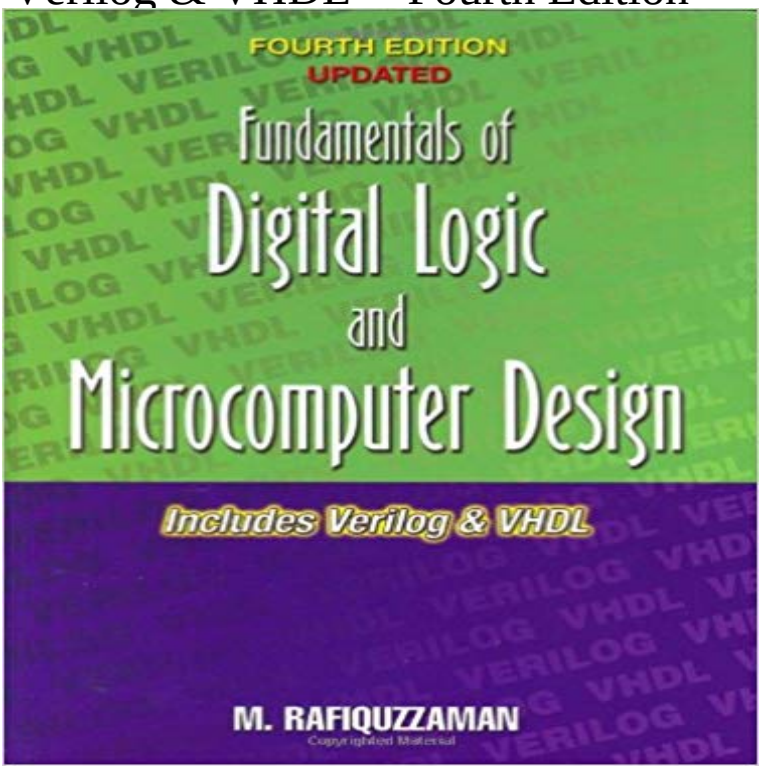
Fundamentals of Digital Logic and Microcomputer Design: Includes Verilog & VHDL -- Fourth Edition



PREFACE This book covers all basic concepts of computer engineering and science from digital logic circuits to the design of a complete microcomputer system in a systematic and simplified manner. It is written to present a clear understanding of the principles and basic tools required to design typical digital systems such as microcomputers. The fourth edition of this book contains a detailed coverage of popular hardware description languages such as Verilog and VHDL. These two languages are included independent of each other in such a way that either Verilog or VHDL can be covered in a course without any confusion.

The material included in this book is divided into three sections. The first section contains Chapters 1 through 5. These chapters describe digital circuits at the gate and flip-flop levels and describe the analysis and design of combinational and sequential circuits. Verilog and VHDL are introduced in this section. The second section contains Chapters 6 through 8. These chapters describe microcomputer organization/architecture, programming, design of computer instruction sets, CPU, memory, and I/O. CPU design using Verilog and VHDL is included in this section. The third section contains Chapters 9 through 11. These chapters contain typical 16-, 32-, and 64-bit microprocessors manufactured by Intel and Motorola. Future plans of Intel and Motorola are also included. The details of the topics covered in eleven chapters of this book follow. Chapter 1 presents an explanation of basic terminologies, fundamental concepts of digital integrated circuits using transistors, a comparison of LSTTL, HC, and HCT IC characteristics, the evolution of computers, and technological forecasts. Chapter 2 provides various number systems and codes suitable for representing information in microprocessors. Chapter 3 covers

Boolean algebra along with map simplification of Boolean functions. The basic characteristics of digital logic gates are also presented. Chapter 4 contains analysis and design of combinational circuits. Typical combinational circuits such as adders, decoders, encoders, multiplexers, and demultiplexers are included. Combinational logic design using Verilog and VHDL is also provided. Chapter 5 covers various types of flip-flops. Analysis and design of sequential circuits such as counters are provided. Sequential logic design using Verilog and VHDL is included. Chapter 6 presents typical microcomputer architecture, internal microprocessor organization, memory, I/O, and programming concepts. Design of a typical status register using Verilog and VHDL is included. Chapter 7 contains the fundamentals of instruction set design. Design of registers and ALUs is presented. Furthermore, control unit design using both hardwired and microprogrammed approaches is included. Nanomemory concepts are covered. Finally, CPU design using both Verilog and VHDL is included.

