
Digital Logic Design And Application

DIGITAL LOGIC DESIGN

Computer, Network, Software, and Hardware Engineering with Applications

Digital Logic

Fundamentals of Digital Logic Design

Digital Design Techniques and Exercises

Its Application in Communication and Technology

Digital Logic and Computer Design

Using Verilog, State Machines, and Synthesis for FPGAs

Fundamentals of Digital Logic Design, with VLSI Applications

Computer Logic

With VLSI Circuit Applications

Digital Design Techniques and Exercises

Digital Logic

Introduction to Logic Design, Second Edition

Third Edition

A Practice Book for Digital Logic Design

Digital Logic Design and Computer Organization with Computer Architecture for

Security

Introduction to Digital Logic Design

Digital Logic Design Principles

A Rigorous Approach

Digital Design

From Logic Gates to Processors

Digital Logic

Digital Logic Techniques

Digital Logic Design

Introduction to Logic Design

Digital Logic Design and Applications

Advanced Digital Logic Design

With an Introduction to Verilog and FPGA-Based Design

Digital Systems

Digital Logic Design

Principles of Modern Digital Design

A Practice Book for Digital Logic Design

Application Of Digital Electronics

Principles, Devices and Applications

Coding and RTL Synthesis

With An Introduction to Verilog HDL
Foundations of Digital Logic Design
Design Principles and Applications
Digital Electronics

*Digital Logic Design
And Application*

*Downloaded from
archive.imba.com by
guest*

ANTWAN YADIRA

DIGITAL LOGIC DESIGN John Wiley & Sons

This textbook for a one-semester course in Digital Systems Design describes the basic methods used to develop “traditional” Digital Systems, based on the use of logic gates and flip flops, as well as more advanced techniques that enable the design of very large circuits, based on Hardware Description Languages and Synthesis tools. It was

originally designed to accompany a MOOC (Massive Open Online Course) created at the Autonomous University of Barcelona (UAB), currently available on the Coursera platform. Readers will learn what a digital system is and how it can be developed, preparing them for steps toward other technical disciplines, such as Computer Architecture, Robotics, Bionics, Avionics and others. In particular, students will learn to design digital systems of medium complexity, describe digital systems using high level hardware description languages, and understand the operation of computers

at their most basic level. All concepts introduced are reinforced by plentiful illustrations, examples, exercises, and applications. For example, as an applied example of the design techniques presented, the authors demonstrate the synthesis of a simple processor, leaving the student in a position to enter the world of Computer Architecture and Embedded Systems.

Computer, Network, Software, and Hardware Engineering with Applications
McGraw Hill Professional

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.

Digital Logic Prentice Hall

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 soon. The salient features of this textbook are as follows: 1. Introduce incrementally the principles of digital logic design and exemplify each basic theme and concept

with abundant illustrations. 2. Detail design principles of various combinational modules, including decoders, encoders, multiplexers, demultiplexers, arithmetic circuits, and so on. 3. Introduce design principles of various sequential modules, including counters, registers, shift registers, sequence generators, etc. 4. Address the structures, features, and applications of PLD/FPGA devices. 5. Exemplify applications of CPLD/FPGA devices with Verilog HDL modules. 6. Provide 20 basic and application experiments of digital logic to help readers verify the consistence of digital logic between principles and practice. 7. Include an abundance of review questions in each section to help readers evaluate their understandings about the section. 8. 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.

Fundamentals of Digital Logic Design

CRC Press

Hardware -- Logic Design.

Digital Design Techniques and Exercises

Butterworth-Heinemann

Digital Logic Design, Second Edition

provides a basic understanding of digital logic design with emphasis on the two alternative methods of design available

to the digital engineer. This book describes the digital design techniques, which have become increasingly important. Organized into 14 chapters, this edition begins with an overview of the essential laws of Boolean algebra, K-map plotting techniques, as well as the simplification of Boolean functions. This text then presents the properties and develops the characteristic equations of a number of various types of flip-flop. Other chapters consider the design of synchronous and asynchronous counters using either discrete flip-flops or shift registers. This book discusses as well the design and implementation of event driven logic circuits using the NAND sequential equation. The final chapter deals with simple coding techniques and the principles of error detection and

correction. This book is a valuable resource for undergraduate students, digital engineers, and scientists.

