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Introduction To Computer Science/CSI

International Edition



INTRODUCTION TO COMPUTING SYSTEMS: From Bits & Gates to Programming & Beyond Third Edition

by Yale N. Patt, University Of Texas At Austin, and Sanjay J. Patel, University Of Illinois-Champaign

2009 (January 2008) / 640 pages / Hardcover

ISBN-13: 978-0-07-299465-0 / MHID: 0-07-299465-7

ISBN-13: 978-0-07-110716-7 / MHID: 0-07-110716-9 [IE]

An expanded website for the text, www.mhhe.com/patt3, includes for instructors: the complete Solutions Manual, Source Code of the examples, JPEGs of all of the figures, and Test Questions for Efficient Grading. For instructors and students, the site has: the LC-3 Simulator (Windows and UNIX versions), lab manuals for both versions of the LC-3, PowerPoint presentations created by instructors using the book in their course, selected solutions (Appendix F), Appendices A, D & E (for easy reference) and a Message Board.

Published ahead of its time, this trendsetting textbook was first introduced to electrical engineering, computer engineering and computer science instructors in 1999. Since then, Patt and Patel's Introduction to Computing Systems: From bits & gates to programming & beyond has changed the curriculum. In some cases it has even created new introductory courses, while in others it has enhanced existing courses from introductory programming to computer organization, fulfilling the authors' vision for a modern approach.

The Third Edition maintains the "motivated" bottom-up approach, showing students how a computer works through access to a simulator and by giving them hands-on programming experience with the C language. The authors first introduce the underlying structure of a computer, and then build on that foundation to present programming methodology, as stated, using the C language. Every step of the way, students learn new things, building on what they already know. The authors feel that this approach encourages deeper understanding and downplays the need for memorizing. Students develop a greater breadth of understanding, since they see how the various parts of the computer fit together.

In an effort to further serve different course needs, teaching flexibility has been added to the Third Edition through additional examples and exercises, as well as new supplementary material related to topics such as C++ and computer organization.

NEW TO THIS EDITION

- NEW! Privilege: Based on market feedback, the coverage of privilege will be augmented in this edition.
- NEW! Computer Organization Topics: Optional, supplemental material on topics such as virtual memory, cache and pipelining will be provided at the book's website.
- NEW! C++: Optional, supplemental material highlighting key features for the usage of the C++ language will also be provided at the book's website.

FEATURES

- Bottom-Up Organization: For Patt and Patel, the bottom level abstraction is the switch level representation of a MOS transistor. From there, they quickly move to logic gates, latches, logic structures (MUX, decoder, full adder, and gated latches), finally culminating in an implementation of memory. Then the book moves on to finite state control, its implementation as a sequential circuit, the von Neumann model of execution, a simple computer (the

LC-3), machine language programming and assembly language programming of the LC-3, the high level language C, recursion, and finally elementary data structures.

- Debugging: Because students are taught debugging techniques from the first program they write and are required to use the LC-3 Simulator's debugging tools from the start, they are better able to master the art of programming and can complete their programming assignments with a lot less help from the TA.
- The LC-3 Simulator: Central to the student's learning is hands-on access to the LC-3 Simulator, which has been created specifically to aid the student's mastery of the concepts. (Students can download the LC-3 Simulator from the book's website at no cost).
- Programming Methodology: Students are provided with numerous meaningful, simple examples on how to take a problem and transform it into a computer program via systematic decomposition. Students are exposed to the fundamental similarities in programming, whether it be in the LC-3 or in C, which provides the student with the useful ability to quickly understand other programming languages.
- Website: An expanded website for the text, www.mhhe.com/patt3, includes for instructors: the complete Solutions Manual, Source Code of the examples, JPEGs of all of the figures, and Test Questions for Efficient Grading. For instructors and students, the site has: the LC-3 Simulator (Windows and UNIX versions), lab manuals for both versions of the LC-3, PowerPoint presentations created by instructors using the book in their course, selected solutions (Appendix F), Appendices A, D & E (for easy reference) and a Message Board.

CONTENTS

1 Welcome Aboard. 2 Bits, Data Types, and Operations. 3 Digital Logic Structures. 4 The Von Neumann Model. 5 The LC-3. 6 Programming. 7 Assembly Language 8 I/O. 9 TRAP Routines and Subroutines. 10 And, Finally...The Stack. 11 Introduction to Programming in C. 12 Variables and Operators. 13 Control Structures. 14 Functions. 15 Testing and Debugging. 16 Pointers and Arrays. 17 Recursion. 18 I/O in C. 19 Data Structures. Appendix A The LC-3 ISA. Appendix B From LC-3 to x86. Appendix C The Microarchitecture of the LC-3. Appendix D The C Programming Language. Appendix E Useful Tables. Appendix F Selected Solutions (available at website).



SCHAUM'S OUTLINE OF PRINCIPLES OF COMPUTER SCIENCE

by Paul Tymann, Rochester Inst Of Technology, Carl Reynolds, Rochester Inst Of Technology

2007 (December 2006) / Softcover / 384 pages

ISBN-13: 978-0-07-146051-4 / MHID: 0-07-146051-9

Schaum's Publication

Schaum's Outline of Principles of Computer Science provides a concise overview of the theoretical foundation of computer science. It also includes focused review of object-oriented programming using Java.

International Edition

INTRODUCTION TO COMPUTING SYSTEMS:

From Bits and Gates to C and Beyond

Second Edition

by Yale N Patt, University of Texas at Austin and Sanjay J Patel, University of Illinois, Champaign

2004 / 656 pages / Softcover

ISBN-13: 978-0-07-246750-5 / MHID: 0-07-246750-9

(with CD-ROM)

ISBN-13: 978-0-0-07-124501-2 / MHID: 0-0-07-124501-4

[IE - 2 Color]

The website contains updated versions of the solutions manual, a message board, LC-2 Simulator [to LC-3], lab manuals for LC-3, PowerPoint presentations, source code of the examples, and figures. Browse <http://higherred.mcgraw-hill.com/sites/0072467509>

This book is based on the premise that starting with a high level programming language is not the best approach. The reason most students are unsuccessful using a programming language when they encounter it in their first course is because they are forced to memorize a lot of technical details without having any idea why these details are necessary. That is, they do not understand the basic underpinnings of how a computer works. From this basic notion evolves the motivated bottom-up approach found in Patt/Patel's Introduction To Computing Systems, now in a second edition. The text starts with the logic structures and architecture of a computer and moves up to the application software that runs on it. Every treatment that purports to start at the bottom and work up begins with some abstraction. For Patt/Patel, that abstraction is the switch level behavior of an MOS transistor. From a very short treatment of that abstraction, the book covers in turn: Logic Gates, latches, logic structures (MUX, Decoder, Adder, gated latches), finally culminating in an implementation of memory. From there, the book moves on to the Von Neumann model of execution, then a simple computer (the LC-3), machine language programming, assembly language and how an assembler works, and then assembly language programming of the LC-3. The LC-3 treatment concludes with a substantial treatment of Physical I/O, including both polling and interrupt-driven I/O, the nature of traps and subroutine calls/returns. The book then moves to the high level language C, covering recursion, pointers, and finally elementary data structures. The book establishes a foundation that every subsequent course in the computer science or computer engineering curriculum can benefit from and build on.

CONTENTS

Part I: 1 Welcome Aboard! 2 Bits, Data Types, and Operations. 3 Digital Logic Structures. 4 The Von Neumann Model. 5 The LC-3. 6 Programming. 7 Assembly Language. 8 I/O. 9 TRAP Routines and Subroutines. 10 And, Finally...Part II: 11 Introduction to Programming in C. 12 Variables and Operators. 13 Control Structures. 14 Functions. 15 Debugging. 16 Recursion. 17 Pointers and Arrays. 18 I/O in C. 19 Data Structures. Appendix A The LC-3 ISA. Appendix B From LC-3 to x86. Appendix C The Microarchitecture of the LC-3. Appendix D The C Programming Language. Appendix E Extending C to C++. Appendix F Useful Tables

International Edition

SCHAUM'S OUTLINE OF INTRODUCTION TO COMPUTER SCIENCE

by Ramon Mata-Toledo and Pauline K Cushman, James Madison University in Harrisonburg, Virginia

2000 / 240 pages

ISBN-13: 978-0-07-134554-5 / MHID: 0-07-134554-X

ISBN-13: 978-0-07-116596-9 / MHID: 0-07-116596-7 [IE]

Schaum's Publication

(International Edition is not for sale in Japan.)

C

International Edition

APPLIED C

An Introduction and More

by Alice Fischer and Stephen M Ross, both of the University of New Haven

2000 / 1136 pages / softcover

ISBN-13: 978-0-07-021748-5 / MHID: 0-07-021748-3

ISBN-13: 978-0-07-118459-5 / MHID: 0-07-118459-7 [IE]

CONTENTS

I Introduction. Chapter 1: Computers and Systems. Chapter 2: Programs and Programming. Chapter 3: Fundamental Concepts. II Computation. Chapter 4: Writing Sentences in C. Chapter 5: Using Functions and Libraries. Chapter 6: More Repetition and Decisions. III Basic Data Types. Chapter 7: Integers and Integer Operations. Chapter 8: Real Numbers and Computation. Chapter 9: Program Design. Chapter 10: An Introduction to Arrays. Chapter 11: Character Data and Enumerations. Chapter 12: An Introduction to Pointers. IV Structured Data Types. Chapter 13: Strings. Chapter 14: Structured Types. Chapter 15: Streams and Files. Chapter 16: Simple Array Algorithms. Chapter 17: Two Dimensional Arrays. Chapter 18: Calculating with Bits. V Advanced Techniques. Chapter 19: Dynamic Arrays. Chapter 20: Working With Pointers. Chapter 21: Recursion. Chapter 22: Making Programs General. Chapter 23: Modular Organization. VI Appendix. Appendix A: The ASCII Code. Appendix B: The Precedence of Operators in C. Appendix C: The Tools Library. Appendix D: A Simple Makefile For the Tools Library. Appendix E: Advanced Aspects of C Operators. Appendix F: Glossary and Alphabet Soup.

International Edition

C PROGRAMMING FOR ENGINEERING AND COMPUTER SCIENCE

(B.E.S.T SERIES)

by H H Tan, Morrison Knudsen Corporation, and T.B. D'Orazio

1999 / 600 pages / softcover

ISBN-13: 978-0-07-913678-7 / MHID: 0-07-913678-8

(with 3.5" disk)

ISBN-13: 978-0-07-116788-8 / MHID: 0-07-116788-9

[IE with 3.5" Disk]

Browse <http://higherred.mcgraw-hill.com/sites/0079136788>

CONTENTS

1 Computers and Computing Fundamentals. 2 Getting Started with C. 3 The Basics of C. 4 Beginning Decision Making and Looping. 5 Functions. 6 Arrays and Index Variables. 7 Character Arrays and Strings. 8 Pointers, Addresses, and Special Variable Types. 9 Introduction to C++

International Edition

SCHAUM'S OUTLINE OF PROGRAMMING WITH C Second Edition

by Byron Gottfried, University of Pittsburgh

1996 / 544 pages / Softcover

ISBN-13: 978-0-07-024035-3 / MHID: 0-07-024035-3

ISBN-13: 978-0-07-114259-5 / MHID: 0-07-114259-2 [IE]

(International Edition is not for sale in Japan)

Schaum's Publication

CONTENTS

Introductory Concepts. C Fundamentals. Operators and Expressions. Data Input and Output. Preparing and Running a Complete C Program. Control Statements. Functions. Program Structure. Arrays. Pointers. Structure and Unions. Data Files. Low-Level Programming. Some Additional Features of C. Appendices: A: Number Systems. B: Escape Sequences. C: Operator Summary. D: Data Types and Data Conversation Rules. E: The ASCII Character Set. F: Control Statement Summary. G: Commonly used scanf and printf Conversion Characters.

C++

OBJECT-ORIENTED PROGRAMMING WITH C++ Third Edition

by E Balagurusamy, Director, Mahaveer Academy of Sciences and Technology, Bangalore

2005 / 632 pages / Softcover

ISBN-13: 978-0-07-059362-6 / MHID: 0-07-059362-0

(Tata McGraw-Hill Title)

<http://highered.mcgraw-hill.com/sites/0070593620>

Written by the most well known face of India's IT literacy movement, this book is designed for the first course in C++ taken by undergraduate students in Computers and Information Technology. It explores C++ in the light of Object Oriented Programming Concepts and makes it simpler for novice programmers. Key Features : Detailed coverage of Object Oriented Systems Development. Model C++ Proficiency Test included which strengthen the concepts learnt in the book. New in this Edition Inclusion of new material on Pointers. Addition of separate Debugging exercises at the end of each chapter. 2 full-fledged projects for implementation. Step-by-step guide to implementation of the projects. GEN SUPPLEMENT - For the Instructor Solutions to the debugging exercises For the Student (accessible through Unique Access Code) Chapter-wise self-test quiz with solutions. Exclusive Project for implementation with code, step-by-step description and user manual. Chapter on differences between ANSI C, C++ and ANSI C++.

CONTENTS

1.Principles of Object-Oriented Programming. 2.Beginning With C++. 3.Tokens, Expressions and Control Structures. 4.Functions in C++. 5.Classes and Objects. 6.Constructors and Destructors. 7.Operator Overloading and Type Conversions. 8.Inheritance: Extending Classes. 9.Pointers, Virtual Functions and Polymorphism. 10.Managing Console I/O Operations. 11.Working With Files. 12.Templates. 13.Exception Handling. 14.Introduction to the Standard Template Library. 15.Manipulating String. 16.New Features of ANSI C++ Standard. 17.Object-Oriented Systems Development. Appendix A : Design and Implementation of a Memory Game. Appendix B : Executing Turbo C++. Appendix C : Executing C++ Under Keywords. Appendix D : Glossary of ANSI C++ Keywords. Appendix E : C++ Operator Precedence. Appendix F : Points to Remember. Appendix G : Glossary of Important C++ and OOP Terms. Appendix H : C++ Proficiency Test. Bibliography. Index.

International Edition

PROGRAMMING IN C++: LESSONS AND APPLICATIONS

by Tim B. D'Orazio, San Francisco State University

2004 / 976 pages

ISBN-13: 978-0-07-242412-6 / MHID: 0-07-242412-5

ISBN-13: 978-0-07-119453-2 / MHID: 0-07-119453-3 [IE]

<http://highered.mcgraw-hill.com/sites/0072424125>

D'Orazio's C++ Programming for Engineers and Scientists provides an accessible introduction to programming in C++. It teaches the C++ language and object-oriented design to students with no previous programming experience. The focus is on developing programs for solving a variety of engineering and science problems. Each chapter of the book is divided into two parts - Lessons and Application Examples. The Lessons teach C++ language elements and simple programming techniques, and the Application Programs teach engineering program design. A step-by-step methodology for program development is presented early in the text and reinforced throughout with the help of the application examples and over thirty engineering case studies.