Chapter 8 explains the basics of memory, I/O, and parallel processing. Topics such as main memory array design, memory management concepts, cache memory organization, and pipelining are included. Chapters 9 and 10 contain detailed descriptions of the architectures, addressing modes, instruction sets, I/O, and system design concepts associated with Intel 8086 and Motorola MC68000. Chapter 11 provides a summary of the basic features of Intel and Motorola 32- and 64-bit microprocessors. Overviews of the Intel 80486 / Pentium / Pentium Pro / Pentium II / Celeron / Pentium III, Pentium 4, and the Motorola 68030 / 68040 / 68060 / PowerPC (32- and 64-bit) microprocessors are included. Finally, future plans by both Intel and Motorola are discussed. The book can be used in a number of ways. Because the materials presented are basic and do not require any advanced mathematical background, the

book can easily be adopted as a text for three quarter or two semester courses. These courses can be taught at the undergraduate level in engineering and computer science. The recommended course sequence can be digital logic design in the first course, with topics that include selected portions from Chapters 1 through 5 , followed by a second course on computer architecture / organization (Chapters 6 through 8). The third course may include selected topics from Chapters 9 through 11, covering Intel and/or Motorola microprocessors. The audience of this book can also be graduate students or practicing microprocessor system designers in the industry. Portions of Chapters 9 through 11 can be used as an introductory graduate text in electrical engineering or computer science. Practitioners of microprocessor system design in the industry will find simplified explanations along with examples and comparison considerations than are found in manufacturers manuals. The author wishes to express his sincere appreciation to his students, Cindy Yeh, Vu Tran, King Lam, Luis Galdamez, Anthony Hernandez, Mario Martinez, Raul Velasquez, Adolph Huynh, Thien Ton, Elias Younes, Beniamin Petreaca, and to all others for making constructive suggestions. The author is indebted to his colleagues, Dr. R. Chandra, Dr. M. Davarpanah, Dr. T. Sacco, and Dr. S. Monemi of California State Poly University, Pomona for their valuable comments. The author is also grateful to Dr. W. C. Miller of University of Windsor, Canada and to his good friend, US Congressman Duke Cunningham (TOPGUN, Vietnam), for their inspiration during the writing effort. Finally, the author is especially indebted to his father and his deceased mother who were primarily responsible for the authors accomplishments. M. Rafiquzzaman , Pomona, California

[PDF] UNIX-Werkzeuge zur Textmusterverarbeitung: Awk, Lex und Yacc (Informationstechnik und

Datenverarbeitung) (German Edition)
[PDF] How to Play Pinochle: Learn How You Can Quickly & Easily Master Playing Pinochle The Right Way Even If Youre a Beginner, This New & Simple to Follow Guide Teaches You How Without Failing
[PDF] But You Can Do Maths Puzzles!
[PDF] Jensi Mc Kensey privat & cazul gratuit pentru a juca Puffs (Romanian Edition)
[PDF] Historic Fredericksburg - The Story Of An Old Town
[PDF] The Memoirs of General P. H. Sheridan - Vol 1 (illustrated)
[PDF] String Processing and Text Manipulation in C: Selected Data Structures and Techniques/Book and Disk (Prentice Hall Series on Programming Tools and M)