Its Application in Communication and Technology McGraw-Hill Higher Education

This book is your beginner's guide to simple logic programming. Digital design is based on the binary principle, where everything is either 0 or 1, either low or high. Few people realize that digital logic existed before the advent of the computer. Digital logic was used for control and communications systems even before semiconductors were invented. They worked using switches, relays, and solenoids. If you search the internet you will not find the phrase digital logic separate from computers. It's like the only purpose for digital logic

was to invent the computer.

Digital Logic and Computer Design

John Wiley & Sons

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.

Using Verilog, State Machines, and Synthesis for FPGAs CI-Engineering

A college text for a one- or two-term first course in digital logic design at about the sophomore or junior level. It covers the basics of switching theory and logic

design necessary to analyze and design combinational and sequential logic circuits at switch, gate, and register (or register-transfer

Fundamentals of Digital Logic Design, with VLSI Applications

Technical Publications

FPGAs have almost entirely replaced the traditional Application Specific Standard Parts (ASSP) such as the 74xx logic chip families because of their superior size, versatility, and speed. For example, FPGAs provide over a million fold increase in gates compared to ASSP parts. The traditional approach for hands-on exercises has relied on ASSP parts, primarily because of their simplicity and ease of use for the novice. Not only is this approach technically outdated, but it also severely limits the

complexity of the designs that can be implemented. By introducing the readers to FPGAs, they are being familiarized with current digital technology and the skills to implement complex, sophisticated designs. However, working with FPGAs comes at a cost of increased complexity, notably the mastering of an HDL language, such as Verilog.

Therefore, this book accomplishes the following: first, it teaches basic digital design concepts and then applies them through exercises; second, it implements these digital designs by teaching the user the syntax of the Verilog language while implementing the exercises.

Finally, it employs contemporary digital hardware, such as the FPGA, to build a simple calculator, a basic music player, a frequency and period counter and it

ends with a microprocessor being embedded in the fabric of the FPGA to communicate with the PC. In the process, readers learn about digital mathematics and digital-to-analog converter concepts through pulse width modulation.

Computer Logic Springer 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.

With VLSI Circuit Applications CRC Press

The book is written for an undergraduate course on digital electronics. The book provides basic concepts, procedures and several relevant examples to help the readers to understand the analysis and design of various digital circuits. It also introduces hardware description language, VHDL. The book teaches you the logic gates, logic families, Boolean algebra, simplification of logic functions,

analysis and design of combinational circuits using SSI and MSI circuits and analysis and design of the sequential circuits. This book provides in-depth information about multiplexers, demultiplexers, decoders, encoders, circuits for arithmetic operations, various types of flip-flops, counters and registers. It also covers asynchronous sequential circuits, memories and programmable logic devices.

Digital Design Techniques and Exercises
Springer

Fundamentals of Digital Logic With Verilog Design teaches the basic design techniques for logic circuits. It emphasizes the synthesis of circuits and explains how circuits are implemented in real chips. Fundamental concepts are illustrated by using small examples. Use

of CAD software is well integrated into the book. A CD-ROM that contains Altera's Quartus CAD software comes free with every copy of the text. The CAD software provides automatic mapping of a design written in Verilog into Field Programmable Gate Arrays (FPGAs) and Complex Programmable Logic Devices (CPLDs). Students will be able to try, firsthand, the book's Verilog examples (over 140) and homework problems. Engineers use Quartus CAD for designing, simulating, testing and implementing logic circuits. The version included with this text supports all major features of the commercial product and comes with a compiler for the IEEE standard Verilog language. Students will be able to: enter a design into the CAD system compile the design into a

selected device simulate the functionality and timing of the resulting circuit implement the designs in actual devices (using the school's laboratory facilities) Verilog is a complex language, so it is introduced gradually in the book. Each Verilog feature is presented as it becomes pertinent for the circuits being discussed. To teach the student to use the Quartus CAD, the book includes three tutorials.

Digital Logic Digital Logic Design

This book presents the basic concepts used in the design and analysis of digital systems and introduces the principles of digital computer organization and design.

Introduction to Logic Design, Second Edition Pearson Education India

There are many books on computers,

networks, and software engineering but none that integrate the three with applications. Integration is important because, increasingly, software dominates the performance, reliability, maintainability, and availability of complex computer and systems. Books on software engineering typically portray software as if it exists in a vacuum with no relationship to the wider system. This is wrong because a system is more than software. It is comprised of people, organizations, processes, hardware, and software. All of these components must be considered in an integrative fashion when designing systems. On the other hand, books on computers and networks do not demonstrate a deep understanding of the intricacies of developing software. In this book you will

learn, for example, how to quantitatively analyze the performance, reliability, maintainability, and availability of computers, networks, and software in relation to the total system.

