Digital Logic Applications And Design John M Yarbrough

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Digital Logic John M. Yarbrough 1998 Designed for the first digital course for four-year electrical engineering majors and for the second course (following basic logic) for four-year electrical and electronic engineering technology majors. Features a classical approach to the subject. Provides a thorough explanation of the design process. Includes real-world examples with real-world parts. Extensive problem sets. PLD coverage.

Computer Literature Bibliography United States. National Bureau of Standards 1965

Designing for the Digital Age Kim Goodwin 2011-03-25 Whether you're designing consumer electronics, medical devices, enterprise Web apps, or new ways to check out at the supermarket, today's digitally-enabled products and services provide both great opportunities to deliver compelling user experiences and great risks of driving your customers crazy with complicated, confusing technology. Designing successful products and services in the digital age requires a multi-disciplinary team with expertise in interaction design, visual design, industrial design, and other disciplines. It also takes the ability to come up with the big ideas that make a desirable product or service, as well as the skill and perseverance to execute on the thousand small ideas that get your design into the hands of users. It requires expertise in project management, user research, and consensus-building. This comprehensive, full-color volume addresses all of these and more with detailed how-to information, real-life examples, and exercises. Topics include assembling a design team, planning and conducting user research, analyzing your data and turning it into personas, using scenarios to drive requirements definition and design, collaborating in design meetings, evaluating and iterating your design, and documenting finished design in a way that works for engineers and stakeholders alike.

The British National Bibliography Arthur James Wells 2007

SWITCHING THEORY AND LOGIC DESIGN A. ANAND KUMAR 2014-03-06 This comprehensive text on switching theory and logic design is designed for the undergraduate students of electronics and communication engineering, electrical and electronics engineering, electronics and instrumentation engineering, telecommunication engineering, computer science and engineering, and information technology. It will also be useful to AMIE, IETE and diploma students. Written in a student-friendly style, this book, now in its Second Edition, provides an in-depth knowledge of switching theory and the design techniques of digital circuits. Striking a balance between theory and practice, it covers topics ranging from number systems, binary codes, logic gates and Boolean algebra to minimization using K-maps and tabular method, design of combinational logic circuits, synchronous and asynchronous sequential circuits, and algorithmic state machines. The book discusses threshold gates and programmable logic devices (PLDs). In addition, it elaborates on flip-flops and shift registers. Each chapter includes several fully worked-out examples so that the students get a thorough grounding in related design concepts. Short questions with answers, review questions, fill in the blanks, multiple choice questions and problems are provided at the end of each chapter. These help the students test their level of understanding of the subject and prepare for examinations confidently. NEW TO THIS EDITION • VHDL programs at the end of each chapter • Complete answers with figures • Several new problems with answers

Digital Logic Design Guy Even 2012-10-08 This textbook, based on the author's fifteen years of teaching, is a complete teaching tool for turning students into logic designers in one semester. Each chapter describes new concepts, giving

extensive applications and examples. Assuming no prior knowledge of discrete mathematics, the authors introduce all background in propositional logic, asymptotics, graphs, hardware and electronics. Important features of the presentation are: • All material is presented in full detail. Every designed circuit is formally specified and implemented, the correctness of the implementation is proved, and the cost and delay are analyzed • Algorithmic solutions are offered for logical simulation, computation of propagation delay and minimum clock period • Connections are drawn from the physical analog world to the digital abstraction • The language of graphs is used to describe formulas and circuits • Hundreds of figures, examples and exercises enhance understanding. The extensive website (http://www.eng.tau.ac.il/~guy/Even-Medina/) includes teaching slides, links to Logisim and a DLX assembly simulator.

Engineering Digital Design Richard F. Tinder 2000-01 "Engineering Digital Design" provides the most extensive coverage of any available textbook in digital logic and design. Modern notation combines with a state-of-the-art treatment of the most important subjects in digital design to provide the student with the background needed to enter industry or graduate study at a competitive level. Software programs, including a logic minimizer and a logic simulator, are provided on a CD-ROM and include detailed instructions for use.

Digital Electronics Christopher E. Strangio 1980 Logic concepts; Boolean algebra; Combinational logic; Binary number operations; Flip-flops; Counter analysis and design; Sequential circuits; Digital circuit fault analysis; Analog-digital conversion; Computers and microprocessors.

Digital Design M. Morris Mano 2013 For courses on digital design in an Electrical Engineering, Computer Engineering, or Computer Science department. Digital Design, fifth edition is a modern update of the classic authoritative text on digital design. This book teaches the basic concepts of digital design in a clear, accessible manner. The book presents the basic tools for the design of digital circuits and provides procedures suitable for a variety of digital applications.