CONTENTS

1 Computers and Computing Fundamentals. 2 Getting Started - Program Structure, Printing, and Comments. 3 The Basics of C++ - Variables, Arithmetic Operations, Math Functions, Input/Output, Characters, Objects, and Classes. 4 Decision Making. 5 Loops. 6 Functions. 7 One-Dimensional Numeric Arrays. 8 Multi-Dimensional Numeric Arrays, Arrays as Data Members, Arrays of Objects. 9 Strings. 10 The C++ String Class. 11 More About Classes, Objects, and Object-Oriented Design. 12 Inheritance, Virtual Functions, and Polymorphism. 13 Data Structures, Recursion, and Other Topics. 14 Templates and the C++ Standard Template Library

International Edition

C++ PROGRAM DESIGN

An Introduction to Programming and Object-Oriented Design with CD-ROM

Third Edition

by James Cohoon and Jack Davidson, both of University of Virginia, Charlottesville

2002 / 840 pages / softcover

ISBN-13: 978-0-07-249889-9 / MHID: 0-07-249889-7

(with CD-ROM) (Out-of-Print)

ISBN-13: 978-0-07-122649-3 / MHID: 0-07-122649-4

[IE with CD-ROM]

<http://www.cs.virginia.edu/c++programdesign>

CONTENTS

1 Computing & The Object-Oriented Design Methodolgy. 2 C++: The Fundamentals. 3 Modifying Objects. 4 Control Constructs. 5 Function Basics. 6 Program Defined Function. 7 The Class Construct and Object-Oriented Design. 8 Implementing Abstract Data Types. 9 Lists. 10 The EzWindows API: A Detailed Examination. 11 Pointers and Dynamic Memory. 12 Inheritance. 13 Templates and Polymorphism. 14 Testing and Debugging. 15 Software Project - Bug Hunt! Appendixes. Appendix A Tables. Appendix B Standard Libraries. Appendix C Standard Classes. Appendix D Advanced Topics. Appendix E EzWindows API Reference Manual. Appendix F Projects and Makefiles

International Edition

A COMPUTER SCIENCE TAPESTRY

Second Edition

by Owen Astrachan, Duke University

2000 / 880 pages / softcover /

ISBN-13: 978-0-07-246536-5 / MHID: 0-07-246536-0

(with Microsoft Compiler and E-Text) (Out-of-Print)

ISBN-13: 978-0-07-116178-7 / MHID: 0-07-116178-3 [IE]

<http://www.cs.duke.edu/csed/tapestry/>

CONTENTS

Chapter 1: Computer Science and Programming/Chapter 2: C++ Programs: Form and Function/Chapter 3: Design and Implementation of Simple Programs/Chapter 4: Control, Functions, and Classes/Chapter 5: Iteration with Programs and Classes/Chapter 6: Streams, Iterators, and Operators/Chapter 7: Abstraction and Information Hiding/Chapter 8: Arrays, Data, and Random Access/Chapter 9: Class Design and Implementation/Chapter 10: Matrices and Recursion/Chapter 11: Sorting, Searching, and Templates/Chapter 12: Dynamic Data and Pointers/Chapter 13: Inheritance for Object-Oriented Design and Programming/Chapter 14: Advanced Topics: Sets, Trees and Maps

SCHAUM'S EASY OUTLINES OF PROGRAMMING WITH C++

by John R Hubbard, University of Richmond, Virginia

2000 / 160 pages

ISBN-13: 978-0-07-052713-3 / MHID: 0-07-052713-X

Schaum's Publication

CONTENTS

Introduction to C++ Programming. Conditionals and Type. Conversion. Iteration. Functions. Arrays. Pointers and References. Strings. Classes. Overloading Operators. A String Class. Composition and Inheritance. Stream I/O. Appendix A C++ Keywords. Appendix B C++ Operators. Appendix C C++ Pre-defined Functions. Index

International Edition

SCHAUM'S OUTLINE OF PROGRAMMING WITH C++

Second Edition

by John R Hubbard, University of Richmond, Virginia

2000 / 422 pages

ISBN-978-0-07-135346-5 / MHID: 0-07-135346-1

ISBN-978-0-07-118372-7 / MHID: 0-07-118372-8 [IE]

(International Edition is not for sale in Japan)

Schaum's Publication

CONTENTS

Chapter 1: Elementary C++ Programming. Chapter 2: Fundamental Types. Chapter 3: Selection. Chapter 4: Iteration. Chapter 5: Functions. Chapter 6: Arrays. Chapter 7: Pointers and References. Chapter 8: C-Strings. Chapter 9: Standard C++ Strings. Chapter 10: Classes. Chapter 11: Overloading Operators. Chapter 12: Composition and Inheritance. Chapter 13: Templates and Iterators. Chapter 14: Standard C++ Vectors. Chapter 15: Container Classes. Appendices: A: Character Codes. B: Standard C++ Keywords. C: Standard C++ Operators. D: Standard C++ Container Classes. E: Standard C++ Generic Algorithms. F: The Standard C Library. G: Hexadecimal Numbers. H: References.

SCHAUM'S OUTLINE OF FUNDAMENTALS OF COMPUTING WITH C++

by John Hubbard, University of Richmond, Virginia

1998 / 368 pages / softcover

ISBN-13: 978-0-07-030868-8 / MHID: 0-07-030868-3

Schaum's Publication

CONTENTS

Introduction to Computing. Logic. Control Structures. Algorithms. Text Processing. Arrays. Data Abstraction. Inheritance. Polymorphism. Containers. Recursion. Mathematical Induction. Sorting. Complexity Analysis. Hash Tables. Linked Lists. Trees. External Structures. Graphs. Simulation. Appendices: A: C++ Syntax. B: Standard C++ Libraries. C: C++ Syntax. D: Logarithms. E: Factorials, Permutations, and Combinations. F: Stirling's Formula. G: Catalan Numbers. H: Counting Principles. I: Recurrence Relations. J: References.

International Edition

A C++ PRIMER FOR ENGINEERS

An Object-Oriented Approach

by Kumaraswamy Ponnambalam, University of Waterloo; and Tivley Algvidigve, Chief Software Engineer for Engsoft

1997 / 293 pages / softcover

ISBN-13: 978-0-07-115807-7 / MHID: 0-07-115807-3 [IE with 3.5" disk]

CONTENTS

1 Problem Solving Using Computers/2 C++ Programming Basics/3 Selections and Repetitions/4 Functions to Aid Modularity/5 Arrays for Grouping Data of Same Type/6 Structures to Group Data/7 Encapsulation of Data and Functions in Classes/8 Inheritance to Aid Reusability/9 Pointers to Aid Efficient Implementation/10 Miscellaneous Topics/11 Java for C++ Programmers

International Edition

C++ PRIMER FOR NON C PROGRAMMERS

by S Zamir

1995 / 331 pages

ISBN-13: 978-0-07-113398-2 / MHID: 0-07-113398-4 [IE]

(International Edition is not for sale in Japan.)

Professional Book

International Edition

LEARNING C++

by Neill Graham

1991 / 304 pages

ISBN-13: 978-0-07-100849-5 / MHID: 0-07-100849-7 [IE]

CONTENTS

1 Elements of C++. 2 Classes and Objects. 3 Arrays, Pointers, and References. 4 Operators and Friends. 5 Inheritance: Derived Classes. 6 Polymorphism: Virtual Functions. 7 Case Study: Event-Driven Simulation. 8 More about C++. Appendices

Visual Basic

International Edition



ADVANCED PROGRAMMING USING VISUAL BASIC.NET

Third Edition

By Julia Case Bradley, and Anita C. Millspaugh, both of Mt San Antonio College

2007 (May 2006) / 608 pages / Softcover

ISBN-13: 978-0-07-351717-9 / MHID: 0-07-351717-8

ISBN-13: 978-0-07-110295-7 / MHID: 0-07-110295-7 [IE]

The author team of Julia Bradley and Anita Millspaugh remain the guiding light in programming with Visual Basic .NET for countless students around the world. How better to master the most popular programming language than to use the bestselling textbook? To be at the cutting edge of technology start with specific Learning Objectives in themed Case Studies and move on to practice with Programming Skills, Exercises, and Examples. Combine screen captures, step-by-step exercises, and thorough appendices and you can ensure that Programming Excellence Begins Here. This textbook is intended for use in an introductory programming course, which assumes no prior knowledge of computer programming. The later chapters are also appropriate for professional programmers who are learning a new language to upgrade their skills.

NEW TO THIS EDITION

- Hands-On Programming Examples
- Learning Objectives
- Feedback Questions
- Case Studies
- Tips
- Programming Exercises

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Chapter 1: Introduction to Visual Basic .NET. Chapter 2: User Interface Design. Chapter 3: Variables, Constants, and Calculations Chapter 4: Decisions and Conditions Chapter 5: Menus, Common Dialog Boxes, Sub Procedures, and Function Procedures Chapter 6: Multiform Projects Chapter 7: Lists, Loops, and Printing Chapter 8: Arrays. Chapter 9: Programming with Visual Web Developer. Chapter 10: Accessing Database Files. Chapter 11: Saving Data in Files. Chapter 12: OOP: Creating Object-Oriented Programs. Chapter 13: Graphics, Animation, Sound, and Drag-and-Drop. Chapter 14: Additional Topics in Visual Basic Appendix A: Answers to Feedback Questions Appendix B: Methods and Functions for Working with Dates, Financial Calculations, Mathematics, and String Operations Appendix C: Tips and Shortcuts for Mastering the Environment Appendix D: .NET Security Glossary Index.

International Edition

PROGRAMMING IN VISUAL BASIC.NET

2005 Edition

by Julia Case Bradley, and Anita C. Millspaugh, both of Mt San Antonio College

2006 / Softcover

ISBN-13: 978-0-07-321588-4 / MHID: 0-07-321588-0

(with Student CD)

ISBN-13: 978-0-07-125689-6 / MHID: 0-07-125689-X [IE]

The author team of Julia Bradley and Anita Millspaugh remain the guiding light in programming with Visual Basic .NET for countless students around the world. How better to master the most popular programming language than to use the bestselling textbook? To be at the cutting edge of technology start with specific Learning Objectives in themed Case Studies and move on to practice with Programming Skills, Exercises, and Examples. Combine screen captures, step-by-step exercises, and thorough appendices and you can ensure that Programming Excellence Begins Here. This textbook is intended for use in an introductory programming course, which assumes no prior knowledge of computer programming. The later chapters are also appropriate for professional programmers who are learning a new language to upgrade their skills.

NEW TO THIS EDITION

- Hands-On Programming Examples
- Learning Objectives
- Feedback Questions
- Case Studies
- Tips
- Programming Exercises

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International Edition

PROGRAMMING IN VISUAL BASIC.NET: Update Edition for VB.NET 2003 with 5-CD VB.Net 2003 Software Set

by Julia Case Bradley, Mt. San Antonio College and Anita C
Millsbaugh, Mt. San Antonio College

2005 / Softcover

ISBN-13: 978-0-07-225671-0 / MHID: 0-07-225671-0
(with CD) (Out-of-Print)

ISBN-13: 978-0-07-111447-9 / MHID: 0-07-111447-5
[IE with CD]

NEW TO THIS EDITION

- Reorganized and expanded
- New appendix on security. Information Assurance has become an extremely important topic in information systems curriculum. In addition, security problems cause students many frustrations. We have added an appendix that addresses securing an application, as well as getting around security restrictions for testing and moving applications.
- The narrative, step-by-step exercises, screen captures, and appendices have all been updated to VB .NET 2003. The screen captures are all based on Windows XP.
- All code updated. All programs in the text are modified to conform to the new standards. Changes to coding conventions include declaring all module level variables using the Private keyword, taking advantage of the feature to declare multiple variables on one statement, and reducing the number of end-line comments. Program comments are now more readable and complete.

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Fourth Edition

by William E Burrows, University of Washington
2003

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[IE with CD and VB.Net Software, 4 CD set]

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Chapter 1 Problem Solving and the Object-Oriented Paradigm. Chapter 2 Creating Simple Visual Basic .NET Windows Applications. Chapter 3 Representing Data – Constants and Variables. Chapter 4 Performing Calculations and Manipulating Data. Chapter 5 Specifying Alternative Courses of Action: Selection Statements. Chapter 6 Reducing Program Complexity: Programmer-Defined Procedures and Functions. Chapter 7 Repeating Processing Tasks: Loop Structures. Chapter 8 Accessing Data: Relational Database Processing. Chapter 9 Accessing Data: Using XML. Chapter 10 Working with Collections. Chapter 11 Using Visual Basic .NET to Create Web Applications. Comprehensive Projects: CP.1 Multiple Forms, Menus, and Logical Decision-Making. CP.2 Economic Order Quantity Calculator. CP.3 Order Policy Simulation. CP.4 Product/Supplier Database Application. CP.5 Order Entry Application Revisited. CP.6 Real Estate Listings Database Application Revisited. Appendix A: Debugging. Appendix B: Configuring and Using Internet Information Server (IIS). Appendix C: Configuring and Using MS SQL Server. Appendix D: Answers to Selected Exercises

International Edition

PROGRAMMING IN VISUAL BASIC 6.0 UPDATE EDITION WITH CD

by Julia Case Bradley and Anita C. Millsbaugh, Mt. San Antonio
College

2002

ISBN-13: 978-0-07-251874-0 / MHID: 0-07-251874-X

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<http://www.mhhe.com/cit/program/bradley6>

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SCHAUM'S OUTLINE OF VISUAL BASIC

by Byron S Gottfried, University of Pittsburgh, Pittsburgh

2001 / 325 pages

ISBN-13: 978-0-07-135671-8 / MHID: 0-07-135671-1

Schaum's Publication

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Chapter 1: Introducing Visual Basic. Chapter 2: Visual Basic Fundamentals. Chapter 3: Branching and Looping. Chapter 4: Visual Basic Control Fundamentals. Chapter 5: Menus and Dialog Boxes. Chapter 6: Executing and Debugging a New Project. Chapter 7: Procedures. Chapter 8: Arrays. Chapter 9: Data Files. Appendix A: The ASCII Character Set. Appendix B: Incompatibilities with Visual Basic.NET. Answers to Selected Problems.

Fortran

International Edition



FORTRAN 95/2003 FOR SCIENTISTS & ENGINEERS

Third Edition

By Stephen J. Chapman, BAE Systems Australia

2008 (January 2007) / Softcover / 864 pages

ISBN-13: 978-0-07-319157-7 / MHID: 0-07-319157-4

ISBN-13: 978-0-07-128578-0 / MHID: 0-07-128578-4 [IE]

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Chapman's Fortran for Scientists and Engineers is intended for both first year engineering students and practicing engineers. It simultaneously teaches the Fortran 95/2003 programming language, structured programming techniques, and good programming practice. Among its strengths are its concise, clear explanations of Fortran syntax and programming procedures, the inclusion of a wealth of examples and exercises to help students grasp difficult concepts, and its explanations about how to understand code written for older versions of Fortran. We are the most current Fortran book in the market.

NEW TO THIS EDITION

- Text has been revised to include the latest updates in response to the release of FORTRAN 2003.
- A new chapter, Object-Oriented Programming in Fortran has been added.

FEATURES

- Clear explanations of FORTRAN syntax and programming procedures
- Discusses changes that have been implemented since FORTRAN 77
- Top-Down design methodology and procedures
- Good programming practice summaries and FORTRAN statement summaries at the end of each chapter

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1 Introduction to Computers and the Fortran Language. 2 Basic Elements of Fortran. 3 Program Design and Branching Structures. 4 Loops and Character Manipulation. 5 Basic I/O Concepts. 6 Introduction to Arrays. 7 Introduction to Procedures. 8 Additional Features of Arrays. 9 Additional Features of Procedures. 10 More about Character Variables. 11 Additional Intrinsic Data Types. 12 Derived Data Types. 13 Advanced Features of Procedures and Modules. 14 Advanced I/O Concepts. 15 Pointers and Dynamic Data Structures. 16 Object-Oriented Programming in Fortran. 17 Redundant, Obsolescent, and Deleted Fortran Features. Appendix A ASCII and EBCDIC Coding Systems. Appendix B Fortran 95/2003 Intrinsic Procedures. Appendix C Order of Statements in a Fortran 95/2003 Program. Appendix D Glossary. Appendix E Answers to Quizzes.

International Edition

FORTRAN 90/95 FOR SCIENTISTS AND ENGINEERS

Second Edition

by Stephen J. Chapman, Bae Systems Australia

2004 / 700 pages

ISBN-13: 978-0-07-282575-6 / MHID: 0-07-282575-8

ISBN-13: 978-0-07-123233-3 / MHID: 07-123233-8 [IE]

The website contains links to Solutions, PowerPoints, Student tips, a Glossary (by chapter and complete), Fortran Code Files, Fortran Library Files, Fortran Utilities, and Fortran Code Help. (Browse <http://www.mhhe.com/engcs/general/best/>)

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International Edition

INTRODUCTION TO FORTRAN 90/95

by Stephen Chapman, British Aerospace

1998 / 416 pages / softcover

ISBN-13: 978-0-07-115896-1 / MHID: 0-07-115896-0 [IE]

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1 Introduction to Computers and the Fortran Language/2 Basic Elements of Fortran/3 Control Structures and Program Design/4 Basic I/O Concepts/5 Arrays/6 Procedures and Structured Programming/7 Additional Data Types/8 Advanced Features of Procedures and Modules/9 Dynamic Memory Allocation and Pointers/ Appendixes/A ASCII and EBCDIC Coding Systems/B Fortran 90/95 Intrinsic Procedures/C Order of Statements in a Fortran 90/95 Program/D Summary of Format Descriptors and I/O Statements/E Glossary/F Answers to Quizzes

SCHAUM'S OUTLINE OF PROGRAMMING WITH FORTRAN 77

by William Mayo and Martin Cwiakala, Rutgers University

1995 / 352 pages

ISBN-13: 978-0-07-041155-5 / MHID: 0-07-041155-7

Schaum's Publication

PASCAL

SCHAUM'S OUTLINE OF PROGRAMMING WITH PASCAL

Second Edition

by Byron S Gottfried, University of Pittsburgh

1994 / 448 pages

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Schaum's Publication

CONTENTS

Introductory Concepts. Pascal Fundamentals. Simple-Type Data. Data Input and Output. Preparing and Running a Complete Pascal Program. Control Structures. Procedures and Functions. User-Defined Simple-Type Data. Arrays. Records. Files. Sets. Lists and Pointers. Appendices: A: Reserved Words. B: Standard Identifiers. C: Standard Procedures. D: Standard Functions. E: Operators. F: Syntax Diagrams. G: The ASCII Character Set. Answers to Selected Problems.