Furthermore, you will learn how to evaluate and mitigate the risk of deploying integrated systems. You will learn how to apply many models dealing with the optimization of systems.

Numerous quantitative examples are provided to help you understand and interpret model results. This book can be used as a first year graduate course in computer, network, and software engineering; as an on-the-job reference for computer, network, and software engineers; and as a reference for these disciplines.

Third Edition Pws Publishing Company

Digital Logic Design Elsevier

A Practice Book for Digital Logic Design Springer

A COMPREHENSIVE GUIDE TO THE DESIGN & ORGANIZATION OF MODERN COMPUTING SYSTEMS Digital Logic Design and Computer Organization with Computer Architecture for Security provides practicing engineers and students with a clear understanding of computer hardware technologies. The fundamentals of digital logic design as well as the use of the Verilog hardware description language are discussed. The book covers computer organization and architecture, modern design concepts, and computer security through hardware. Techniques for designing both small and large combinational and sequential circuits are thoroughly

explained. This detailed reference addresses memory technologies, CPU design and techniques to increase performance, microcomputer architecture, including "plug and play" device interface, and memory hierarchy. A chapter on security engineering methodology as it applies to computer architecture concludes the book. Sample problems, design examples, and detailed diagrams are provided throughout this practical resource. **COVERAGE INCLUDES:** Combinational circuits: small designs Combinational circuits: large designs Sequential circuits: core modules Sequential circuits: small designs Sequential circuits: large designs Memory Instruction set architecture Computer architecture: interconnection Memory system

Computer architecture: security
Digital Logic Design and Computer Organization with Computer Architecture for Security John Wiley & Sons
 Market_Desc: · Electrical engineers· Logic Designers in Computer Industry
 Special Features: · Provides extensive exercises for readers to work out while studying a topic· Presents up-to-date approaches in logic design in later chapters· Discusses the relationship between digital system design and computer architecture
 About The Book: This is an introductory-level book on the principles of digital logic design. While providing coverage to the usual topics in combinational and sequential circuit principles, it also includes a chapter on the use of the hardware description language ABEL in the design of circuits

using PLDs and a chapter on computer organization.

Introduction to Digital Logic Design BPB Publications

Hardware -- Logic Design.

Digital Logic Design Principles

Cambridge University Press

Description: The book is an attempt to make Digital Logic Design easy and simple to understand. The book covers various features of Logic Design using lots of examples and relevant diagrams. The complete text is reviewed for its correctness. This book is an outcome of sincere effort and hard work to bring concepts of Digital Logic Design close to the audience of this book. The salient features of the book:--Easy explanation of Digital System and Binary Numbers with lots of solved examples-Detailed

covering of Boolean Algebra and Gate-Level Minimization with proper examples and diagrammatic -representation.- Detailed analysis of different Combinational Logic Circuits-Complete Synchronous sequential Logic understanding-Deep understanding of Memory and Programmable Logic- Detailed analysis of different Asynchronous Sequential Logic

Table Of Contents: Unit 1 : Digital System and Binary Numbers; Part 1: Digital System and Binary Numbers Part 2 : Boolean Algebra and Gate Level Minimization Unit 2 : Combinational Logic Unit 3: Sequential Circuits Unit 4 : Memory, Programmable Logic and Design Unit 5 : Asynchronous Sequential Logic

A Rigorous Approach John Wiley & Sons

This book is designed to serve as a hands-on professional reference with additional utility as a textbook for upper undergraduate and some graduate courses in digital logic design. This book is organized in such a way that that it can describe a number of RTL design scenarios, from simple to complex. The book constructs the logic design story from the fundamentals of logic design to advanced RTL design concepts. Keeping in view the importance of miniaturization today, the book gives practical information on the issues with ASIC RTL design and how to overcome these concerns. It clearly explains how to write an efficient RTL code and how to improve design performance. The book also describes advanced RTL design concepts such as low-power design,

multiple clock-domain design, and SOC-based design. The practical orientation of the book makes it ideal for training programs for practicing design engineers

and for short-term vocational programs. The contents of the book will also make it a useful read for students and hobbyists.

Related with Digital Logic Design And Application:

- Solving Systems By Elimination Worksheet Algebra 1 : [click here](#)