Electrical, Electronics And Computer Engineering For Scientists And Engineers Krishnamurthy 2007 This Book Presents A Lucid And Systematic Exposition Of The Basic Principles Involved In Electrical And Electronics Engineering. A Wide Spectrum Of Concepts Is Covered, Ranging From The Basic Principles Of Electric Circuits To The Advanced Area Of Microprocessors.The Fundamental Concepts Are Explained In Sufficient Detail And Are Adequately Illustrated Through Suitable Solved Examples.This Edition Includes New Chapters On * Dc Machines * Ac Machines * Electrical Measuring Instruments * Communication Systems * OscillatorsThe Discussion Of Several Other Topics Has Also Been Suitably Revised And Updated.The Book Would Serve As An Excellent For Undergraduate Engineering And Diploma Students Of All Disciplines. Amie Candidates And Practising Engineers Would Also Find It Extremely Useful.

Digital Logic John M. Yarbrough 1997 DIGITAL LOGIC offers the right balance of classical and up-to-date treatment of combinational and sequential logic design for a first digital logic design class. The author provides a thorough explanation of the design process, including completely worked examples beginning with simple examples and going on to problems of increasing complexity. This text contains PLD (Programmable Logic Design) coverage. Chapter 9 develops complete, worked EPROM, PLA, and EPLD design examples. The problems are developed in Chapter 7 as standard designs using SSI and MSI devices so that your students can see the difference between the two approaches.

Fundamentals of Digital Logic and Microcontrollers M. Rafiquzzaman 2014-11-06 Updated to reflect the latest advances in the field, the Sixth Edition of Fundamentals of Digital Logic and Microcontrollers further enhances its reputation as the most accessible introduction to the basic principles and tools required in the design of digital systems. Features updates and revision to more than half of the material from the previous edition Offers an all-encompassing focus on the areas of computer design, digital logic, and digital systems, unlike other texts in the marketplace Written with clear and concise explanations of fundamental topics such as number system and Boolean algebra, and simplified examples and tutorials utilizing the PIC18F4321 microcontroller Covers an enhanced version of both combinational and sequential logic design, basics of computer organization, and microcontrollers

MA-2, Microprocessor Applications Experiments: Appendices (lab handbook) Howard Boyet 1979

Boolean Algebra and Its Applications J. Eldon Whitesitt 2012-05-24 Introductory treatment begins with set theory and fundamentals of Boolean algebra, proceeding to concise accounts of applications to symbolic logic, switching circuits, relay circuits, binary arithmetic, and probability theory. 1961 edition.

Computer Arithmetic Mircea Vl□ du□ iu 2012-09-14 The subject of this book is the analysis and design of digital devices that implement computer arithmetic. The book's presentation of high-level detail, descriptions, formalisms and design principles means that it can support many research activities in this field, with an emphasis on bridging the gap between algorithm optimization and hardware implementation. The author provides a unified view linking the domains of digital design and arithmetic algorithms, based on original formalisms and hardware description languages. A feature of the book is the large number of examples and the implementation details provided. While the author does not avoid high-level details, providing for example gate-level designs for all matrix/combinational arithmetic structures. The book is suitable for researchers and students engaged

with hardware design in computer science and engineering. A feature of the book is the large number of examples and the implementation details provided. While the author does not avoid high-level details, providing for example gate-level designs for all matrix/combinational arithmetic structures. The book is suitable for researchers and students engaged with hardware design in computer science and engineering.

Foundations of Digital Logic Design Gideon Langholz 1998 This text is intended for a first course in digital logic design, at the sophomore or junior level, for electrical engineering, computer engineering and computer science programs, as well as for a number of other disciplines such as physics and mathematics. The book can also be used for self-study or for review by practicing engineers and computer scientists not intimately familiar with the subject. After completing this text, the student should be prepared for a second (advanced) course in digital design, switching and automata theory, microprocessors or computer organization.

Digital Logic Circuit Analysis and Design (second Edition) Victor Peter Nelson 2020

Materials Presented at the MU-SPIN Eighth Annual User's Conference 1999

Principles of Computer Hardware Alan Clements 2006-02-09 The fourth edition of this work provides a readable, tutorial based introduction to the subject of computer hardware for undergraduate computer scientists and engineers and includes a companion website to give lecturers additional notes.