COBOL

International Edition

COMPREHENSIVE COBOL, VOL II

Advanced COBOL Programming

Fourth Edition

by A S Philippakis and L J Kazmier

1991 / 485 pages

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Java



A COMPREHENSIVE INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING WITH JAVA

by C. Thomas Wu (Otani), Naval Postgraduate School

2008 (February 2007) / Softcover / 256 pages

ISBN-13: 978-0-07-331708-1 / MHID: 0-07-331708-X

(with ARIS Bind-in card)

An Introduction to Object-Oriented Programming with Java provides an accessible and technically thorough introduction to the basics of programming using java. The text takes a truly object-oriented approach. Objects are used early so that students think in objects right from the beginning.

FEATURES

- The Comprehensive Edition of Wu includes chapters on Memory Allocation Schemes and Linked Data Structures, Generics, Lists, Queues, and Stacks.
- New Java 5.0 features are incorporated into the text including two new classes, the Scanner Class for input and the Formatter class. Revisions for the Comprehensive edition include introducing the Scanner Class at the outset rather than starting students off with JOption Pane as Wu did in the 4th edition.
- The fundamentals of incremental program design are emphasized by taking students through large Sample Development Programs that reinforce software engineering principles. CONSISTENT PROBLEM SOLVING APPROACH AT THE END OF EVERY CHAPTER FOLLOWS: Problem Statement; Overall Plan; Design; Code; Test.
- Wu presents concepts visually. His diagrams representing objects and classes make these concepts easier for students to understand. WU HAS MORE DIAGRAMS THAN ANY OTHER TEXT.
- The accompanying ARIS site contains solutions for instructors, Animated PowerPoint Slides, Labs, Source Code, an Example Bank, Compiler HowTos and more.
- A Testbank is available to instructors, with questions that can be assigned as exam questions or homework.

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NEW

JAVA IN TWO SEMESTERS**Second Edition**

by Quentin Charatan, and Aaron Kans, University of East London

2006 / 624 pages / Softcover**ISBN-13: 978-0-07-710889-2 / MHID: 0-07-710889-2***(McGraw-Hill UK Title)*

This second edition of the successful textbook, *Java in Two Semesters*, provides a comprehensive treatment of object-oriented programming, covering both introductory material and the more advanced topics of a second level course. Thoroughly revised and updated to reflect the latest release of the Java language, the new edition covers the most recent developments in Java programming. Part One presents the key concepts of object-orientation and takes the student from simple programming concepts through to inheritance and HCI. The second part of the book introduces topics such as advanced graphics programming, exceptions, threads, file handling and network programming, and culminates in a final chapter on Java in the context of the current software development environment. Based upon Java 1.5, the book includes topics such as generics, autoboxing and unboxing, a new chapter on network programming as well as a chapter covering the recently updated Java Collections Framework. Program control is covered by two separate chapters, and there is an entire chapter devoted to the implementation of methods. In addition to new technical developments, the book retains frequent examples, extensive end of chapter exercises, unique case study chapters, and offers a free student CD-ROM containing a Java IDE and all essential Java classes from the text.

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JAVA 5.0 PROGRAM DESIGN

By James P. Cohoon, and Jack W. Davidson, both of University Of VA-Charlottesville

2006 / 920 pages / Softcover**ISBN-13: 978-0-07-325030-4 / MHID: 0-07-325030-9***This site includes solutions, powerpoints, labs, source code, and more.**(Browse <http://www.mhhe.com/cohoon>)*

Java 5.0 Program Design is about the fundamentals of programming and software development using Java. It is targeted for a first programming course and has been designed to be appropriate for people from all disciplines. The authors assume no prior programming skills and use mathematics and science at a level appropriate to first-year college students. The breadth of coverage and the arrangement of the chapters provide flexibility for the instructor in what and when topics are introduced. Key to Java 5.0 Program Design is an introduction to problem solving. The basics of problem-solving techniques are introduced in chapter one and then reinforced during the explanations of Java programming and design. In addition, software engineering design concepts are introduced via problem studies and software projects. This updated version of Java Program Design takes advantage of the improvements to the language introduced with Java 5.0. The additions are especially important for beginning programmers because they help make program design and development a clearer and more straightforward process.

Key Handles: ● Good Problem Solving Techniques ● Wide Variety of Examples ● Placement of Objects first—Aids students in Problem Solving ● 5.0 update is included in this revision

FEATURES

- Java is given broad coverage. The authors provide in-depth coverage of all materials that an introductory course would need, introduce much of the remaining material, and give pointers to the rest.
- Introduction to problem solving. The basics of problem-solving techniques are presented in chapter one, and each successive chapter contains a self-check section, an exercise section offering a variety of problems requiring a wide array of efforts, and one or more interesting case studies presented in a manner that makes it suitable as a class assignment.
- Classes are introduced early. Chapter one includes a gentle introduction to the object-oriented paradigm, and the next several chapters introduce standard Java classes and packages, and a limited number of objects. After this solid introduction, over 50 classes are demonstrated in the remaining chapters.
- Software-engineering design concepts are introduced via problem studies and software projects.
- Coverage of testing and debugging. Students learn various testing techniques (such as unit testing, integration testing, and code inspections), and sections on debugging teach students how to use the scientific method to find bugs.
- Programming and style tips are presented in boxes that clearly delineate this material from the main text. There are important tips on such things as avoiding common programming errors, writing readable code, performance, and software engineering.

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International Edition

AN INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING WITH JAVA

Fourth Edition

by C Thomas Wu (Otani), Naval Postgraduate School

2006 / 976 pages / Softcover

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[IE, Mandatory package]

<http://www.mhhe.com/wu>

An Introduction to Object-Oriented Programming with Java provides an accessible and technically thorough introduction to the basics of programming using Java. The fourth edition continues to take a truly object-oriented approach. Objects are used early so that students think in objects right from the beginning. In the fourth edition, the coverage on defining classes has been made more accessible. The material has been broken down into smaller chunks and spread over two chapters, making it more student-friendly. Also, new to this edition is the incorporation of Java 1.5 features, including use of the Scanner Class and the Formatter Class. The hallmark feature of the book, Sample Development Programs, are continued in this edition. These provide students with an opportunity to incrementally, step by step, walk through program design, learning the fundamentals of software engineering. Object diagrams, using a subset of UML, also continue to be an important element of Wu's approach. The consistent, visual approach assists students in understanding concepts.

NEW TO THIS EDITION

- The fourth edition takes a gentler approach to teaching students to build their own classes, which makes the difficult topic accessible to students.
- The fourth edition contains many new examples geared toward being student-motivating and accessible.
- New Java 1.5 features are incorporated including two new classes, the Scanner Class for input and the Formatter class.
- A Testbank is available to instructors, with questions that can be assigned as exam questions or homework.

Features

- Objects are emphasized from the start, training students to think about programming in an object-oriented way.
- The fundamentals of incremental program design are emphasized by taking students through large Sample Development Programs that reinforce software engineering principles.
- Wu presents concepts visually. His diagrams representing objects and classes make these concepts easier for students to understand.
- An Online Learning Center (OLC) containing solutions for instructors, PowerPoint Slides, Labs, Source Code, an Example Bank, Compiler HowTos and more is available with this book at www.mhhe.com/wu.
- Small complete programs are used throughout the book to provide students with small and digestible examples, making material easier to comprehend.

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1 Introduction to Object-Oriented Programming and Software Development. 2 Getting Started with Java. 3 Numerical Data. 4 Defining Your Own Classes-Part 1. 5 Selection Statements. 6 Repetition Statements. 7 Defining Your Own Classes-Part 2. 8 Exceptions and Assertions. 9 Characters and Strings. 10 Arrays. 11 Sorting and Searching. 12 File Input and Output. 13 Inheritance and Polymorphism. 14 GUI and Event-Driven Programming. 15 Recursive Algorithms

International Edition

JAVA 1.5 PROGRAM DESIGN

by James P Cohoon, University of Virginia, Charlottesville and Jack W Davidson, University of Virginia, Charlottesville

2004

ISBN-13: 978-0-07-121841-2 / MHID: 0-07-121841-6

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<http://higherred.mcgraw-hill.com/sites/007235447x>

Java 1.5 Program Design is about the fundamentals of programming and software development using Java. It is targeted for a first programming course and has been designed to be appropriate for people from all disciplines. The authors assume no prior programming skills and use mathematics and science at a level appropriate to first-year college students. The breadth of coverage and the arrangement of the chapters provide flexibility for the instructor in what and when topics are introduced. Key to Java 1.5 Program Design is an introduction to problem solving. The basics of problem-solving techniques are introduced in chapter one and then reinforced during the explanations of Java programming and design. In addition, software engineering design concepts are introduced via problem studies and software projects. This updated version of Java Program Design takes advantage of the improvements to the language introduced with Java 1.5. The additions are especially important for beginning programmers because they help make program design and development a clearer and more straightforward process.

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SCHAUM'S OUTLINE OF PROGRAMMING WITH JAVA

Second Edition

by John R Hubbard, University of Richmond

2004 / Softcover / 352 pages

ISBN-13: 978-0-07-142040-2 / MHID: 0-07-142040-1

Schaum's Publication

Since its inception in 1995, Java has transformed the way people use the internet. Built by Sun Microsystems over a 5-year period, Java moved the Internet from its infancy into early childhood by enabling web pages to do more than just sit there on the screen like a computerized brochure. Java enabled users to view media, listen to the radio, interact with other users, bid on products on EBay, virtually tour a home for sale, and check stock prices in real time. Sun has now released Java 1.4, a version that includes many updates for programmers that make creating web pages even easier. With version 1.4 there are new data structures, new additions to the Java language, and more applications that can use Java, not to mention the advancements in applet technology which uses Java as its programming language. Java has emerged as the software developer's clear choice for web development, and Java users today far outnumber those of all other programming languages, such as C++ or Visual Basic. The AP course in Computer Science will reflect these changes as its focus changes from C++ to Java 1.4 beginning with the Spring 2004 Exam. This second edition of the successful Schaum's Outline Programming with Java will address these advances in the Java programming language since 1999. It will include updated and expanded examples and solved problems, a feature that no other competitive books on the subject have, which will also appeal to students of Computer Science at the AP level in High School. New chapters and additions to chapters from the

first edition will cover the new data structures and language additions with version 1.4. The book will support the major Computer Science textbooks used in first year computer science classrooms in colleges across the country.

International Edition

PROGRAMMING WITH JAVA WITH CD-ROM

by Julia Case Bradley and Anita C Millspaugh, Mt. San Antonio College

2002 / Softcover

ISBN-13: 978-0-07-251244-1 / MHID: 0-07-251244-X (with Student CD)

ISBN-13: 978-0-07-112478-2 / MHID: 0-07-112478-0 [IE with Student CD]

<http://www.mhhe.com/cit/program/bradleyjava>

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International Edition

AN INTRODUCTION TO COMPUTER SCIENCE USING JAVA

Second Edition

by Samuel N Kamin, and Dennis Mickunas, both of the University of Illinois, Champaign

2002 / 784 pages / softcover

ISBN-13: 978-0-07-112232-0 / MHID: 0-07-112232-X [IE]

<http://www.mhhe.com/kamin>

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International Edition

OBJECTS HAVE CLASS

An Introduction to Programming with Java with CD-ROM and OLC

by David A. Poplawski, Michigan Technological University

2002

ISBN-13: 978-0-07-112406-5 / MHID: 0-07-112406-3 [IE]

<http://www.mhhe.com/poplawski>

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International Edition

JAVA ELEMENTS

Principles of Programming in Java

by Duane Bailey, Williams College

2000 / 352 pages / softcover

ISBN-13: 978-0-07-116353-8 / MHID: 0-07-116353-0 [IE]

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International Edition

JAVA

AN OBJECT-ORIENTED LANGUAGE

by Michael Smith, University of Brighton

1999 / 450 pages / softcover

ISBN-13: 978-0-07-116914-1 / MHID: 0-07-116914-8 [IE]

(McGraw-Hill UK Title)

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UNIX

International Edition

JUST ENOUGH UNIX

Fifth Edition

by K Paul Andersen, New Mexico State University - Las Cruces

2006 / Softcover / 608 pages

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This site contains Answers to Exercises, PowerPoint slides, and some sample code. (Browse <http://www.mhhe.com/andersen>)

Just Enough UNIX provides a quick and gentle introduction to the UNIX operating system. The fifth edition of this highly successful text reflects changes and updates to the UNIX curriculum that have taken place since the publication of the fourth edition. The book is written in a clear, straightforward style that avoids unnecessary jargon. This short, yet comprehensive text covers the basics of UNIX. It can be used in both a freshman engineering course or to supplement other courses where the student needs to learn UNIX for the first time. The book is enhanced by strong pedagogical tools that will be very useful to those in the classroom, as well as those engaged in self-study.

NEW TO THIS EDITION

- Key New Topics. The following topics are new in the fifth edition: computer and network security; Secure Shell (ssh) for remote computing; practical cryptography; scripting in awk; and scripting in Perl.
- New and revised chapters. There are several completely new chapters in the book—chapters 24 (Computer Security), 25 (Remote Computing Using SSH-1), 26 (Remote Computing Using SSH-2), 27 (Protecting Privacy with PGP), 32 (Scripting Languages), 33 (Creating Shell Scripts), 34 (Scripting with awk), and 35 (Scripting with Perl).
- Website. The expanded book website includes answers to exercises for instructors only, as well as PowerPoint slides and data files.
- Security. The fifth edition features expanded coverage of security issues, including the use of Secure Shell as a secure alternative to the traditional Unix "r-commands."

FEATURES

- Organization. The book is divided into the following sections: Introduction to UNIX, UNIX File System, UNIX Shells, Text Editors, UNIX Networking, Startup Files, Secure Computing, Scripting and Programming under UNIX. Each section opens with a descriptive concepts chapter followed by several tutorials that guide the new user step-by-step toward learning how UNIX works.
- Graphical Interfaces. The fifth edition maintains coverage of the CDE interface. The book continues the concept that the typical student is using the most current engineering workstation running the most current graphical user interface, including both one based on the X Window system and CDE.
- Text Editors. The reader will learn to create or modify UNIX files using a utility program called an editor. In addition to the vi editor, the book includes coverage of the emacs, pico and CDE editors. At some schools, the vi editor may be too difficult or outdated. Including these other editors gives instructors a wider range of distribution packages to choose from for their course.
- Networking. The book has coverage of popular Internet and Web tools like ftp and CDE Mailer, including how to process E-mail.
- Pedagogy. The book offers a number of helpful pedagogical features: descriptive chapters, tutorials, marginal notes, sidebars, command summaries and exercises.

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Part I: Introduction to UNIX: 1 Introduction to UNIX. 2 Your UNIX Account. 3 Getting Started. 4 Tutorial: Getting Started (X/Motif). 5 Tutorial: Getting Started (CDE). Part II: UNIX File System: 6 The UNIX File System. 7 Tutorial: Working with Files. 8 Tutorial: Working with Directories. 9 Tutorial: Using File Manager. Part III: UNIX Shells: 10 UNIX Shells. 11 Tutorial: Working with the Shell. 12 Tutorial: Using Additional Shell Features. Part IV: Text Editors: 13 Text Editors. 14 Tutorial: Editing with vi. 15 Tutorial: Editing with emacs. 16 Tutorial: Editing with

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International Edition

YOUR UNIX: THE ULTIMATE GUIDE

Second Edition

by Sumitabha Das, Softman Services, Inc

2006 / Softcover / 864 pages

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<http://www.mhhe.com/das>

Your UNIX: The Ultimate Guide is both an outstanding pedagogical tool and an exhaustive reference. It is the ideal text for any Unix course. It can also be used for any introductory programming course that includes Unix and for advanced courses such as those on Operating Systems and System Administration. Excellent pedagogy is implemented throughout. Real-world examples make it easier for students to grasp concepts while chapters on advanced material take more experienced students beyond the basics. Over nine hundred exercises and self-test questions allow students to test and reinforce their understanding of material at different levels. This book also features coverage of Linux, where Linux differs from UNIX.

