renaming of old concepts. In addition Multidimensional Databases: Problems and Solutions outlines the incredible advances in technology and ever increasing demands from users in the most diverse applicative areas such as finance, medicine, statistics, business, and many more. Many of the most distinguished and well-known researchers have contributed to this book writing about their own specific field.

**Intelligence-Based Cardiology and Cardiac Surgery** Pearson Education India

his textbook is designed to teach a first course in Information Technology (IT) to all undergraduate students. In view of the all-pervasive nature of IT in today's world a decision has been taken by many universities to introduce IT as a compulsory core course to all Bachelor's degree students regardless of their specialisation. This book is intended for such a course. The approach taken in this book is to emphasize the fundamental "Science" of Information Technology rather than a cook book of skills. Skills can be learnt easily by practice with a computer and by using instructions given in simple web lessons that have been cited in the References. The book defines Information Technology as the technology that is used to acquire, store, organize, process and disseminate processed data, namely, information. The unique aspect of the book is to examine processing all types of data: numbers, text, images, audio and video data. As IT is a rapidly changing field, we have taken the approach to emphasize reasonably stable, fundamental concepts on which the technology is built. A unique feature of the book is the discussion of topics such as image, audio and video compression technologies from first principles. We have also described the latest technologies such as 'e-wallets' and 'cloud computing'. The book is suitable for all Bachelor's degree students in Science, Arts, Computer Applications, and Commerce. It is also useful for general reading to learn about IT and its latest trends. Those who are curious to know, the principles used to design jpg, mp3 and mpeg4 compression, the image formats—bmp, tiff, gif, png, and jpg, search engines, payment systems such as BHIM and Paytm, and cloud computing, to mention a few of the technologies discussed, will find this book useful. **KEY FEATURES** • Provides comprehensive coverage of all basic concepts of IT from first principles • Explains acquisition, compression, storage, organization, processing and dissemination of multimedia data • Simple explanation of mp3, jpg, and mpeg4 compression • Explains how computer networks and the Internet work and their

applications • Covers business data processing, World Wide Web, e-commerce, and IT laws • Discusses social impacts of IT and career opportunities in IT and IT enabled services • Designed for self-study with every chapter starting with learning objectives and concluding with a comprehensive summary and a large number of exercises.

**Graph Representation Learning** PHI Learning Pvt. Ltd.

Governments the world over want to spend more on infrastructure (the benchmark for developing countries is 7-8% of GDP per annum) to lay the foundation for sustained and inclusive growth. India is no exception. It realizes that more needs to be spent on infrastructure for the country to regain its position as the fastest growing large economy in the world. While India spent about 7.2% of its GDP on infrastructure during the Eleventh Plan period (2008-12), this number has recently come down to approximately 5%. The backdrop of the book is the ambitious National Infrastructure Plan (NIP); the Task Force report on the NIP was finalized in April 2020. Since infrastructure investment is crucial to faster and inclusive growth, it is timely that the NIP is actioned now, given that the Indian economy contracted to 7.3% in the financial year 2020-21. This book discusses various aspects of infrastructure financing in detail, with a major section devoted to green financing of infrastructure.

**Modelling and Implementation of Complex Systems** Springer

Written with a straightforward and student-centred approach, this extensively revised, updated and enlarged edition presents a thorough coverage of the various aspects of parallel processing including parallel processing architectures, programmability issues, data dependency analysis, shared memory programming, thread-based implementation, distributed computing, algorithms, parallel programming languages, debugging, parallelism paradigms, distributed databases as well as distributed operating systems. The book, now in its second edition, not only provides sufficient practical exposure to the programming issues but also enables its readers to make realistic attempts at writing parallel programs using easily available software tools. With all the latest information incorporated and several key pedagogical attributes included, this textbook is an invaluable learning tool for the undergraduate and postgraduate students of computer science and engineering. It also caters to the students pursuing master of computer application. What's New to the Second Edition • A new chapter named Using Parallelism Effectively has been added covering a case study of parallelising a sorting program, and introducing commonly used parallelism models. • Sections describing the map-reduce model, top-500.org initiative, Indian efforts in supercomputing, OpenMP system for shared memory programming, etc. have been added. • Numerous sections have been updated with current information. • Several questions have been incorporated in the chapter-end exercises to guide students from examination and practice points of view.