Digital Logic Applications And Design Yarbough

Digital Logic Design Ming-Bo Lin 2016-09-05 Digital Logic Design is a comprehensive textbook, which aims to provide entry-level readers a quick start to the field of digital logic design so as to facilitate them with the capability suitable for the versatility of social change and interdisciplinary learning. This textbook can be used as a textbook for classroom use in the fields of electronics, electrical, computer science, information engineering, mechanical, and so on. The salient features of this textbook are as follows: -- Introduce incrementally the principles of digital logic design and exemplify each basic theme and concept with abundant illustrations. -- Detail design principles of various combinational modules, including decoders, encoders, multiplexers, demultiplexers, arithmetic circuits, and so on. -- Introduce design principles of various sequential modules, including counters, registers, shift registers, sequence generators, etc. -- Address the structures, features, and applications of PLD/FPGA devices. -- Exemplify applications of CPLD/FPGA devices with Verilog HDL modules. -- Provide 20 basic and application experiments of digital logic to help readers verify the consistence of digital logic between principles and practice. -- Include an abundance of review questions in each section to help readers evaluate their understandings about the section. -- Deal with Verilog HDL concisely in relevant sections so as to make the reader understand how to describe a logic circuit in Verilog HDL precisely. Digital Logic Design is an ideal textbook for the digital logic design course in the fields of electronics, electrical, computer science, information engineering, mechanical, etc, or serves as a valuable reference book for self-study.

Digital Logic Design Brian Holdsworth 1982

Introduction to Digital Systems Mohammed Ferdjallah 2011-06-24 A unique guide to using both modeling and simulation in digital systems design Digital systems design requires rigorous modeling and simulation analysis that eliminates design risks and potential harm to users. Introduction to Digital Systems: Modeling, Synthesis, and Simulation Using VHDL introduces the application of modeling and synthesis in the effective design of digital systems and explains applicable analytical and computational methods. Through step-by-step explanations and numerous examples, the author equips readers with the tools needed to model, synthesize, and simulate digital principles using very high speed integrated circuit hardware description language (VHDL) programming. Extensively classroom-tested to ensure a fluid presentation, this book provides a comprehensive overview of the topic by integrating theoretical principles, discrete mathematical models, computer simulations, and basic methods of analysis. Topical coverage includes: Digital systems modeling and simulation Integrated logic Boolean algebra and logic Logic function optimization Number systems Combinational logic VHDL design concepts Sequential and synchronous sequential logic Each chapter begins with learning objectives that outline key concepts that follow, and all discussions conclude with problem sets that allow readers to test their comprehension of the presented material. Throughout the book, VHDL sample codes are used to illustrate circuit design, providing guidance not only on how to learn and master VHDL programming, but also how to model and simulate digital circuits. Introduction to Digital Systems is an excellent book for courses in modeling and simulation, operations research, engineering, and computer science at the upper-undergraduate and graduate levels. The book also serves as a valuable resource for researchers and practitioners in the fields of operations research, mathematical modeling, simulation, electrical engineering, and computer science.

Indian Books in Print 2003

Digital Designing with Programmable Logic Devices John W. Carter 1997 The purpose of this text is to use hands-on methodology to present programmable logic devices from a viewpoint which will prepare the student for application

within the digital design industry. The knowledge of state machines and the ability to apply them to control situations are vital to the overall education of the digital designer. Concentrating on programmable logic devices, it prepares the reader to be a more valuable part of the design team. An inductive/application approach to the use of programmable logic devices in digital electronic design is application-oriented rather than theoretical. This results in the acquisition of learned, repeatable skills. The text contains numerous examples and completely worked problems with integrated text, describing each step of the design process.

Pattern Languages of Program Design James O. Coplien 1995 The first conference on Pattern Languages of Program Design (PLoP)was a watershed event that gave a public voice to the software designpattern movement. Seventy software professionals from around theworld worked together to capture and refine software experience thatexemplifies the elusive quality called "good design." This volume isthe result of that work--a broad compendium of this new genre ofsoftware literature. Patterns are a literary form that take inspiration from literateprogramming, from a design movement of the same name in contemporaryarchitecture, and from the practices common to the ageless literatureof any culture. The goal of pattern literature is to help programmersresolve the common difficult problems encountered in design andprogramming. Spanning disciplines as broad as client/serverprogramming, distributed processing, organizational design, softwarereuse, and human interface design, this volume encodes designexpertise that too often remains locked in the minds of expertarchitects. By capturing these expert practices as problem-solutionpairs supported with a discussion of the forces that shape alternativesolution choices, and rationales that clarify the architects' intents, these patterns convey the essence of great software designs.