NEW TO THIS EDITION

- The number of chapters has been reduced from 24 to 19 to allow for a more intense focus on core UNIX topics.
- Coverage is logically divided between essential(chapters 1-13) and advanced (chapters 14-19) material.
- Three new chapters on programming tools and systems programming benefit the serious programmer and make the book suitable for a course on systems programming.
- Coverage of encryption and the Secure Shell has been added.
- Discussion of vi and emacs editors uses snippets of code to illustrate the benefits to programmers of knowing the editor well.
- The requirements of the POSIX standard have been highlighted throughout.
- A single comprehensive index replaces the multiple specialized indices from the previous edition.

FEATURES

- Notes, Tips, and Caution boxes provide on-the-spot assistance to students.
- Linux coverage supplements generic coverage of UNIX in cases where Linux behaves differently.
- Coverage of the Korn, bash, and C shells is featured in appendices.
- Scores of tables, diagrams, and screen shots make the fundamentals of the Unix operating system more accessible to students.
- Over nine hundred self-test questions and exercises allow students to test and reinforce their understanding of key concepts.
- Scores of real-life examples prompt the reader to envision the practical application of UNIX in situations they are likely to encounter.

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International Edition

INTRODUCTION TO UNIX

by Kate Wrightson and Joe Merlino

2003 / 424 pages

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<http://www.mhhe.com/cit/wrightson>

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HTML

International Edition

SCHAUM'S EASY OUTLINE HTML

by David Mercer, AFC Computer Services

2004 / Softcover / 144 pages

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Schaum's Publication

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by Timothy T. Gottleber, North Lake College and Timothy Trainor, Muskegon County Community College

2003

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International Edition

INLINE/ONLINE: FUNDAMENTALS OF THE INTERNET AND THE WORLD WIDE WEB

Second Edition

by Raymond Greenlaw, Armstrong Atlantic State University

2002

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1 Fundamentals of Electronic Mail. 2 Jump Start: Browsing and Publishing. 3 The Internet. 4 The World Wide Web. 5 Searching the World Wide Web. 6 Telnet and FTP. 7 Basic HTML. 8 Web Graphics. 9 Advanced HTML. 10 Newsgroups and Mailing Lists, Chat Rooms, and MUDs. 11 Electronic Publishing. 12 Web Programming Material. 13 Multimedia. 14 Privacy and Security Topics. Appendix A Internet Service Providers. Appendix B Text Editing. Appendix C Pine Mail Program. Appendix D Basic UNIX. Appendix E HTML Tags. Appendix F Acronyms. Appendix G My URLs

International Edition

SCHAUM'S OUTLINE OF HTML

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2002 / 360 pages

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Schaum's Publication

International Edition

WORLD WIDE WEB DESIGN WITH HTML

by C Xavier

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XML

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PROGRAMMING THE WEB USING XML

by Ellen Pearlman and James Keogh

2004 / 448 pages

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Programming the Web Using XML by Ellen Pearlman and Eileen Mullin, part of our Web Developer Series, is designed to help those who have a background in HTML make the transition to XML, is designed to ensure that those who are new to Web design get the best introduction possible into developing sites in XML. The book begins with a comparison of HTML, XHTML, and XML, and includes real-life examples of how XML is being used today to help readers appreciate the power of XML. It also provides comprehensive coverage of the rules and standards for XML, which is very critical in programming XML. After completing this book, users will receive a comprehensive foundation to the rules and standards of XML syntax, complete with a series of lessons that walk he/she through the process of creating XML documents and related files.

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ASP.Net has made the building of real world Web applications dramatically easier, by allowing great web pages to be built with far less code than the classic ASP program. David Mercer's: Programming The Web Using ASP.NET has been tailored for instructors at either a 2 year or 4 year institutions, who are teaching a full term course on ASP.NET. This textbook has been written by an expert in the field with the sole purpose of being used as a textbook not a trade book.

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C#

International Edition

PROGRAMMING IN C# .NET

by Julia Case Bradley, and Anita C Millspaugh, Mt. San Antonio College

2004 / 704 pages

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[IE with Student CD and 4-CDSet]

<http://www.mhhe.com/cit/program/bradley/csharp>

With Microsoft's recent release of their Visual Development Studio (Visual Studio .Net), a new programming language has been introduced. The new language is C# .Net. Programming in C# .NET has been written by the successful author team of Bradley and Millspaugh, who write our Visual Basic books. Therefore, the book maintains the strong pedagogy that has been used to teach students how to program. This book assumes no prior knowledge of programming and it incorporates basic concepts of programming, problem solving, and programming logic and design techniques to teach students a mastery of C#.Net at an introductory level.

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Other Languages

SCHAUM'S OUTLINE OF MATHEMATICA

by Eugene Don, Queens College of the City University of New York

2000 / 368 pages

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Schaum's Publications

CONTENTS

Getting Acquainted. Basic Concepts. Lists. Two-Dimensional Graphics. Three-Dimensional Graphics. Equations. Algebra and Trigonometry. Differential Calculus. Integral Calculus. Multivariate Calculus. Ordinary Differential Equations. Linear Algebra.

Data Structures/CS2

Data Structures In Java

International Edition

DATA STRUCTURES AND THE JAVA COLLECTIONS FRAMEWORK

Second Edition

by William Collins, Lafayette College

2005 / 768 pages

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[IE with OLC]

PowerPoints, Labs, Solutions (Browse <http://www.mhhe.com/collins>)

Data Structures and the Java Collections Framework, 2/e by William Collins teaches the fundamentals of data structures using java. This student-friendly book focuses on teaching students how to apply the concepts presented. To that end many applications and examples are included throughout the book. Collins also provides programming projects at the end of each chapter, which get students hands on with code. In the second edition, Collins has increased his coverage on teaching students to build data structures from scratch. He also continues to use the Java Collections Framework where appropriate. His goal is give students an excellent background in creating data structures themselves, as well as make them comfortable using the standard library. On-line Labs accompany this book and make it easy to have students start practice what they are learning. These labs can be used as open-labs, closed labs, or homework assignments and are designed to give students hands-on experience in programming.

NEW TO THIS EDITION

- This text is extremely student-friendly. Throughout the book, there are examples, hints, notes, and marginal notes to help students navigate through the concepts. Collins also motivates by providing many applications throughout.
- Collins uses the Java Collections Framework, as well as presenting other implementations. This allows students to get comfortable using an industry standard java library, which they will be able to use even after they finish the course.
- An extensive suite of accompanying labs can be found at www.mhhe.com/collins. Labs allow students to get hands-on with material they are learning. Icons in the book let readers know when they are prepared to complete the next lab.
- The new edition has given added emphasis to building data structures from scratch.
- Programming projects at the end of chapters give students an

opportunity for hands on learning that reinforces concepts.

- More extensive java review has been added in the first two chapters of the book, preparing students to study data structures.
- Incorporates Java 2 Standard Edition, Version 1.5, making use of the newest features of the java language including generics, boxing and unboxing and the enhanced for statement.
- UML (Unified Modeling Language) and javadoc notation are introduced in Chapter 1 and utilized throughout the text-over 30 UML diagrams are included.
- Includes generics-now part of the Java Collections Framework.

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1 Important Features of Java. 2 Interfaces and Collection Classes. 3 Introduction to Software Engineering. 4 Recursion. 5 Array Lists. 6 Linked Lists. 7 Queues and Stacks. 8 Binary Trees and Binary Search Trees. 9 Balanced Binary Search Trees. 10 Tree maps and Tree sets. 11 Priority Queues. 12 Sorting. 13 Searching and The Hash Classes. 14 Graphs, Trees, and Networks. Appendix 1 Mathematical Background. Appendix 3 The Java Collections Framework

International Edition

JAVA STRUCTURES

Data Structures in Java for the Principled Programmer Second Edition

by Duane Bailey, Williams College

2003 / 400 pages

ISBN-13: 978-0-07-112163-7 / MHID: 0-07-112163-3 [IE]

<http://www.mhhe.com/javastructures>

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SCHAUM'S OUTLINE OF DATA STRUCTURES WITH JAVA

by John R. Hubbard, University of Richmond

2001 / 369 pages

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Schaum's Publication

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Review of Java. Review of Arrays. Advanced Java. Recursion. Collections. Stacks. Queues. Lists. Trees. Binary Trees. Search Trees. Heaps and Priority Queues. Sorting. Tables. Sets. Graphs. Essential Mathematics. From C++ to Java. Java Development Environments. References.

International Edition

DATA STRUCTURES, ALGORITHMS, AND APPLICATIONS IN JAVA WITH COMPILER CD

by Sartaj Sahni, University of Florida

2001 / 872 pages / hardcover

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Data Structures In C++

International Edition

DATA STRUCTURES AND THE STANDARD TEMPLATE LIBRARY

by William Collins, Lafayette College

2003 / 688 pages

ISBN-13: 978-0-07-115097-2 / MHID: 0-07-115097-8 [IE]

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International Edition

SCHAUM'S OUTLINE OF DATA STRUCTURES WITH C++

by John R Hubbard, University of Richmond

2000 / 407 pages

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(International Edition is not for sale in Japan.)

Schaum's Publication

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International Edition

SCHAUM'S OUTLINE OF PROGRAMMING WITH C++

Second Edition

by John R Hubbard, University of Richmond, Virginia

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International Edition

DATA STRUCTURES, ALGORITHMS AND OBJECT-ORIENTED PROGRAMMING

by Gregory L Heileman, University of New Mexico

1996 / 640 pages

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Part I●Fundamentals/1 Background/2 Algorithmics/3 Data Structures and C Programs/4 Object Oriented Programming and C++/Part II●Basic Data Structures/5 Lists/6 Stacks and Queues/7 Binary Search Trees/8 Hashing/9 Priority Queues/Part III●Advanced Data Structures/10 Amortized Analysis/11 Balanced Search Trees/12 Heaps/13 Dynamic Sets with Special Operations/14 Graphs/Appendixes/A Mathematical Review Sums and Recurrences/B Mathematical Review Sets, Counting, and Graphs.

Data Structures In C

STRUCTURING DATA AND BUILDING ALGORITHMS

by Ian Chai, and Jonathon David White

2006 / 448 pages / Softcover

ISBN-13: 978-0-07-125726-8 / MHID: 0-07-125726-8

(Asian Publication)

The famous mathematician, physicist, theologian, and philosopher Sir Isaac Newton (1642–1727) once wrote, “If I have seen further [than certain other people], it is by standing on the shoulders of giants.” This is very true in computer programming as well. Imagine if all programmers had to rediscover for themselves by trial and error how to solve common problems in programming! It is much better to learn the solutions that other programmers have already discovered and build upon that foundation.

This book is about those foundational solutions. It describes how to structure data and build algorithms to solve common programming tasks. Some of these techniques have names that come from ordinary non-computer life – e.g. stacks, queues and sorting – and others have names that might be completely unfamiliar to a new student of programming – e.g. recursion, backtracking and arrays – but they are all standards in the programmer’s tool chest. Occasionally, a new tool is discovered – or at least, refined – and we include one which was just discovered in 1999 – introspective sort. But most of them have been part of the standard programmer’s tool chest for decades. Unlike the majority of textbooks in this field, this book takes a “code first” approach. After a brief introduction of the concepts, a short complete ANSI-C program is presented for students to analyse. A number of questions arising from the code are then posed and answered in the Socratic format. In this way, we hope that the reader will not only become fluent in the concepts but also in the “nuts and bolts” of translating these concepts into functioning, efficient standard C code. Variable pointer diagrams are developed and used extensively to aid understanding of the more complex data structures and their manipulation.

CONTENTS

Preface. About the Authors. Part 1: Structuring Data. 1 Structuring Data: Variables and Pointers. 2 Structuring Data: Arrays and Records. 3 Structuring Data: Linked Lists. 4 Structuring Data: Trees. 5 Structuring Data: Graphs and Sets. Part 2: Building Algorithms. 6 Building Algorithms: Basic Techniques. 7 Building Algorithms: Key Concepts. Part 3: Algorithms and Data Structures in Action. 8 Searching. 9 Sorting. 10 NP-hard Problems. Part 4: Theory of Computing. 11 Finite State Automata. 12 Turing Machines. Appendix: Annotated Bibliography. Answers to Problems. Index.

Analysis Of Algorithms



INTRODUCTION TO ALGORITHMS

by Sanjoy Dasgupta, University of California–San Diego, Christos H. Papadimitriou, University of California–Berkeley, and Umesh Vazirani, University of California–Berkeley

2007 (September 2006) / Softcover / 320 pages

ISBN-13: 978-0-07-352340-8 / MHID: 0-07-352340-2

Browse <http://www.mhhe.com/dasgupta>

FEATURES

- SPRINKLED WITH interesting stories about the development of important algorithms AS WELL AS ABOUT THEIR CURRENT USES IN THE GLOBAL INFORMATION ENVIRONMENT.

- The book is concise and realistic; with key Design Issues and rationales that clearly outline the problems to be solveD and show how to develop the algorithm...

- Self contained chapters that provide a variety of perspectives on the implementation of algorithms

The authors cover THE essential algorithms that students need to know,

but are also thorough and rigorous; including coverage of linear programming and quantum computing (BOTH optional, BUT COVERED IN NO OTHER BOOK).

- This is a highly flexible text with self contained chapters: some simple and others high level; that provide a variety of perspectives on the analysis and design of algorithms.

Carefully class tested at UCSD and UC Berkeley OVER 10 YEARS.

- The book uses a unique approach for proofs and is intuitive and accessible.

CONTENTS

0 Prologue. 1 Algorithms with Numbers. 2 Divide-and-conquer algorithms. 3 Decompositions of graphs. 4 Paths in graphs. 5 Greedy algorithms. 6 Dynamic Programming. 7 Linear Programming and Reductions. 8 NP-complete Problems. 9 Coping with NP-completeness. 10 Quantum Algorithms.

STRUCTURING DATA AND BUILDING ALGORITHMS

by Ian Chai, and Jonathon David White

2006 / 448 pages / Softcover

ISBN-13: 978-0-07-125726-8 / MHID: 0-07-125726-8

(Asian Publication)

The famous mathematician, physicist, theologian, and philosopher Sir Isaac Newton (1642–1727) once wrote, “If I have seen further [than certain other people], it is by standing on the shoulders of giants.” This is very true in computer programming as well. Imagine if all programmers had to rediscover for themselves by trial and error how to solve common problems in programming! It is much better to learn the solutions that other programmers have already discovered and build upon that foundation.

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International Edition

DATA STRUCTURES, ALGORITHMS, AND APPLICATIONS IN JAVA WITH COMPILER CD

by Sartaj Sahni, University of Florida

2001 / 872 pages / hardcover

ISBN-13: 978-0-07-116900-4 / MHID: 0-07-116900-8 [IE]

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Preface/1 Java Review/2 Performance Analysis of Programs/3 Asymptotic Notation/4 Performance Measurement of Programs/5 Linear Lists-Array Representation/6 Linear Lists-Linked Representation /7 Linear Lists-Simulated Pointers/8 Arrays and Matrices/9 Stacks/10 Queues/11 Skip Lists and Hashing/12 Binary and Other Trees/13 Priority Queues/14 Tournament Trees/15 Binary Search Trees/16 Balanced Search Trees/17 Graphs/18 The Greedy Method/19 Divide and Conquer/20 Dynamic Programming/21 Backtracking (ON WEBSITE)/22 Branch and Bound (ON WEBSITE)

INTRODUCTION TO THE DESIGN AND ANALYSIS OF ALGORITHMS

by R. C. T. Lee, Shian-Shyong Tseng, Ruei-Chuan Chang, and Y. T. Tsai

2005 / 752 pages / Softcover

ISBN-13: 978-0-07-124346-9 / MHID: 0-07-124346-1

(Asian Publication)

Communication network design, VLSI layout and DNA sequence analysis are important and challenging problems that cannot be solved by naïve and straightforward algorithms. Thus, it is critical for a computer scientist to have a good knowledge of algorithm design and analysis.

This book presents algorithm design from the viewpoint of strategies. Each strategy is introduced with many algorithms designed under the strategy. Each algorithm is presented with many examples and each example with many figures. In recent years, many approximation algorithms have been developed. Introduction to the Design and Analysis of Algorithms presents two important concepts clearly: PTAS and NPO-complete. This book also discusses the concept of NP-completeness before introducing approximation algorithms. Again, this is explained through examples which make sure that the students have a definite idea about this very abstract concept.