**Infrastructure Financing in India** PHI Learning Pvt. Ltd.

One of the most important uses of computers is (as an aid to managers) to provide up-to-date information to efficiently run their organizations. Of the total number of computers installed in the world today, over eighty percent are used in organizations for management information systems. It is thus very important for all students of management, commerce and computer science to know how to design computer-based information systems to aid management. This introductory text gives a lucid, self-contained presentation to students on how to analyse and design information systems for use by managers. Information Systems Analysis and Design (also known as System Analysis and Design) is a compulsory subject for MCA, BCA, B.Com. and B.E. students of Computer Science and Information Technology. This book covers the syllabus of this course and that of the DOEACC (Level A) examination. Thoroughly classroom tested and evolved out of twenty years of teaching Information Systems Design course at IIT Kanpur and IISc., Bangalore, this book presents real Indian examples. In this third edition every chapter has been updated, besides the addition of a new chapter on Use Case Method to reflect the rapid changes taking place in designing information systems. This book has been used to prepare learning material for the course Systems Analysis and Design for the National Programme for Technology Enhanced Learning of the Ministry of Human Resource Development, Government of India. The author has delivered 40 lectures on this topic which are available on YouTube. Besides, the book also contains supplementary materials such as PPTs and objective questions which are available on [www.phindia.com/rajaraman\\_ADIS](http://www.phindia.com/rajaraman_ADIS). KEY FEATURES: Covers comprehensively systems analysis and design. Discusses object-oriented modelling of information systems. A chapter on Electronic Commerce is unique to this book. Presents a detailed case study of a complete information system. Includes supplementary web material.

**Elements of Parallel Computing** PHI Learning Pvt. Ltd.

This book is designed to acquaint the readers with major aspects of e-commerce with particular emphasis on technology such as cryptography, e-payment and mobile payment security. The book presents a layered architecture of e-commerce systems with six layers. The physical layer (the bottommost layer) described first, provides the basic communication infrastructure needed by e-commerce. The next layer described is the logical layer consisting

of Local Area Networks, the Internet, Intranet, etc. which provide connectivity. The layer above is the network services layer which provides e-mail and World Wide Web applications. Above this is a very important messaging layer of e-commerce which provides facilities for exchanging messages securely using the communication infrastructure. Here various methods of encryption, public key infrastructure and digital signature are discussed. It is also explained as to how the messaging layer is used to exchange structured electronic documents, using XML. The next layer called middleman services layer, describes the design of home page of an organization and elaborates various payment services such as credit card, e cash, smart card, etc. The topmost layer is on applications, namely, B2C, B2B and C2C e-commerce which are defined and described at the beginning of the book. As use of mobile phones and mobile network is rapidly increasing, a whole chapter is devoted to explain m-commerce. Of special interest are detailed discussions of Wireless Application Protocol, security issues and payment methods. A complete chapter is also devoted to new developments in multimedia information goods such as e-books, MP3 compressed audio and digital quality video. A unique feature of these goods is the method of delivery which also uses the mobile Internet infrastructure. Finally, the legal framework of e-commerce provided by the Information Technology Act 2000 (and the amended act of 2008) is explained. This book with its numerous student-friendly features is an ideal text for undergraduate and postgraduate students of Computer Science and Information Technology (BSc and MSc), Computer Applications (BCA and MCA), and for undergraduate engineering students of Computer Science and Engineering and Information Technology. Besides, it would be useful to professionals for quickly understanding the basics of e-commerce. Key Features : • Gives detailed discussions of security and payment schemes in e-commerce. • Discusses essentials of m-commerce technology including WAP protocol and mobile security. • Discusses e-commerce of multimedia such as e-books, MP3 audio and video on demand. • Provides learning aids such as chapter summaries, over 300 review questions and 350 objective type questions.

**Advances in Databases and Information Systems** IGI Global

On behalf of the Organizing Committee, we would like to welcome you to the proceedings of the 10th International Conference on Database Systems for Advanced Applications (DASFAA 2005). *Against All Odds* PHI Learning Pvt. Ltd.