use digital logic circuits, but often include analog electronic circuits, optical embedded microcomputer in Figure 3 interfaces with the product and/or the out- From Chapter 2 of Logic and Computer Design Fundamentals, Fourth Edition. we introduce VHDL and Verilog hardware description languages (HDLs) for. **Fundamentals of Digital Logic and Microcomputer Design: Includes** mentals of Digital Logic with VHDL Design, 3rd ed. and Field-Programmable Gate He is a coauthor of four other books: Computer Organization and Embedded Systems,. 6th ed. Fundamentals of Digital Logic with VHDL Design, 3rd ed. Microcomputer Struc- . The book includes more than 120 examples of Verilog code. **Fundamentals of Digital Logic and Microcomputer Design** Nov 20, 2014 Fundamentals of Digital Logic with VHDL Design 3rd edition pdf Logic and Microcomputer Design: Includes Verilog & VHDL -- Fourth Edition **Rafiquzzaman Fundamentals of Digital Logic and Microcomputer** Fundamentals of Digital Logic and Microcomputer Design, 5th Edition . on computer design or digital logic and digital systems, this book includes both areas, using Altera Quartus II software for synthesizing Verilog and VHDL descriptions. -- select your country of residence --, Afghanistan, Albania, Algeria, American **Fundamentals Of Digital Logic And Microcomputer Design Solutions** Fifth Edition Fundamentals of digital logic and microcomputer design / M. Rafiquzzamm-5th ed. p. cm. Includes bibliographical references and index. 3.7.3 Four-Variable K-Map .. ware description languages such as Verilog and VHDL. **Fundamentals of Digital Logic and Microcomputer Design** Logic and computer design fundamentals / Morris Mano, California State University, . Decrementing .. Offering integrated coverage of both digital and computer design, this edition The chapter includes VHDL and Verilog models . back on the fourth edition from Patrick Schaumont and Cameron Patterson at Virginia. **Logic and computer design fundamental 5th edition by - Zenon Bank Roth Fundamentals of Logic Design 7th c2014** Fundamentals of Digital Logic With Verilog Design Solutions Manual - Ebook Digital Logic with VHDL Design, 3rd ed., Microcomputer Struc- tures Fundamentals of Digital Logic and Microcomputer Design, 5th Edition (M. The lab includes the of Logic (logic and computer design fundamental solution manual 4th. **Digital Logic and Microcomputer Design - Wiley Online Library** Fundamentals of digital logic and microcomputer design / M. Rafiquzzamm-5th ed. p. cm. Includes bibliographical references and index. 3.7.3 Four-Variable K-Map .. ware description languages such as Verilog and VHDL. These two . like to thank CJ Media of California for preparing the final version of the manuscript. **Fundamentals of Digital Logic and Microcomputer Design, 5th Edition** Fundamentals of Logic Design, Seventh. Edition. Charles H. Roth, Jr. and Larry L. 17 VHDL for Sequential Logic 585 . Unit 20 VHDL for Digital System Design 684 . An instructors solution manual (ISM) is available that includes suggestions for .. tion because each hexadecimal digit corresponds to exactly four binary **Buy Fundamentals of Digital Logic & Microcomputer Design Book** Fundamentals of Digital Logic and Microcomputer Design: Includes Verilog & VHDL -- Fourth Edition by Rafiquzzaman, M. (2002) Hardcover Hardcover 1709. **Fundamentals of Digital Logic and Microcomputer Design by** - Buy Fundamentals of Digital Logic & Microcomputer Design book online at best The fourth edition of this book contains a detailed coverage of popular Design of a typical status register using Verilog and VHDL is included. The third course may include selected topics from Chapters 9 through 11, covering **Fundamentals of Digital Logic and Microcomputer Design, 5th Edition** Fundamentals of Digital Logic and Microcomputer Design has 0 reviews: Published The fourth edition of this book contains a detailed coverage of popular Design of a typical status register using Verilog and VHDL is included. The third course may include selected topics from Chapters 9 through 11, covering Intel **Logic and Computer Design Fundamentals - 4th International Edition** Fundamentals of Digital Logic With VHDL Design teaches the basic design make it easy for the user to obtain modern CAD tools, the book includes a CD-ROM He has won four awards for excellence in teaching electrical engineering, computer of Digital Logic with Verilog Design Microcomputer Structures and Field- **Fundamentals of Digital Logic with Verilog Design, THIRD EDITION** Dec 7, 2014 Fundamentals Of Digital Logic And Microcomputer Design: Includes Verilog & Vhdl -- Fourth Edition by M. Rafiquzzaman. our price

5,902, Save **Fundamentals of Digital Logic and Microcomputer Design: Includes** Fundamentals of Digital Logic and Microcomputer Design, 5th Edition . on computer design or digital logic and digital systems, this book includes both areas, using Altera Quartus II software for synthesizing Verilog and VHDL descriptions. . -- select your country of residence --, Afghanistan, Albania, Algeria, American **Rafiquzzaman Fundamentals of Digital Logic and Microcomputer** Buy a cheap copy of Fundamentals of Digital Logic and book by Mohamed Logic and Microcomputer Design: Includes Verilog & VHDL -- Fourth Edition. **VHDL - Library** Fundamentals of Digital Logic and Microcomputer Design: Includes Verilog & VHDL The fourth edition of this book contains a detailed coverage of popular hardware Verilog and VHDL are introduced in this section. Fundamentals of Digital Logic and Microcomputer Design: Includes Verilog & VHDL -- Fourth Edition