This book can be used as a textbook by senior undergraduate students or master level graduate students in computer science.

CONTENTS

Preface. 1 Introduction. 2 The complexity of algorithms and the lower bounds of problems. 3 The greedy method. 4 The divide-and-conquer strategy. 5 Tree searching strategies. 6 Prune-and-search. 7 Dynamic programming. 8 The theory of NP-completeness. 9 Approximation algorithms. 10 Amortized analysis. 11 Randomized algorithms. 12 On-line algorithms. Bibliography. Author index. Subject index.

Discrete Mathematics

International Edition



DISCRETE MATHEMATICS AND ITS APPLICATIONS

Sixth Edition

by Kenneth H. Rosen, AT&T Bell Laboratories

2007 (June 2006) / 896 pages / Hardcover

ISBN-13: 978-0-07-322972-0 / MHID: 0-07-322972-5

(with Mathzone)

ISBN-13: 978-0-07-124474-9 / MHID: 0-07-124474-3 [IE]

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NEW TO THIS EDITION

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- NEW MathZone Website – The Sixth Edition substantially expands the capabilities of Rosen’s highly-regarded online companion site by bringing the power of MathZone to discrete mathematics. MathZone is McGraw-Hill’s robust online tutorial and course management system, and is now included free with each new copy of Rosen. The Sixth Edition MathZone site includes a bevy of new and enhanced features: new online testing, improved site navigation, more Extra Examples and Extra Exercises, more Additional Steps to help students understand difficult topics in the text, an updated MAPLE Programming Supplement, a substantially expanded Applications of Discrete Math supplement containing in-depth applications and projects, and an updated Web Resources Guide containing links to hundreds of external websites relevant to the text material. These enhancements—along with existing features like Interactive Demo applets, lecture notes and transparencies, sample syllabi and teaching suggestions, NetTutor live tutorial help, and student guides for writing proofs and avoiding common mistakes in discrete math—make the Sixth Edition MathZone site a valuable companion to your discrete math course.

FEATURES

• Clarity and Precision – Rosen’s writing style is direct and pragmatic. Care has been taken to balance the mix of notation and words in mathematical statements. All definitions and theorems in this text are stated extremely carefully so that students will appreciate the precision of language and rigor needed in discrete mathematics. Proofs are motivated and developed slowly; their steps are all carefully justified. Recursive definitions are explained and used extensively.

CONTENTS

Preface. The MathZone Companion Website To the Student. 1 The Foundations: Logic and Proofs. 1.1 Propositional Logic 1.2 Propositional Equivalences 1.3 Predicates and Quantifiers 1.4 Nested Quantifiers 1.5 Rules of Inference 1.6 Introduction to Proofs 1.7 Proof Methods and Strategy End-of-Chapter Material 2 Basic Structures: Sets, Functions, Sequences and Sums 2.1 Sets 2.2 Set Operations 2.3 Functions 2.4 Sequences and Summations End-of-Chapter Material 3 The Fundamentals: Algorithms, the Integers, and Matrices 3.1 Algorithms 3.2 The Growth of Functions 3.3 Complexity of Algorithms 3.4 The Integers and Division 3.5 Integers and Algorithms 3.6 Applications of Number Theory 3.7 Matrices End-of-Chapter Material 4 Induction and Recursion 4.1 Mathematical Induction 4.2 Strong Induction and Well-Ordering 4.3 Recursive Definitions and Structural Induction 4.4 Recursive Algorithms 4.5 Program Correctness End-of-Chapter Material 5 Counting 5.1 The Basics of Counting 5.2 The Pigeonhole Principle 5.3 Permutations and Combinations 5.4 Binomial Coefficients 5.5 Generalized Permutations and Combinations 5.6 Generating Permutations and Combinations End-of-Chapter Material 6 Discrete Probability 6.1 An Introduction to Discrete Probability 6.2 Probability Theory 6.3 Bayes’ Theorem 6.4 Expected Value and Variance End-of-Chapter Material 7 Advanced Counting Techniques 7.1 Recurrence Relations 7.2 Solving Recurrence Relations 7.3 Divide-and-Conquer Algorithms and Recurrence Relations 7.4 Generating Functions 7.5 Inclusion-Exclusion 7.6 Applications of Inclusion-Exclusion End-of-Chapter Material 8 Relations 8.1 Relations and Their Properties 8.2 n-ary Relations and Their Applications 8.3 Representing Relations 8.4 Closures of Relations 8.5 Equivalence Relations 8.6 Partial Orderings End-of-Chapter Material 9 Graphs 9.1 Graph Terminology and Models 9.2 Special Graphs 9.3 Representing Graphs and Graph Isomorphism 9.4 Connectivity 9.5 Euler and Hamilton Paths 9.6 Shortest-Path Problems 9.7 Planar Graphs 9.8 Graph Coloring End-of-Chapter Material 10 Trees 10.1 Introduction to Trees 10.2 Applications of Trees 10.3 Tree Traversal 10.4 Spanning Trees 10.5 Minimum Spanning Trees End-of-Chapter Material 11 Boolean Algebra 11.1 Boolean Functions 11.2 Representing Boolean Functions 11.3 Logic Gates 11.4 Minimization of Circuits End-of-Chapter Material 12 Modeling Computation. 12.1 Languages and Grammars. 12.2 Finite-State Machines with Output. 12.3 Finite-State Machines with No Output. 12.4 Language Recognition. 12.5 Turing Machines. End-of-Chapter Material. Appendixes. A.1 Axioms for Real Numbers and Integers. A.2 Exponential and Logarithmic Functions. A.3 Pseudocode. Suggested Readings. Answers to Odd-Numbered Exercises. Photo Credits. Index of Biographies. Index

International Edition

DISCRETE MATHEMATICS BY EXAMPLE

by Andrew Simpson, Oxford Brookes

2002 / 450 pages

ISBN-13: 978-0-07-709840-7 / MHID: 0-07-709840-4

ISBN-13: 978-0-07-122914-2 / MHID: 0-07-122914-0 [IE]

(McGraw-Hill UK Title)

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1 Introduction. 2 Numbers. 3 Propositional logic. 4 Set theory. 5 Boolean algebra. 6 Typed set theory. 7 Predicate logic. 8 Relations. 9 Functions. 10 Sequences. 11 Induction. 12 Graph theory. 13 Combinatorics. 14 Modelling. 15 Analysis

International Edition

SCHAUM’S OUTLINE OF ESSENTIAL COMPUTER MATHEMATICS

by Seymour Lipschutz, Temple University

1982 / 256 pages

ISBN-13: 978-0-07-037990-9 / MHID: 0-07-037990-4

ISBN-13: 978-0-07-099132-3 / MHID: 0-07-099132-4 [IE]

Schaum’s Publication

CONTENTS

Binary Number System. Computer Codes. Computer Arithmetic. Logic. Flowcharts. Sets and Relations. Boolean Algebra, Logic Gates. Simplifying Logic Circuits, Karnaugh Maps. Vectors, Matrices, Subscripted Variables. Linear Equations. Combinatorics. Probability. Statistics, Random Variables. Graph Theory. Trees, Directed Graphs, Machines.

Programming Languages and Program Design

International Edition



PROGRAMMING LANGUAGES

Second Edition

by Allen B. Tucker, Bowdoin College, and Robert Noonan, College of William and Mary

2007 (August 2006) / Hardcover / 640 pages

ISBN-13: 978-0-07-286609-4 / MHID: 0-07-286609-8

ISBN-13: 978-0-07-125439-7 / MHID: 0-07-125439-0 [IE]

Browse <http://www.mhhe.com/tucker>

Tucker and Noonan’s new approach emphasizes a thorough, hands-on treatment of key issues in programming language design, providing a balanced mix of explanation and experimentation. Opening chapters present the fundamental principals of programming languages, while optional companion chapters provide implementation-based, hands-on experience that delves even deeper. This edition also includes a greatly expanded treatment of the four major programming paradigms, incorporating a number of the most current languages such as Perl and Python. Special topics presented include event-handling, concurrency, and an all-new chapter on correctness. Overall, this edition provides both broad and deep coverage of language design principles and the major paradigms, allowing users the flexibility of choosing what topics to emphasize.

NEW TO THIS EDITION

- Depth of coverage & currency: in-depth coverage of core topics includes both modern and historical example languages, including C, Ada, Perl, Java, Smalltalk, Python, Scheme, Haskell, and Prolog
- The authors’ approach offers unique coverage of event-handling, concurrent programming and program correctness, with special chapters on each of these topics.
- The authors emphasize a hands-on approach for implementation-based problems and exercises and include expanded coverage of language design principles and trade-offs.
- Introduces Clite (C Lite), a subset of the language C, as a basis for illustrating the principles of language design.

FEATURES

- Flexible organization and coverage gives instructors the option of adding implementation-based coverage to the principles chapters via optional companion chapters.

CONTENTS

1 Overview. 2 Syntax. 3 Lexical and Syntactic Analysis. 4 Names. 5 Types. 6 Type Systems. 7 Semantics. 8 Semantic Interpretation. 9 Functions. 10 Function Implementation. 11 Memory Management. 12 Imperative Programming. 13 Object-Oriented Programming. 14 Functional Programming. 15 Logic Programming. 16 Event-Driven Programming. 17 Concurrent Programming. 18 Program Correctness. A. Definition of Clite. B. Discrete Math Review. Glossary Bibliography.

Theory Of Computation

International Edition

INTRODUCTION TO LANGUAGES AND THE THEORY OF COMPUTATION

Third Edition

by John C. Martin, North Dakota State University

2003 / 480 pages

ISBN-13: 978-0-07-232200-2 / MHID: 0-07-232200-4

ISBN-13: 978-0-07-124018-5 / MHID: 0-07-124018-7 [IE]

CONTENTS

I Mathematical Notation and Techniques: 1 Basic Mathematical Objects. 2 Mathematical Induction and Recursive Definitions. II Regular Languages and Finite Automata: 3 Regular Languages and Finite Automata. 4 Nondeterminism and Kleene's Theorem. 5 Regular and Nonregular Languages. III Context-Free Languages and Pushdown Automata: 6 Context-Free Grammars. 7 Pushdown Automata. 8 Context-Free and Non-Context-Free Languages. IV Turing Machines and Their Languages: 9 Turing Machines. 10 Recursively Enumerable Languages. V Unsolvable Problems and Computable Functions: 11 Unsolvable Problems. 12 Computable Functions. VI Introduction to Computational Complexity: 13 Measuring and Classifying Complexity. 14 Tractable and Intractable Problems

Digital Logic/Logic Design

International Edition

FUNDAMENTALS OF DIGITAL LOGIC WITH VHDL DESIGN WITH CD-ROM

Second Edition

by Stephen Brown, University of Toronto, Canada and Zvonko Vranesic, University of Toronto, Canada

2005 / Hardcover

ISBN-13: 978-0-07-249938-4 / MHID: 0-07-249938-9 (with CD)

ISBN-13: 978-0-07-124482-4 / MHID: 0-07-124482-4 [IE with CD]

This website contains: PowerPoint Slides, Solutions Manual, and PageOut (Browse <http://www.highered.mcgraw-hill.com/TBD>)

Fundamentals of Digital Logic With VHDL 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, which are easy to understand. Then, a modular approach is used to show how larger circuits are designed. VHDL is used to demonstrate how the basic building blocks and larger systems are defined in a hardware description language, producing designs that can be implemented with modern CAD tools. The book emphasizes the concepts that should be covered in an introductory course on logic design, focusing on:

- Logic functions, gates, and rules of Boolean algebra
- Circuit synthesis and optimization

- techniques
- Number representation and arithmetic circuits
- Combinational-circuit building blocks, such as multiplexers, decoders, encoders, and code converters
- Sequential-circuit building blocks, such as flip-flops, registers, and counters
- Design of synchronous sequential circuits
- Use of the basic building blocks in designing larger systems. It also includes chapters that deal with important, but more advanced topics:
 - Design of asynchronous sequential circuits
 - Testing of logic circuits. For students who have had no exposure to basic electronics, but are interested in learning a few key concepts, there is a chapter that presents the most basic aspects of electronic implementation of digital circuits. Major changes in the second edition of the book include
 - new examples to clarify the presentation of fundamental concepts
 - over 50 new examples of solved problems provided at the end of chapters
 - NAND and NOR gates now introduced in Chapter 2
 - more complete discussion of techniques for minimization of logic functions in Chapter 4 (including the tabular method)
 - a new chapter explaining the CAD flow for synthesis of logic circuits
 - Altera's Quartus II CAD software provided on a CD-ROM
 - three appendices that give tutorials on the use of Quartus II software

NEW TO THIS EDITION

- The book emphasizes CAD through the use of Altera's Quartus II CAD software, a state of the art digital circuit design package. This software provides automatic mapping of designs written in VHDL into Field Programmable Gate Arrays (FPGAs) and Complex Programmable Logic Devices (CPLDs). The user 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, and implement the designs in actual devices (using the school's laboratory facilities).
- A chapter is included that illustrates the most basic aspects of electronic implementation of digital circuits for students who have had no exposure to basic electronics.
- New examples have been added to the second edition to help clarify the presentation of fundamental concepts.
- Over 50 new examples of solved problems appear at the end of chapters in the second edition.
- The second edition features a new chapter explaining CAD flow for synthesis of logic circuits.
- Three new appendices give tutorials on the use of Quartus II software.

FEATURES

- The book teaches the basic design techniques for logic circuits, emphasizing the synthesis of circuits and explaining how circuits are implemented in real chips.
- Small, easy-to-understand examples illustrate fundamental concepts.
- A modular approach is used to show how larger circuits are designed.
- VHDL is used to demonstrate how the basic building blocks and larger systems are defined in a hardware description language, producing designs that can be implemented with modern CAD tools.

CONTENTS

1 Design Concepts. 2 Introduction to Logic Circuits. 3 Implementation Technology. 4 Optimized Implementation of Logic Functions. 5 Number Representation and Arithmetic Circuits. 6 Combinational-Circuit Building Blocks. 7 Flip-Flops, Registers, Counters, and a Simple Processor. 8 Synchronous Sequential Circuits. 9 Asynchronous Sequential Circuits. 10 Digital System Design. 11 Testing of Logic Circuits. 12 Computer Aided Design Tools. Appendix A VHDL Reference. Appendix B Tutorial 1—Using Quartus II CAD Software. Appendix C Tutorial 2—Implementing Circuits in Altera Devices. Appendix D Tutorial 3—Physical Implementations in a PLD. Appendix D Commercial Devices

International Edition

INTRODUCTION TO LOGIC DESIGN WITH CD-ROM

Second Edition

by Alan B Marcovitz, Florida Atlantic University—Boca Raton

2005 / 672 pages

ISBN-13: 978-0-07-295176-9 / MHID: 0-07-295176-1

ISBN-13: 978-0-07-124249-3 / MHID: 0-07-124249-X [IE with CD - 2 Color Text]

www.mhhe.com/marcovitz — A robust web site complements the text and assists the instructor by providing solutions, Powerpoint slides of most figures and key material, sets of examinations from the course, and alternate parallel examples, so that the instructor can do a different example in class from the one given in the book. (Browse <http://www.highered.mcgraw-hill.com/TBD>)

Introduction to Logic Design by Alan Marcovitz is intended for the first course in logic design, taken by computer science, computer engineering, and electrical engineering students. As with the first edition, the new edition is distinguished by a clear presentation of fundamentals and an exceptional collection of examples, solved problems, and exercises. Changes found in the new edition reflect reviewer feedback from both users and nonusers of the first edition and primarily involve improvements in organization and topic coverage. The text integrates laboratory experiences, both hardware and computer simulation, while not making them mandatory for following the main flow of the chapters. Design is emphasized throughout, and switching algebra is developed as a tool for analyzing and implementing digital systems. The presentation includes excellent coverage of minimization of combinational circuits, including multiple output ones, using the Karnaugh map and iterated consensus. There are a number of examples of the design of larger systems, both combinational and sequential, using medium scale integrated circuits and programmable logic devices.

NEW TO THIS EDITION

- A separate chapter on Iterated Consensus and Quine-McCluskey has been added for the second edition.
- The second edition features two chapters on sequential systems. The first chapter covers analysis of sequential systems and the second covers design. Complete coverage of the analysis and design of synchronous sequential systems adds to the comprehensive nature of the text.
- "Test Yourself" sections, designed to help students measure their comprehension of key material, have been added to the end of chapters for the second edition.
- Answers to selected exercises are included in an easy-to-reference appendix for the second edition.