Data Warehousing and Knowledge Discovery technology is emerging as a key technology for enterprises that wish to improve their data analysis, decision support activities, and the automatic extraction of knowledge from data. The objective of the Third International Conference on Data Warehousing and Knowledge Discovery (DaWaK 2001) was to bring together researchers and practitioners to discuss research issues and experience in developing and deploying data warehousing and knowledge discovery systems, applications, and solutions. The conference focused on the logical and physical design of data warehousing and knowledge discovery systems. The scope of the papers covered the most recent and relevant topics in the areas of association rules, mining temporal patterns, data mining techniques, collaborative filtering, Web mining, visualization, matchmaking, development and maintenance of data warehouses, OLAP, and distributed data warehouses. These proceedings contain the technical papers selected for presentation at the conference. We received more than 90 papers from over 20 countries, and the program committee finally selected 34 papers. The conference program included one invited talk: "Knowledge Management in Heterogeneous Data Warehouse Environments" by Professor Larry Kerschberg, George Mason University, USA.

**SOLID AND LIQUID WASTE MANAGEMENT WASTE TO WEALTH** CRC Press

Economic development of any nation is possible only if the environmental protection laws are followed seriously. Wastes, if not treated effectively, may harm public health leading to the deterioration of ecosystem and ultimately to the growth and economy of the nation. The coverage of both solid waste as well as liquid waste management in a single volume makes this book unique. It discusses various economical methods to manage wastes providing a practical approach to the book. It gives the knowledge of important techniques for converting wastes into the products useful for the mankind and also informs readers about the Indian legal framework relating to the solid and liquid waste management. The technologies explained in the book are field-tested and have been practically implemented either in India or the United States. Hence, these techniques are highly viable for communities and industries to improve their waste management practices. Blending theory and practices of waste management, the authors provide extensive case studies from their on-job experiences to exemplify how solid and liquid wastes can be managed successfully. The chapter on 'municipal waste management' exclusively covers the technologies applied to convert construction and demolition wastes and organic wastes into useful products. With the increase in electronic wastes, a chapter on 'electronic waste management' has found place in the book. Besides, the text covers management of plastic wastes, biomedical wastes, radioactive wastes, hazardous wastes, and

also operations and maintenance of the treatment facilities. The chapter on 'liquid waste management' is focused on municipal wastewater and common effluent treatment plant for industrial wastewater. The review questions at the end of each chapter help students to assess their knowledge and develop self-efficacy in the subject. Whereas, the appendices provide performance evaluation of solid waste management systems and sewage treatment plants, numerical problems for practice, and glossary of important terms. The book primarily caters to the needs of undergraduate and postgraduate courses on Environmental Science and Engineering; Energy and Environmental Engineering; Environmental Engineering and Management; Municipal Solid Waste Management. Besides, it provides practical information to environmental professionals and to the students of Industrial Management, Civil Engineering and Biotechnology.

**Principles of Digital Electronics** PHI Learning Pvt. Ltd.

This proceedings book gives a new vision and real progress towards more difficult problems resolution. In trying to solve the problems we face every day in the complex world we are living, we are constantly developing artificial systems and increasingly complex middleware. Indeed, the research works contained in this book address a large spread of nowadays topics like IoT architectures, communication and routing protocols, smart systems, software defined networks (SDNs), natural language processing (NLP), social media, health systems, machine intelligence and data science, soft computing and optimization, and software technology. This book, which is a selective collection of research papers accepted by the international program committee of the 6th International Symposium on Modelling and Implementation of Complex Systems (MISC 2020), considers intelligence (CI) more as a way of thinking about problems. It includes a mix of old efficient (Fuzzy, NN, GA) and modern AI techniques (deep learning and CNN). The whole complex systems research community finds in this book an appropriate way to approach problems that have no algorithmic solution and finds many well-formulated technical challenges.

**COMPUTER BASICS AND C PROGRAMMING** PHI Learning Pvt. Ltd.

The book, now in its Second Edition, follows the structure of the first edition. It introduces computer programming to a beginner using the programming language C. The version of C used is the one standardised by the American National Standards Institute (ANSI C). C has rapidly gained users due to its efficiency, availability of rich data structures, a large variety of operators, and its affinity to the UNIX operating system. C is a difficult language to learn if it is not methodically approached. The attempt has been to introduce the basic aspects of C to enable the student to quickly start writing C programs and postpone more difficult features of C to later chapters. After reading the first eleven chapters, a beginner can start writing complete programs to solve useful problems. Difficult concepts such as the use of pointers and recursion are explained lucidly with many examples. The book is eminently suitable for undergraduate and postgraduate students of computer science/engineering students as per the prescribed syllabus of several universities. KEY FEATURES • A self-contained introduction to programming for beginners using the C language • Eminently suitable for self-study even by high school students • All important programming language features illustrated with over 100 example programs • Good style in programming explained and illustrated NEW TO THE SECOND EDITION • Chapters with programs have a new section at the end, giving style notes relevant to that chapter • Every chapter is reviewed and revised, correcting minor errors • Appendix I is rewritten to enable students to execute programs on desktop or laptop computers using Linux or Windows environment TARGET AUDIENCE • BE/B.Tech (CSE) • BCA/MCA • B.Sc./M.Sc. (Computer Science)