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Basic Concepts in Digital Electronics and Logic Design Er Jawad Ahmad Dar

DIGITAL LOGIC AND COMPUTER ORGANIZATION V. RAJARAMAN 2006-01-01 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.

Forthcoming Books Rose Arny 1998

Fundamentals of Digital Logic and Microcomputer Design M. Rafiquzzaman 2005-06-06 Fundamentals of Digital Logic and Microcomputer Design, has long been hailed for its clear and simple presentation of the principles and basic tools required to design typical digital systems such as microcomputers. In this Fifth Edition, the author focuses on computer design at three levels: the device level, the logic level, and the system level. Basic topics are covered, such as number systems and Boolean algebra, combinational and sequential logic design, as well as more advanced subjects such as assembly language programming and microprocessor-based system design. Numerous examples are provided throughout the text. Coverage includes: Digital circuits at the gate and flip-flop levels Analysis and design of combinational and sequential circuits Microcomputer organization, architecture, and programming concepts Design of computer instruction sets, CPU, memory, and I/O System design features associated with popular microprocessors from Intel and Motorola Future plans in microprocessor development An instructor's manual, available upon request Additionally, the accompanying CD-ROM, contains step-by-step procedures for installing and using Altera Quartus II software, MASM 6.11 (8086), and 68asmsim (68000), provides valuable simulation results via screen shots. Fundamentals of Digital Logic and Microcomputer Design is an essential reference that will provide you with the fundamental tools you need to design typical digital systems.

Digital Design and Fabrication Vojin G. Oklobdzija 2017-12-19 In response to tremendous growth and new technologies in the semiconductor industry, this volume is organized into five, information-rich sections. Digital Design and Fabrication surveys the latest advances in computer architecture and design as well as the technologies used to manufacture and test them. Featuring

contributions from leading experts, the book also includes a new section on memory and storage in addition to a new chapter on nonvolatile memory technologies. Developing advanced concepts, this sharply focused book— Describes new technologies that have become driving factors for the electronic industry Includes new information on semiconductor memory circuits, whose development best illustrates the phenomenal progress encountered by the fabrication and technology sector Contains a section dedicated to issues related to system power consumption Describes reliability and testability of computer systems Pinpoints trends and state-of-the-art advances in fabrication and CMOS technologies Describes performance evaluation measures, which are the bottom line from the user's point of view Discusses design techniques used to create modern computer systems, including high-speed computer arithmetic and high-frequency design, timing and clocking, and PLL and DLL design

Digital Electronic Circuits Shuqin Lou 2019-05-20 This book presents three aspects of digital circuits: digital principles, digital electronics, and digital design. The modern design methods of using electronic design automation (EDA) are also introduced, including the hardware description language (HDL), designs with programmable logic devices and large scale integrated circuit (LSI).The applications of digital devices and integrated circuits are discussed in detail as well.

Carbon Nanotube Synthesis, Device Fabrication, and Circuit Design for Digital Logic Applications 2010 Carbon Nanotube Field Effect Transistor (CNFET) technology has received a lot of attention in the past few years as a promising extension to silicon-CMOS for future digital logic integrated circuits. While recent research has advanced CNFET technology past many important milestones, robust and scalable solutions must be developed to realize the full potential of CNFETs. Thus, this thesis aims to develop a suite of techniques, spanning from material synthesis to circuit solutions, compatible with very-large-scale integration (VLSI). Specifically, to enable the real-world engineering of carbon nanotube integrated circuits, this thesis presents (1) wafer-scale aligned CNT growth, (2) wafer-scale CNT Transfer, (3) wafer-scale device and circuit fabrication techniques, and (4) ACCNT, a VLSI-compatible circuit design solution to surmounting the problem of metallic CNTs. These techniques culminated in the successful demonstration of CNT transistors, inverters, and NAND logic gates on a wafer scale. Furthermore, this thesis sheds light on important design considerations for the demonstration of a simple CNT "computer" and suggests a few critical directions for future work in the field of carbon nanotube technology. In contributing the above, this thesis hopes to propel carbon nanotube technology forward towards the vision of robust, large-scale integrated circuits using high-density carbon nanotubes.