FEATURES

- A clear and well-paced writing style makes this text especially well-suited for students who might otherwise find this course area particularly challenging.
- An extensive set of examples, well integrated into the body of the text as well as at the end of each chapter in sections of solved problems, gives students multiple opportunities to understand the topics being presented.
- The text integrates practical circuits with theory by presenting two types of laboratory experiments. Traditional hands-on hardware experiments as well as simulation laboratory exercises using popular software packages are tied closely to the text material to allow students to implement the concepts they are learning.
- Use of the Karnaugh Map helps students understand the principles of switching algebra.
- A thorough discussion of the minimization of switching functions using Karnaugh maps, including 6-variable maps and multiple output problems, gives students something to sink their teeth into and doesn't leave them wondering about the unusual or boundary case.
- Coupling of gate implementation with the algebra helps extend the students' range of understanding.
- Color is used as a pedagogical aid.
- The derivation of state tables from word problems further

emphasizes the practical implementation of the material being presented.

CONTENTS

1 Introduction. 2 Switching Algebra and Logic Circuits. 3 The Karnaugh Map. 4 Function Minimization Algorithms. 5 Solving Larger Combinational Problems. 6 Analysis of Sequential Systems. 7 Design of Sequential Systems. 8 Solving Larger Sequential. 9 Simplification of Sequential Systems. Appendix A: Laboratory Experiments. Appendix B: Answers to Selected Exercises. Appendix C: Answers to Chapter Tests

International Edition

FUNDAMENTALS OF DIGITAL LOGIC WITH VERILOG DESIGN WITH CD-ROM

by Stephen Brown, University of Toronto and Zvonko Vranesic, University of Toronto, Canada

2003

ISBN-13: 978-0-07-283878-7 / MHID: 0-07-283878-7

ISBN-13: 978-0-07-124276-9 / MHID: 0-07-124276-7 [IE]

The website will contain: solutions manual for instructors only, web links, and PowerPoint slides. (Browse <http://highered.mcgraw-hill.com/sites/0072823151>)

CONTENTS

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International Edition

DIGITAL PRINCIPLES AND DESIGN WITH CD-ROM

by Donald Givone, SUNY- Buffalo

2003 / 832 pages

ISBN-13: 978-0-07-255132-7 / MHID: 0-07-255132-1

ISBN-13: 978-0-07-123005-6 / MHID: 0-07-123005-X [IE]

www.mhhe.com/givone

CONTENTS

1 Introduction. 2 Number Systems, Arithmetic, and Codes. 3 Boolean Algebra and Combinational Networks. 4 Simplification of Boolean Expressions. 5 Logic Design with MSI Components and Programmable Logic Devices. 6 Flip-Flops and Simple Flip-Flop Applications. 7 Synchronous Sequential Networks. 8 Algorithmic State Machines. 9 Asynchronous Sequential Networks. Appendix A: Digital Circuits. Appendix B: TBD

International Edition

COMPUTER ARCHITECTURE AND LOGIC DESIGN

by Thomas C. Bartee, IDA

1991 / 640 pages

ISBN-13: 978-0-07-112554-3 / MHID: 0-07-112554-X [IE]

Database Systems And Design

Database Systems

International Edition

DATABASE SYSTEM CONCEPTS

Fifth Edition

by Abraham Silberschatz, Yale University and Henry F Korth, Lehigh University and S Sudarshan

2006 / Hardcover / 1,024 pages

ISBN-13: 978-0-07-295886-7 / MHID: 0-07-295886-3

ISBN-13: 978-0-07-124476-3 / MHID: 0-07-124476-X [IE]

Online solutions for practical exercises, detailed slides for all chapters, teaching supplements, and online appendices. (Browse <http://www.mhhe.com/silberschatz>)

Database System Concepts, 5/e, is intended for a first course in databases at the junior or senior undergraduate, or first-year graduate, level. In addition to basic material for a first course, the text contains advanced material that can be used for course supplements, or as introductory material for an advanced course. The authors assume only a familiarity with basic data structures, computer organization, and a high-level programming language such as Java, C, or Pascal. Concepts are presented as intuitive descriptions, and many are based on the running example of a bank enterprise. Important theoretical results are covered, but formal proofs are omitted. In place of proofs, figures and examples are used to suggest why a result is true. The fundamental concepts and algorithms covered in the book are often based on those used in existing commercial or experimental database systems. The aim is to present these concepts and algorithms in a general setting that is not tied to one particular database system. Details of particular commercial database systems are discussed in the case studies which constitute Part 8 of the book. The fifth edition of Database System Concepts retains the overall style of prior editions while evolving the content and organization to reflect the changes that are occurring in the way databases are designed, managed, and used.

NEW TO THIS EDITION

- Earlier coverage of SQL.
- A new Part devoted to database design.
- Increased coverage of XML.
- Expanded treatment of data mining and data analysis.
- New case study covering PostgreSQL.
- Increased emphasis on practical applications and implementation in both the examples and the assignments.
- Enhanced pedagogy.
- Web page and teaching supplements.
- Online appendices.

FEATURES

- Thoroughly revised and updated coverage of object-relational databases.

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8: Case Studies: Chapter 27 Oracle. Chapter 28 SQL Server. Chapter 29 DB2. Chapter 30 PostgreSQL. Appendix A Network Model. Appendix B Hierarchical Model. Appendix C Advanced Normalization

INTRODUCTION TO DATABASE SYSTEMS

by Stephane Bressan, and Barbara Catania

2005 / 168 pages / Softcover

ISBN-13: 978-0-07-124650-7 / MHID: 0-07-124650-9

(Asian Publication)

Most books on databases have the size and content of a book of magic written in the ancient language of Tolkien's Ents. To counter this trend, Introduction to Database Systems is small and concise by design. It aims to provide students, academics and professionals with a rigorous, convenient and economical reference. The book describes the essential concepts pertaining to the design and programming of database applications with relational database management systems. It covers conceptual modelling with the entity-relationship model and logical modelling with the relational model. It also presents the techniques for the normalisation of logical designs based on functional dependencies, i.e. the decomposition into Boyce-Codd and third normal forms.

Also covered are tuple and domain relational calculi, as well as relational algebra. This book illustrates the main SQL data definition and data manipulation statements and looks at contemporary approaches to coupling SQL with general purpose programming languages.

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Preface. About the Authors. 1 What's in a Database? 2 Relational Model. 3 Relational Calculus. 4 Relational Algebra. 5 SQL. 6 SQL and Programming Languages. 7 Entity-Relationship Model. 8 Normalisation. 9 Conclusion. References. Index.

International Edition

DATABASE MANAGEMENT SYSTEMS

Third Edition

by Raghu Ramakrishnan, University of Wisconsin - Madison and Johannes Gehrke, University of Wisconsin - Madison

2003 / 928 pages

ISBN-13: 978-0-07-246563-1 / MHID: 0-07-246563-8

ISBN-13: 978-0-07-123057-5 / MHID: 0-07-123057-2 [IE]

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SCHAUM'S OUTLINE OF FUNDAMENTALS OF RELATIONAL DATABASES

by Ramon Mata-Toledo and Pauline Cushman

2001 / 249 pages

ISBN-13: 978-0-07-136188-0 / MHID: 0-07-136188-X

Schaum's Publication

CONTENTS

An Overview of DBMS and DB Systems Architecture. Relational Database Concepts. An Introduction to SQL. Functional Dependencies. The Normalization Process. Basic Security Issues. The Entity-Relationship Model.

International Edition

DATABASE SYSTEMS

by Paolo Atzeni, Universita' di Roma Tre, Stefano Ceri, and Stefano Paraboschi, Politecnico di Milano, and Riccardo Torlone, Universita' di Roma Tre

2000 / 600 pages / softcover

ISBN-13: 978-0-07-709500-0 / MHID: 0-07-709500-6

ISBN-13: 978-0-07-123435-1 / MHID: 0-07-123435-7 [IE]

(McGraw-Hill UK Title)

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Introduction: Part 1: Relational Databases: The Model and Its Languages. The Relational Model. The Structure of the Relational Model. Integrity Constraints. Discussion. Relational Algebra and Calculus. Relational Algebra. Relational Calculus. Datalog. SQL. Data Definition in SQL. Queries in SQL. Data Manipulation in SQL. Additional Data Definition Features. Access Privileges. SQL and Programming Languages. Part 2: Database Design: Design Methodologies and Models. The Database Design Process. The Entity-Relationship Model. Documentation of E-R Schemes. Conceptual Design. Requirements Collection and Analysis. General Representation Criteria. Design Strategies. Qualities of a Conceptual Schema. A General Methodology for Database Design. A Design Example: The Conceptual Phase. CASE Tools for Database Design. Logical Design. Performance Analysis on Conceptual Schemas. Restructuring E-R Schemas. Translation Towards the Relational Model. A Design Example: The Logical Phase. Logical Design with Database Design Tools. Normalization. Redundancies and Anomalies. Functional Dependencies. Boyce-Codd Normal Form. Qualities of Decompositions. Third Normal Form. Normalization and the Design Process. Part 3: Database Technology. Technology of a Database Server. Transactions. Concurrency Control. Buffer Management. Reliability Control. Physical Structures. Query Processing and Optimization. Physical Design. Distributed Architectures. Client-Server Architecture. Distributed Databases. Distributed Database Technology. Two-Phase Commit Protocol. Interoperability. Parallelism. Replication Management. Part 4: Evolution of Databases. Object Databases. Object-Oriented Database Systems (OODBMS). OMG Standard Languages: ODL and OQL. Object-Relational Database Systems (ORDBMS). Multimedia Database Systems. Technology Extensions for Object Databases. Active databases. Triggers in Relational Systems. Definitions and Use of Triggers in Oracle. Definitions and Use of Triggers in DB. Advanced Features of Active Rules. Properties of Active Rules. Active Database Applications. Data Warehouses. Architecture. Multi-dimensional Model and Languages. Data Mining. Databases and the World-Wide-Web. Internet and the World-Wide-Web: Basic Concepts. Databases in the World-Wide-Web. CGI and Gateways. Database Tools for Web Applications. Design of Web Sites. Appendices: DB. ORACLE. ACCESS.

SQL

SCHAUM'S OUTLINE OF FUNDAMENTALS OF SQL PROGRAMMING

by Ramon Mata-Toledo and Pauline Cushman

2001 / 314 pages

ISBN-13: 978-0-07-135953-5 / MHID: 0-07-135953-2

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CONTENTS

An Introduction to SQL and Relational Database Concepts. Implementation of the Relational Operators in SQL. Boolean Operators and Pattern Matching. Arithmetic Operations and Built-In Functions. Group Functions. Processing Date and Time Information. Complex Queries and Set Operators. Basic Security Issues Using SQL. Appendices.

Distributed Database

International Edition

DISTRIBUTED DATABASES

Principles and Systems

by Stefano Ceri and Giuseppe Pelagatti, both of Politecnico di Milano

1984 / 416 pages

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by Raj Kamal, Devi Ahilya University, Indore

2003 / 649 pages

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by John P. Shen, Carnegie Mellon University, Mikko Lipasti, University of Wisconsin — Madison

2003 / 640 pages

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ISBN-13: 978-0-07-124487-9 / MHID: 0-07-124487-5 [IE]

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1 Processor Design. 2 Pipelined Processors. 3 Superscalar Organization. 4 Superscalar Techniques. 5 PowerPC 620 Case Study. 6 Intel P6 Micro-architecture. 7 Survey of Superscalar Processors. 8 Advanced Register Dataflow Techniques. 9 Executing Multiple Threads

SCHAUM'S OUTLINE OF COMPUTER ARCHITECTURE

by Nick Carter, University of Illinois - Champaign

2002 / 304 pages

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Schaum's Publication

International Edition

COMPUTER ORGANIZATION

Fifth Edition

by V. Carl Hamacher, Queens University; Zvonko Vranesic, University of Toronto; and Safwat Zaky, University of Toronto

2002 / 832 pages / hardcover

ISBN-13: 978-0-07-232086-2 / MHID: 0-07-232086-9

ISBN-13: 978-0-07-122624-0 / MHID: 0-07-122624-9 [IE]

<http://www.mhhe.com/hamacher>

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1 Basic Structure of Computers. 2 Machine Instructions and Programs. 3 ARM, Motorola, and Intel Instruction Sets. 4 Input/Output Organization. 5 The Memory System. 6 Arithmetic. 7 Basic Processing Unit. 8 Pipelining. 9 Embedded Systems. 10 Computer Peripherals. 11 Processor Families. 12 Large Computer Systems. Appendix A Logic Circuits. Appendix B ARM Instruction Set. Appendix C Motorola 68000 Instruction Set. Appendix D Intel IA-32 Instruction Set. Appendix E Character Codes and Number Conversion

International Edition

COMPUTER ARCHITECTURE AND ORGANIZATION

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by John P Hayes, University of Michigan

1998 / 624 pages

ISBN-13: 978-0-07-115997-5 / MHID: 0-07-115997-5 [IE]

CONTENTS

1 Computation and Computers. 2 Design Methodology. 3 Processor Design. 4 Datapath Design. 5 Control Design. 6 Memory Organization. 7 System Organization

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by Thomas C. Bartee, IDA

1991 / 640 pages

ISBN-13: 978-0-07-112554-3 / MHID: 0-07-112554-X [IE]

Parallel Computing/Processing

International Edition

PARALLEL PROGRAMMING IN C WITH MPI AND OPEN MP

by Michael J. Quinn, Oregon State University

2004 / 480 pages

ISBN-13: 978-0-07-282256-4 / MHID: 0-07-282256-2

ISBN-13: 978-0-07-123265-4 / MHID: 0-07-123265-6 [IE]

The book website will contain a downloadable version of the solutions manual (password protected for instructor use only). It will also have PowerPoint slides for each chapter that contain outlines of the material covered in the chapters.

<http://highered.mcgraw-hill.com/sites/0072822562>

Much more than a simple reference manual, Parallel Programming in C with MPI and OpenMP combines a parallel programming tutorial with an introduction to the design, analysis, implementation, debugging and benchmarking of parallel programs. It is targeted to upper-division undergraduate students and those who are learning this material on their own. All programs are developed in C using the MPI (Message Passing Interface) library, the prevailing message-passing standard, and the OpenMP application programming interface, the emerging shared-memory standard.

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International Edition

ADVANCED COMPUTER ARCHITECTURE

Parallelism, Scalability, Programmability

by Kai Hwang, University of Southern California

1993 / 672 pages

ISBN-13: 978-0-07-124713-9 / MHID: 0-07-124713-0 [IE]

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Part One•Theory of Parallelism/1 Parallel Computer Models/2 Program and Network Properties/3 Principles of Performance and Scalability/Part Two•Hardware Technologies/4 Processors and Memory Hierarchy/5 Bus/Cache and Shared-Memory/6 Pipelining and Superscalar Techniques/Part Three•Parallel and Scalable Architectures/7 Multiprocessors and Multi-computers/8 Multivector and SIMD Supercomputers/9 Scalable, Multi-threaded, and Dataflow Architectures/Part Four•Software for Parallel Programming/10 Parallel Models, Languages and Compilers/11 Development of Parallel Programs/12 Unix Extensions for Parallel Computers/Bibliography

Operating Systems

International Edition

JUST ENOUGH UNIX

Fifth Edition

by K Paul Andersen, New Mexico State University - Las Cruces

2006 / 608 pages / Softcover

ISBN-13: 978-0-07-295297-1 / MHID: 0-07-295297-0

ISBN-13: 978-0-07-124418-3 / MHID: 0-07-124418-2 [IE]

This site contains Answers to Exercises, PowerPoint slides, and some sample code. (Browse <http://www.mhhe.com/andersen>)

Just Enough UNIX provides a quick and gentle introduction to the UNIX operating system. The fifth edition of this highly successful text reflects changes and updates to the UNIX curriculum that have taken place since the publication of the fourth edition. The book is written in a clear, straightforward style that avoids unnecessary jargon. This short, yet comprehensive text covers the basics of UNIX. It can be used in both a freshman engineering course or to supplement other courses where the student needs to learn UNIX for the first time. The book is enhanced by strong pedagogical tools that will be very useful to those in the classroom, as well as those engaged in self-study.