**DIGITAL LOGIC AND COMPUTER ORGANIZATION** PHI Learning Pvt. Ltd.

This book teaches the basic principles of digital circuits. It is appropriate for an introductory course in digital electronics for the students of: • B.Sc. (Computer Science) • B.Sc. (Electronics) • B.Sc. (Information Technology) • B.Sc. (Physics) • Bachelor of Computer Applications (BCA) • Postgraduate Diploma in Computer Applications • Master of Computer Applications (MCA) The book emphasizes the must know concepts that should be covered in an introductory course and provides an abundance of clearly explained examples, so essential for a thorough understanding of the principles involved in the analysis and design of digital computers. The book takes students step-by-step through digital theory, focusing on: » Number representation systems and codes for representing information in digital systems » Use of logic gates in building digital circuits » Basic postulates and theorems of Boolean algebra » Karnaugh map method for simplifying Boolean functions » Arithmetic circuits such as adders and subtractors » Combinational circuit building blocks such as multiplexers, decoders and encoders » Sequential circuit building blocks such as flip-flops, counters and registers » Operation of memory elements such as RAM, DRAM, magnetic disk, magnetic bubble, optical disk, etc. 1. Number Systems and Codes 2. Logic Gates and Circuits 3. Boolean Algebra 4. Combinational Logic Circuits 5. Sequential Logic Circuits 6. Counters and Shift Registers 7. MEMORY ELEMENTS

**INTRODUCTION TO COMPUTER APPLICATION (English Edition)** PHI Learning Pvt. Ltd.

This volume is the second one of the 16th East-European Conference on Advances in Databases and Information Systems (ADBIS 2012), held on September 18-21, 2012, in Poznań, Poland. The first one has been published in the LNCS series. This volume includes 27 research contributions, selected out of 90. The contributions cover a wide spectrum of topics in the database and information systems field, including: database foundation and theory, data modeling and database design, business process modeling, query optimization in relational and object databases, materialized view selection algorithms, index data structures, distributed systems, system and data integration, semi-structured data and databases, semantic data management, information retrieval, data mining techniques, data stream processing, trust and reputation in the Internet, and social networks. Thus, the content of this volume covers the research areas from fundamentals of databases, through still hot topic research problems (e.g., data mining, XML data processing), to novel research areas (e.g., social networks, trust and reputation, and

data stream processing). The editors of this volume believe that its content will inspire the researchers with new ideas for future development. It may also serve as an overview of the ongoing work in the field of databases and information systems.

**COMPUTER PRIMER** PHI Learning Pvt. Ltd.

Computer Fundamentals is specifically designed to be used at the beginner level. It covers all the basic hardware and software concepts in computers and its peripherals in a very lucid manner.

**Advances in Spatial and Temporal Databases** Harvard University Press

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**Fundamentals of Computers** PHI Learning Pvt. Ltd.

This introductory text on 'digital logic and computer organization' presents a logical treatment of all the fundamental concepts necessary to understand the organization and design of a computer. It is designed to cover the requirements of a first-course in computer organization for undergraduate Computer Science, Electronics, or MCA students. Beginning from first principles, the text guides students through to a stage where they are able to design and build a small computer with available IC chips. Starting with the foundation material on data

representation, computer arithmetic and combinatorial and sequential circuit design, the text explains ALU design and includes a discussion on an ALU IC chip. It also discusses Algorithmic State Machine and its representation using a Hardware Description Language before shifting to computer organization. The evolutionary development of a small hypothetical computer is described illustrating hardware-software trade-off in computer organization. Its instruction set is designed giving reasons why each new instruction is introduced. This is followed by a description of the general features of a CPU, organization of main memory and I/O systems. The book concludes with a chapter describing the features of a real computer, namely the Intel Pentium. An appendix describes a number of laboratory experiments which can be put together by students, culminating in the design of a toy computer. Key Features • Self-contained presentation of digital logic and computer organization with minimal pre-requisites • Large number of examples provided throughout the book • Each chapter begins with learning goals and ends with a summary to aid self-study by students.