Digital Electronics—GATE, PSUS AND ES Examination Satish K Karna Test Prep for Digital Electronics—GATE, PSUS AND ES Examination

Digital Electronics Anil K. Maini 2007-09-27 The fundamentals and implementation of digital electronics are essential to understanding the design and working of consumer/industrial electronics, communications, embedded systems, computers, security and military equipment. Devices used in applications such as these are constantly decreasing in size and employing more complex technology. It is therefore essential for engineers and students to understand the fundamentals, implementation and application principles of digital electronics, devices and integrated circuits. This is so that they can use the most appropriate and effective technique to suit their technical need. This book provides practical and comprehensive coverage of digital electronics, bringing together information on fundamental theory, operational aspects and potential applications. With worked problems, examples, and review questions for each chapter, Digital Electronics includes: information on number systems, binary codes, digital arithmetic, logic gates and families, and Boolean algebra; an in-depth look at multiplexers, de-multiplexers, devices for arithmetic operations, flip-flops and related devices, counters and registers, and data conversion circuits; up-to-date coverage of recent application fields, such as programmable logic devices, microprocessors, microcontrollers, digital troubleshooting and digital instrumentation. A comprehensive, must-read book on digital electronics for senior undergraduate and graduate students of electrical, electronics and computer engineering, and a valuable reference book for professionals and researchers.

Computer Logic John Y. Hsu 2012-12-06 This book provides the reader with the key concepts and techniques of modern digital logic design and applications. This concise treatment provides essential development and explanations for both classical and modern topics. The modern topics include unicode, unipolar transistors, copper technology, flash memory, HDL, verilog and logic simulation software tools. Also covered are combinatorial logic circuits and transistor circuits. It will be an essential resource for computer scientists, logic circuit designers and computer engineers.

Digital Electronics and Laboratory Computer Experiments Charles Wilkins 2012-12-06 Science undergraduates have come to accept the use of computers as commonplace. The daily use of portable sophisticated electronic calculators (some of them rivaling general-purpose minicomputers in their capa bi li ti es) has hastened this development. Over the past several years, computer assisted experimentation has assumed an important role in the experimental laboratory. Mini- and microcomputer systems have become an important part of the physical scientist's array of analytical instruments. Prompted by our beliefthat this was

an inevitable development, we began several years aga to develop the curricular materials presented in this manual. At the outset, several objectives seemed important to uso First, insofar as possible, the experiments included should be thoroughly tested and error free. Second, they should be compatible with a variety of laboratory computer, data-acquisition, and control systems. Third, little or no previous background in either electronics or programming should be necessary. (Of course, such background would be advantageous.) To satisfy these objectives, we decided to adopt a widespread high-level computer language, BASIC, suitably modified for the purpose. Furthermore, we have purposely avoided specifying any particular system or equipment. Rather, the functional characteristics of both hardware and software required are stipulated. The experiments have been developed using Varian 620 and Hewlett-Packard 2100 series computers, but we believe they are readily transferable to other commonly available computer systems with a minimum of difficulty.

Digital Logic for Computing John Seiffertt 2017-05-26 The book provides a bottom-up approach to understanding how a computer works and how to use computing to solve real-world problems. It covers the basics of digital logic through the lens of computer organization and programming. The reader should be able to design his or her own computer from the ground up at the end of the book. Logic simulation with Verilog is used throughout, assembly languages are introduced and discussed, and the fundamentals of computer architecture and embedded systems are touched upon, all in a cohesive design-driven framework suitable for class or self-study.

Power electronics Ned Mohan 2007-01-01 Market_Desc: · Electrical Engineering Students · Electrical Engineering Instructors· Power Electronics Engineers Special Features: · Easy to follow step-by-step in depth treatment of all the theory.· Computer simulation chapter describes the role of computer simulations in power electronics. Examples and problems based on Pspice and MATLAB are included.· Introductory chapter offers a review of basic electrical and magnetic circuit concepts.· A new CD-ROM contains the following:· Over 100 of new problems of varying degrees of difficulty for homework assignments and self-learning.· PSpice-based simulation examples, which illustrate basic concepts and help in design of converters.· A newly-developed magnetic component design program that demonstrates design trade-offs.· PowerPoint-based slides, which will improve the learning experience and the ease of using the book About The Book: The text includes cohesive presentation of power electronics fundamentals for applications and design in the power range of 500 kW or less. It describes a variety of practical and emerging power electronic converters made feasible by the new generation of power semiconductor devices. Topics included in this book are an expanded discussion of diode rectifiers and thyristor converters as well as chapters on heat sinks, magnetic components which present a step-by-step design approach and a computer simulation of power electronics which introduces numerical techniques and commonly used simulation packages such as PSpice, MATLAB and EMTP.

Computer Literature Bibliography: 1946-1963 W. W. Youden 1965