NEW TO THIS EDITION

- Key New Topics. The following topics are new in the fifth edition: computer and network security; Secure Shell (ssh) for remote computing; practical cryptography; scripting in awk; and scripting in Perl.
- New and revised chapters. There are several completely new chapters in the book—chapters 24 (Computer Security), 25 (Remote Computing Using SSH-1), 26 (Remote Computing Using SSH-2), 27 (Protecting Privacy with PGP), 32 (Scripting Languages), 33 (Creating Shell Scripts), 34 (Scripting with awk), and 35 (Scripting with Perl).
- Website. The expanded book website includes answers to exercises for instructors only, as well as PowerPoint slides and data files.
- Security. The fifth edition features expanded coverage of security issues, including the use of Secure Shell as a secure alternative to the traditional Unix "r-commands."

FEATURES

- Organization. The book is divided into the following sections: Introduction to UNIX, UNIX File System, UNIX Shells, Text Editors, UNIX Networking, Startup Files, Secure Computing, Scripting and Programming under UNIX. Each section opens with a descriptive concepts chapter followed by several tutorials that guide the new user step-by-step toward learning how UNIX works.
- Graphical Interfaces. The fifth edition maintains coverage of the CDE interface. The book continues the concept that the typical student is using the most current engineering workstation running the most current graphical user interface, including both one based on the X Window system and CDE.
- Text Editors. The reader will learn to create or modify UNIX files using a utility program called an editor. In addition to the vi editor, the book includes coverage of the emacs, pico and CDE editors. At some schools, the vi editor may be too difficult or outdated. Including these other editors gives instructors a wider range of distribution packages to choose from for their course.
- Networking. The book has coverage of popular Internet and Web tools like ftp and CDE Mailer, including how to process E-mail.
- Pedagogy. The book offers a number of helpful pedagogical features: descriptive chapters, tutorials, marginal notes, sidebars, command summaries and exercises.

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International Edition

YOUR UNIX: THE ULTIMATE GUIDE

Second Edition

by Sumitabha Das, Softman Services, Inc

2006 / 864 pages

ISBN-13: 978-0-07-124434-3 / MHID: 0-07-124434-4 [IE]

<http://www.mhhe.com/das>

Your UNIX: The Ultimate Guide is both an outstanding pedagogical tool and an exhaustive reference. It is the ideal text for any Unix course. It can also be used for any introductory programming course that includes Unix and for advanced courses such as those on Operating Systems and System Administration. Excellent pedagogy is implemented throughout. Real-world examples make it easier for students to grasp concepts while chapters on advanced material take more experienced students beyond the basics. Over nine hundred exercises and self-test questions allow students to test and reinforce their understanding of material at different levels. This book also features coverage of Linux, where Linux differs from UNIX.

NEW TO THIS EDITION

- The number of chapters has been reduced from 24 to 19 to allow for a more intense focus on core UNIX topics.
- Coverage is logically divided between essential(chapters 1-13) and advanced (chapters 14-19) material.
- Three new chapters on programming tools and systems programming benefit the serious programmer and make the book suitable for a course on systems programming.
- Coverage of encryption and the Secure Shell has been added.
- Discussion of vi and emacs editors uses snippets of code to illustrate the benefits to programmers of knowing the editor well.
- The requirements of the POSIX standard have been highlighted throughout.
- A single comprehensive index replaces the multiple specialized indices from the previous edition.

FEATURES

- Notes, Tips, and Caution boxes provide on-the-spot assistance to students.
- Linux coverage supplements generic coverage of UNIX in cases where Linux behaves differently.
- Coverage of the Korn, bash, and C shells is featured in appendices.
- Scores of tables, diagrams, and screen shots make the fundamentals of the Unix operating system more accessible to students.
- Over nine hundred self-test questions and exercises allow students to test and reinforce their understanding of key concepts.
- Scores of real-life examples prompt the reader to envision the practical application of UNIX in situations they are likely to encounter.

CONTENTS

1 Introducing UNIX 2 Becoming Familiar with UNIX Commands 3 The File System 4 File Attributes 5 The vi/vim Editor 6 The GNU emacs Editor 7 The Shell 8 The Process 9 The Shell—Customizing the Environment 10 Simple Filters 11 Filters Using Regular Expressions—grep and sed 12 Filtering and Programming with awk 13 Shell Programming 14 Networking Tools 15 perl—The Master Manipulator. 16 Program Development Tools 17 Systems Programming I—Files 18 Systems Programming II—Process Control 19 System Administration Appendix A The C Shell—Programming Constructs. Appendix B The Korn and Bash Shells—Exclusive Programming Constructs Appendix C vi/vim and emacs Command Reference Appendix D The Regular Expression Superset Appendix E The HOWTO Appendix F The ASCII Character Set Appendix G Glossary Appendix H Solutions to Self-Test Questions

International Edition

INTRODUCTION TO UNIX

by Kate Wrightson and Joe Merlino

2003 / 424 pages

ISBN-13: 978-0-07-283620-2 / MHID: 0-07-283620-2

ISBN-13: 978-0-07-121918-1 / MHID: 0-07-121918-8 [IE]

<http://www.mhhe.com/cit/wrightson>

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International Edition

OPERATING SYSTEMS

by D M Dhamdhare, Indian Institute of Technology, Mumbai

2002 / 800 pages

ISBN-13: 978-0-07-048294-4 / MHID: 0-07-048294-2

ISBN-13: 978-0-07-123056-8 / MHID: 0-07-123056-4 [IE]

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http://www.tatamcgrawhill.com/digital_solutions/dhamdhare

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1 Introduction. 2 Overview of Operating Systems. 3 Structure of Operating Systems. 4 Processes. 5 Memory Management. 6 Virtual Memory. 7 File Systems. 8 Scheduling. 9 Interprocess Messages. 10 Deadlocks. 11 Process Synchronization. 12 Advanced Concepts in IOCS and File Systems. 13 Protection. 14 Distributed Systems. 15 Theoretical Issues in Distributed Systems. 16 Operating Systems for Multiprocessor and Distributed Architectures. 17 Distributed Control Algorithms. 18 Recovery & Fault Tolerance. 19 Distributed File Systems. 20 Distributed Systems Security. Index

Distributed Systems

International Edition

DISTRIBUTED SYSTEMS AND NETWORKS

by William Buchanan, School of Computer, Napier University

2001 / 580 pages / softcover

ISBN-13: 978-0-07-709583-3 / MHID: 0-07-709583-9

ISBN-13: 978-0-07-122702-5 / MHID: 0-07-122702-4 [IE]

(McGraw-Hill UK Title)

<http://www.mcgraw-hill.co.uk/textbooks/buchanan>

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1 Introduction. 2 Distributed System Elements. 3 Distributed Processing. 4 Distributed File Systems. 5 Networking Elements. 6 Ethernet Networks. 7 TCP/IP. 8 HTTP. 9 Electronic Mail. 10 World Wide Web. 11 Intranets. 12 Internet Routing Protocols. 13 SNMP, Wins and DHCP. 14 Data Encryption Principles. 15 Security. 16 Proxies, Firewalls and Routers. 17 Authentication. 18 Internet Security. 19 LANs/WANs. 20 Network Modelling. 21 Operating Systems. 22 CORBA/DCOM.

Business Data Communications

International Edition

BUSINESS DATA COMMUNICATIONS

by Behrouz A. Forouzan, De Anza College

2003 / 736 pages

ISBN-13: 978-0-07-123018-6 / MHID: 0-07-123018-1 [IE with OLC]

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Chapter 1 Introduction. Chapter 2 Basics. Chapter 3 Data Communication Models. Chapter 4 Data Transmission. Chapter 5 Transmission Media and Channels. Chapter 6 Data Link Control. Chapter 7 Traditional LANs. Chapter 8 High-Speed LANs. Chapter 9 Wireless LANs. Chapter 10 Switching. Chapter 11 Traditional WANs. Chapter 12 High-Speed WANs. Chapter 13 Networking and Internetworking Devices. Chapter 14 TCP/IP Protocol Suite. Chapter 15 Internet Applications

Data Communications

International Edition



PRINCIPLES OF VOICE AND DATA COMMUNICATIONS

By Regis "Bud" J. Bates, TC International Consulting, Inc. and Marcus Bates

2007 (March 2006) / 720 pages / Softcover

ISBN-13: 978-0-07-225732-8 / MHID: 0-07-225732-6

ISBN-13: 978-0-07-125767-1 / MHID: 0-07-125767-5 [IE]

This textbook surveys data transmission systems, communication lines, data sets, and network modes of transmission, protocols and interfacing. Emphasizes network structure and operation. Focuses on application of telecommunications to real-world problems, and provides students with a conceptual background for effectively using and managing data and voice communications resources.

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DATA COMMUNICATIONS NETWORKING

Fourth Edition

By Behrouz A. Forouzan, Deanza College

2007 (January 2006) / Hardcover

ISBN-13: 978-0-07-325032-8 / MHID: 0-07-325032-5

Browse <http://www.mhhe.com/forouzan>

As one of the fastest growing technologies in our culture today, data communications and networking presents a unique challenge for instructors. As both the number and types of students are increasing, it is essential to have a textbook that provides coverage of the latest advances, while presenting the material in a way that is accessible to students with little or no background in the field. Using a bottom-up approach, Data Communications and Networking presents this highly technical subject matter without relying on complex formulas by using a strong pedagogical approach supported by more than 700 figures. Now in its Fourth Edition, this textbook brings the beginning student right to the forefront of the latest advances in the field, while presenting the fundamentals in a clear, straightforward manner. Students will find better coverage, improved figures and better explanations on cutting-edge material. The "bottom-up" approach allows instructors to cover the material in one course, rather than having separate courses on data communications and networking.

NEW TO THIS EDITION

- Visual approach is supported with hundreds of figures and animations on the text website
- Strong in-text pedagogy is designed for the beginning student and includes numerous figures, highlighted points, examples and real life applications, key terms, chapter summaries, practice sets and an extensive glossary and list of acronyms.

- Text uses a bottom-up approach where students learn about data communications before learning about networking. This approach allows instructors to cover the material in one course, rather than having separate courses on data communications and networking.
- An On-line Learning Center is available to provide extra material to both students and instructors. Some features of the on-line learning center include: PowerPoint Slides, Solutions, and Animated Figures from the text and solutions of odd-numbered problems for students. (even-numbered solutions for instructor are password protected)
- Added coverage of TCP/IP

FEATURES

- Text lets students learn about data communications before learning about networking.
- More than 700 figures provide complete, visual presentation of the material. Figures replace the need for students to rely on complex formulas.
- An On-line Learning Center is available to provide extra material to both students and instructors. Some features of the on-line learning center include: PowerPoint Slides, Solutions, and Animated Figures.
- The practice set includes an extensive number of review questions, multiple choice questions, and extended exercises.
- Strong in-text pedagogy is designed for the beginning student and includes numerous figures, highlighted points, examples and real-life applications, key terms, chapter summaries, practice sets and an extensive glossary and list of acronyms.
- Using a bottom-up approach, students learn about data communications (lower layers) before learning about networking (upper layers). This approach allows instructors cover the material in one course, rather than having separate courses on data communications and networking.
- Summaries at the end of each chapter emphasize the key points.
- Many examples have been developed in each chapter to demonstrate the concepts.

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International Edition

COMMUNICATION NETWORK

Second Edition

by Alberto Leon-Garcia, University of Toronto and Indra Widjaja

2004 / 848 pages

ISBN-13: 978-0-07-246352-1 / MHID: 0-07-246352-X

ISBN-13: 978-0-07-119848-6 / MHID: 0-07-119848-2 [IE]

This website will contain: Solutions Manual for selected problems, Power Point Slides, figures & lecture notes. (Browse <http://highered.mcgraw-hill.com/sites/007246352X>)

This book is designed for introductory one-semester or one-year courses in communications networks in upper-level undergraduate programs. The second half of the book can be used in more advanced courses. As pre-requisites the book assumes a general knowledge of computer systems and programming, and elementary calculus.

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Preface. 1 Communication Networks and Services. 2 Application and Layered Architectures. 3 Digital Transmission Fundamentals. 4 Transmission Systems and Circuit Switching Networks. 5 ARQ and Flow Control. 6 Local Area Networks and Medium Access Control. 7 Packet-Switching Networks. 8 TCP/IP. 9 ATM Networks. 10 Advanced Network Architectures. 11 Network Security. 12 Multi-Media Information and Networking. Epilogue. Appendixes. A Delay and Loss Performance. B Network Management

International Edition

DATA COMMUNICATIONS AND NETWORKING

by Achyut S Godbole, CEO of Apar Technologies, Mumbai

2002 / 720 pages

ISBN-13: 978-0-07-047297-6 / MHID: 0-07-047297-1

ISBN-13: 978-0-07-123110-7 / MHID: 0-07-123110-2 [IE]

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http://www.tatamcgrawhill.com/digital_solutions/godbole/dcn/

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1. Introduction to Data Communication and Networking. 2. Information Encoding. 3. Analog and Digital Transmission Methods. 4. Modes of Data Transmission and Multiplexing. 5. Transmission Errors: Detection and Correction. 6. Data Compression and Encryption. 7. Transmission Media. 8. Network Topologies, Switching and Routing Algorithms. 9. Networking Protocols and OSI Model. 10. Area Networks (MAN) and Wide Area Networks (WAN). 11. Integrated Services Digital Network (ISDN). 12. X.25 Protocol. 13. Frame Relay. 14. Asynchronous Transfer Mode (ATM). 15. Internetworking Concepts, Devices, Internet Basics, History and Architecture. 16. Ways of Accessing the Internet. 17. TCP/IP Part I: An Introduction to TCP/IP, IP, ARP, RARP, ICMP. 18. TCP/IP Part II (TCP, UDP). 19. TCP-IP Part III (DNS, Email, FTP, TFTP). 20. TCP-IP Part IV (WWW, HTTP, TELNET). 21. Multimedia Communications. Appendix A. Appendix B. Appendix C. Appendix D. Glossary. References

SCHAUM'S OUTLINE OF COMPUTER NETWORKING

by Ed Tittel

2002 / 304 pages

ISBN-13: 978-0-07-136285-6 / MHID: 0-07-136285-1

Schaum's Publication

LAN

International Edition

LOCAL AREA NETWORKS

by Behrouz A. Forouzan, De Anza College

2002 / 640 pages

ISBN-13: 978-0-07-115080-4 / MHID: 0-07-115080-3 [IE]

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International Edition

LOCAL AREA NETWORKS

Second Edition

by Gerd Keiser, PhotonicsComm Solutions, Inc.

2002 / 552 pages / hardcover

ISBN-13: 978-0-07-122650-9 / MHID: 0-07-122650-8

[IE with CD-ROM]

www.mhhe.com/engcs/electrical/keiser2

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1 Overview of LANs. 2 Network Architectures and Protocols. 3 Data Communication Concepts. 4 LAN Access Techniques. 5 Ethernet. 6 Token-Passing LANs. 7 ATM LANs. 8 Wireless LANs. 9 Fibre Channel and SANs. 10 Internetworking. 11 Network Management. 12 Network Security

Network Security

International Edition



NETWORK SECURITY

by Behrouz A. Forouzan, De Anza College

2008 (March 2007) / Hardcover / 480 pages

ISBN-13: 978-0-07-332753-2 / MHID: 0-07-332753-0

ISBN-13: 978-0-07-110223-0 / MHID: 0-07-110223-X [IE]

Browse <http://www.mhhe.com/forouzan>

In this new first edition, well-known author Behrouz Forouzan uses his accessible writing style and visual approach to simplify the difficult concepts of cryptography and network security. Forouzan presents difficult security topics from the ground up. A gentle introduction to the fundamentals of number theory is provided in the opening chapters, paving the way for the student to move on to more complex security and cryptography topics. Difficult math concepts are organized in appendices at the end of each chapter so that students can first learn the principles, then apply the technical background. Hundreds of examples, as well as fully coded programs, round out a practical, hands-on approach which encourages students to test the material they are learning.

FEATURES

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- Student-friendly approach moves math to the ends of chapters for an easier explanation of concepts.
- An accompanying website that provides both colorful PowerPoints and solutions.

CONTENTS

Cryptography and Network Security. Part I: Introduction. Chapter 1: Introduction. Part II: Number Theory. Chapter 2: Modular Arithmetic, Divisibility, and Inverses. Chapter 3: Prime Numbers and Factorization. Chapter 4: Number Sets and Algebraic Constructs. Chapter 5: Equations in Modular Arithmetic. Part III: Cryptography. Chapter 6: Traditional Symmetric-Key Ciphers. Chapter 7: Modern Ciphers. Chapter 8: Modern Symmetric-Key Block Ciphers. Chapter 9: Public-Key Cryptosystem: Part I. Chapter 10: Public-Key Cryptosystem: Part II. Part IV: Network Security. Chapter 11: Message Integrity and Authentication. Chapter 12: Hash Algorithms. Chapter 13: Digital Signature. Chapter 14: Entity Authentication. Chapter 15: Key Management. Part V: Internet Security. Chapter 16: Security at Network Layer: IPSec. Chapter 17: Security at Transport Layer: SSL and TLS. Chapter 18: Security at Application Layer: PGP



INFORMATION ASSURANCE FOR THE ENTERPRISE:

A Roadmap to Information Security

by Corey Schou, Idaho State University and Daniel Paul Shoemaker, University of Detroit Mercy

2007 (March 2006) / Softcover / 652 pages

ISBN-13: 978-0-07-225524-9 / MHID: 0-07-225524-2

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- Written by the most authoritative voice on information security in both academia and industry.
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International Edition

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Security + and Beyond

by Wm. Arthur Conklin, University of Texas at San Antonio; Gregory B White, Center for Infrastructure Assurance and Security, University of Texas San Antonio; Chuck Cothren, University of Texas at San Antonio; Dwayne Williams, University of Texas at San Antonio and Roger L. Davis

2005 / Softcover / 704 pages

ISBN-13: 978-0-07-225509-9 / MHID: 0-07-225509-9

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International Edition

CRYPTOGRAPHY AND NETWORK SECURITY

by Atul Kahate, Project Leader, i-flex Solutions, Pune

2003 / 460 pages

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ISBN-13: 978-0-07-123477-1 / MHID: 0-07-123477-2 [IE]

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1 Introduction to the Concepts of Security. 2 Cryptographic Techniques. 3 Computer-based Symmetric Key Cryptographic Algorithms. 4 Computer-based Asymmetric Key Cryptographic Algorithms. 5 Public Key Infrastructure (PKI). 6 Internet Security Protocols. 7 User Authentication Mechanisms. 8 Practical Implementations of Cryptography/Security. 9 Network Security. 10 Case Studies on Cryptography and Security. Appendix A -Mathematical Background. Appendix B -Number Systems. Appendix C -Information Theory. Appendix D -Real-life Tools. Appendix E -Web Resources. Appendix F -A Brief Introduction to ASN, BER, DER. Appendix G -Modern Security Trends. Answers to Multiple-choice Questions. Glossary. References. Index.

TCP/IP

International Edition

TCP/IP PROTOCOL SUITE

Third Edition

by Behrouz A. Forouzan, De Anza College

2006 / Hardcover / 992 pages

ISBN-13: 978-0-07-296772-2 / MHID: 0-07-296772-2

ISBN-13: 978-0-07-111583-4 / MHID: 0-07-111583-8 [IE]

This website contains: four-color PowerPoint slides and solutions-odds for students and a complete password protected set for instructors.

(Browse <http://www.mhhe.com/forouzan>)

Networking technologies have become an integral part of everyday life, which has led to a dramatic increase in the number of professions where it is important to understand network technologies. TCP/IP Protocol Suite teaches students and professionals, with no prior knowledge of TCP/IP, everything they need to know about the subject. This comprehensive book uses hundreds of figures to make technical concepts easy to grasp, as well as many examples, which help tie the material to the real-world. The second edition of TCP/IP Protocol Suite has been fully updated to include all of the recent technology changes in the field. Many new chapters have been added such as one on Mobile IP, Multimedia and Internet, Network Security, and IP over ATM. Additionally, out-of-date material has been overhauled to reflect recent changes in technology.

NEW TO THIS EDITION

• Six new chapters are included in the second edition:

- Chapter 14 Multicasting Routing Protocols
- Chapter 26 IP over ATM
- Chapter 27 Mobile IP
- Chapter 28 Real Time Traffic over the Internet
- Chapter 29 Internet Security
- Chapter 30 Private Networks

FEATURES

- Extensive Practice Sets in each chapter include multiple choice questions and exercises, giving students and professors ample opportunity to check understanding of concepts.
- Summary sections at the end of chapters list major concepts learned in the chapter.
- Hundreds of excellent figures, now enhanced with a second color, present technical concepts in a visual and intuitive manner.

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Neural Networks

International Edition

NEURAL NETWORKS: A CLASSROOM APPROACH

by Satish Kumar, Dayalbagh Educational Institute, India

2004 / 768 pages / Softcover

ISBN-13: 978-0-07-048292-0 / MHID: 0-07-048292-6

ISBN-13: 978-0-07-124672-9 / MHID: 0-07-124672-X [IE]

(Tata McGraw-Hill Title)

<http://highered.mcgraw-hill.com/sites/0070482926>

Neural Networks is an integral component of the ubiquitous soft computing paradigm. An in-depth understanding of this field requires some background of the principles of neuroscience, mathematics and computer programming. Neural Networks: A Classroom Approach, achieves a balanced blend of these areas to weave an appropriate fabric for the exposition of the diversity of neural network models. This book is unique, in the sense that it stresses on an intuitive and geometric understanding of the subject and on the heuristic explanation of the theoretical results. This book is intended for a first course on Neural Networks and can also serve as a supporting text for courses on soft computing, artificial intelligence, machine learning and neuron modeling. Key Features : Unique and distinctive chapters on neuroscience, statistical pattern recognition, support vector machines, pulsed neural networks, fuzzy systems, soft computing, and dynamical systems; Stresses on heuristic explanations of theoretical results.

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I. Traces of History and A Neuroscience Briefer: 1 Brain Style Computing: Origins and Issues. 2 Lessons from Neuroscience. II. Feedforward Neural Networks and Supervised Learning: 3 Artificial Neurons, Neural Networks and Architectures. 4 Geometry of Binary Threshold Neurons and Their Networks. 5 Supervised Learning I: Perceptrons and LMS. 6 Supervised Learning. II: Backpropagation and Beyond: 7 Neural Network: A Statistical Pattern Recognition Perspective. 8 Focussing on Generalization: Support Vector Machines and Radial Basis Function Networks. III. Recurrent Neurodynamical Systems. 9 Dynamical Systems Review. 10 Attractor Neural Networks. 11 Adaptive Resonance Theory 12 Towards the Self Organizing Feature Map. IV. Contemporary Topics: 13 Pulsed Neuron Models: The New Generation. 14 Fuzzy Sets, Fuzzy Systems and Applications. 15 Neural Networks and the Soft Computing Paradigm

Graphics

International Edition

INTRODUCTION TO COMPUTER GRAPHICS

by N Krishnamurthy, Software Consultant, Singapore

2001 / 352 pages / softcover

ISBN-13: 978-0-07-043536-0 / MHID: 0-07-043536-7

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International Edition

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Second Edition

by Roy A Plastock and Zhigang Xiang, New Jersey Institute of Technology

2001 / 347 pages

ISBN-13: 978-0-07-135781-4 / MHID: 0-07-135781-5

ISBN-13: 978-0-07-118885-2 / MHID: 07-118885-1 [IE] (Out-of-Print)

(International Edition is not for sale in Japan.)

Schaum's Publication

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International Edition

COMPUTER GRAPHICS

Second Edition

by Steven Harrington, Xerox Corporation, Rochester

1987 / 466 pages

ISBN-13: 978-0-07-100472-5 / MHID: 0-07-100472-6 [IE]

Artificial Intelligence

International Edition

REAL-TIME SYSTEMS

by C.M. Krishna, University of Massachusetts; and K.G. Shin, University of Michigan

1997 / 448 pages / hardcover

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by Tom M Mitchell, Carnegie Mellon University

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ARTIFICIAL INTELLIGENCE

Second Edition

by Elaine Rich, Microelectronics and Computer Research Center and Kevin Knight, Carnegie-Mellon University

1991 / 640 pages

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Robotics

International Edition

ROBOTICS

Control, Sensing, Vision and Intelligence

by the late K.S. Fu, and C.S.G. Lee, both of Purdue University; and Ralph Gonzalez, University of Tennessee

1987 / 672 pages

ISBN-13: 978-0-07-100421-3 / MHID: 0-07-100421-1 [IE]

International Edition

INDUSTRIAL ROBOTICS

Technology, Programming and Application

by Mikell Groover, Lehigh University; Mitchell Weiss, United States Robots, Inc.; Roger Nagel and Nicholas Odrey, both of Lehigh University

1986 / 480 pages

ISBN-13: 978-0-07-100442-8 / MHID: 0-07-100442-4 [IE]

Computer/Machine Vision



HUMAN COMPUTER INTERACTION

Multi-Disciplinary Approach

by Gerrit van der Veer

2008 (July 2007) / Softcover / 750 pages

ISBN-13: 978-0-07-709996-1 / MHID: 0-07-709996-6

(McGraw-Hill UK Title)

This book provides a systematic account of all that is needed for designing complex interactive systems. It provides a multidisciplinary content, from a user-centred and pragmatic point of view. The book aims to provide the theory students need to understand the various techniques and provides illustrations, examples and exercises to prepare students for collaborating with design teams in industrial practice.

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Part 1: Introduction: Chapter 1: Preface. Chapter 2: Introduction to HCI. Part 2: Human users in context: Chapter 3: Introduction to the sciences of humanity. Chapter 4: Basic cognitive processes. Chapter 5: Complex processes. Chapter 6: Applications of cognitive psychology in ergonomics. Chapter 7: Mental models of complex systems. Chapter 8: "Working" in context. Part 3: Design approach: Chapter 9: DUTCH: Designing for users and tasks, from concepts to handles. Chapter 10: Formal models. Chapter 11: Task analysis. Chapter 12: Detail design. Chapter 13: Evaluation. Chapter 14: User centred design patterns. Part 4: Application domains: Chapter 15: Designing persuasive web sites. Chapter 16: Design of experiences—virtual reality. Chapter 17: Introducing user centred design in practise. Chapter 18: Designing for knowledge intensive business systems. Chapter 19: Design as an industry. Chapter 20: Multimedia applications for cultural domains.

International Edition

MACHINE VISION

by Ramesh C. Jain, University of California - San Diego and Rangacher Kasturi, Penn State University, Brian G. Schunck

1995 / 549 pages

ISBN-13: 978-0-07-113407-1 / MHID: 0-07-113407-7 [IE]

CONTENTS

1. Introduction. 2. Binary Image Processing. 3. Regions. 4. Image Filtering. 5. Edge Detection. 6. Contours. 7. Texture. 8. Optics. 9. Shading. 10. Color. 11. Depth. 12. Calibration. 13. Surfaces. 14. Volumetric Representations. 15. Motion. 16. Object Recognition

Numerical Methods & Analysis



APPLIED NUMERICAL METHODS WITH MATLAB FOR ENGINEERS AND SCIENTISTS

Second Edition

by Steven C. Chapra, Tufts University

2008 (November 2006) / Hardcover / 544 pages

ISBN-13: 978-0-07-313290-7 / MHID: 0-07-313290-X

The web site features student and instructor resources such as an image bank, lecture slides, helpful web links, study objectives, and more!

(Browse <http://www.mhhe.com/chapra>)

Steven Chapra's second edition, Applied Numerical Methods with MATLAB for Engineers and Scientists, is written for engineers and scientists who want to learn numerical problem solving. This text focuses on problem-solving (applications) rather than theory, using MATLAB, and is intended for Numerical Methods users; hence theory is included only to inform key concepts. The second edition feature new material such as Numerical Differentiation and ODE's: Boundary-Value Problems.

For those who require a more theoretical approach, see Chapra's best-selling Numerical Methods for Engineers, 5/e (2006), also by McGraw-Hill.

NEW TO THIS EDITION

- Based on response from users and reviewers, 4 New Chapters have been added to the second edition to provide a more accessible presentation, while maintaining its student-friendly flavor.

- ~ Optimization

- ~ Numerical Differentiation

- ~ ODES: Boundary-Value Problems

- ~ Fast Fourier Transform. This appendix chapter is presented in an introductory fashion to illustrate the power of MATLAB and to let students go away recognizing that although they have just scratched the surface, they might want to pursue the topic in greater depth in future courses.

- 50% new or revised chapter and homework problems

FEATURES

- Explanations are straight-forward and practically oriented. The math level is considered, just to be at the right level—not too easy or rigorous, just right.

- Extensive use of engineering examples, case studies, and applications are given throughout the text.

- Each chapter is well integrated with MATLAB M-files. In addition, relevant MATLAB functions are introduced in each chapter.

- MATLAB is used as the primary computing environment. All algorithms are presented as m-files.

- A text Web site is available at <http://www.mhhe.com/chapra>

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Part One Modeling, Computers, and Error Analysis. 1. Mathematical Modeling Numerical Methods and Problem Solving. 2. MATLAB Fundamentals. 3. Programming with MATLAB. 4. Roundoff and Truncation Errors. Part Two Roots and Optimization. 5. Roots: Bracketing Methods. 6. Roots: Open Methods. 7. Optimization. Part Three Linear Systems. 8. Linear Algebraic Equations and Matrices. 9. Gauss Elimination. 10. LU Factorization. 11. Matrix Inverse and Condition. 12. Iterative Methods. Part Four Curve Fitting. 13. Linear Regression. 14. General Linear Least-Squares and Non-Linear Regression. 15. Polynomial Interpolation. 16. Splines and Piecewise Interpolation. Part Five Integration and Differentiation. 17. Numerical Integration Formulas. 18. Numerical Integration of Functions. 19. Numerical Differentiation. Part Six Ordinary Differential Equations. 20. Initial-Value Problems. 21. Adaptive Methods and Stiff Systems. 22. Boundary-Value Problems Appendix A: Eigenvalues Appendix B: MATLAB Built-in Functions Appendix C: MATLAB M-File Functions Bibliography Index

International Edition

NUMERICAL METHODS FOR ENGINEERS

Fifth Edition

by Steven C. Chapra, Tufts University, Raymond Canale

2006 / 960 pages / Hardcover

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(with Engg Sub Card)

ISBN-13: 978-0-07-124429-9 / MHID: 0-07-124429-8 [IE]

The Online Learning Center will contain general textbook information, helpful Web links, MATLAB resources, and more! (Browse <http://www.mhhe.com/chapra>)

The fifth edition of Numerical Methods for Engineers with Software and Programming Applications continues its tradition of excellence. Instructors love this text because it is a comprehensive text that is easy to teach from. Students love it because it is written for them—with great pedagogy and clear explanations and examples throughout. The text features a broad array of applications, including all engineering disciplines. The revision retains the successful pedagogy of the prior editions. Chapra and Canale's unique approach opens each part of the text with sections called Motivation, Mathematical Background, and Orientation, preparing the student for what is to come in a motivating and engaging manner. Each part closes with an Epilogue containing sections called Trade-Offs, Important Relationships and Formulas, and Advanced Methods and Additional References. Much more than a summary, the Epilogue deepens understanding of what has been learned and provides a peek into more advanced methods. Users will find use of software packages, specifically MATLAB and Excel with VBA. This includes material on developing MATLAB m-files and VBA macros. Also, many, many more challenging problems are included. The expanded breadth of engineering disciplines covered is especially evident in the problems, which now cover such areas as biotechnology and biomedical engineering.

NEW TO THIS EDITION

- Approximately 150 new, challenging problems drawn from all engineering disciplines.
- The higher level material has been streamlined and some has been eliminated completely.
- Completely new sections on a number of topics including multiple integrals and the modified false position method.

Features

- Challenging problems drawn from all engineering disciplines are included in the text.
- Chapra is known for his clear explanations and elegantly rendered examples.
- The text includes a helpful appendix chapter, Getting Started with MATLAB.

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Part 1 Modeling, Computers, and Error Analysis: 1 Mathematical Modeling and Engineering Problem Solving. 2 Programming and Software. 3 Approximations and Round-Off Errors. 4 Truncation Errors and the Taylor Series. **Part 2 Roots of Equations:** 5 Bracketing Methods. 6 Open Methods. 8 Engineering Applications: Roots of Equations. **Part 3 Linear Algebraic Equations:** 9 Gauss Elimination. 10 LU Decomposition and Matrix Inversion. 11 Special Matrices and Gauss-Seidel. 12 Engineering Applications: Linear Algebraic Equations. **Part 4 Optimization:** 13 One-Dimensional Unconstrained Optimization. 14 Multidimensional Unconstrained Optimization. 15 Constrained Optimization. 16 Engineering Applications: Optimization. **Part 5 Curve Fitting:** 17 Least-Squares Regression. 18 Interpolation. 19 Fourier Approximation. 20 Engineering Applications: Curve Fitting. **Part 6 Numerical Differentiation and Integration:** 21 Newton-Cotes Integration Formulas. 22 Integration of Equations. 23 Numerical Differentiation. 24 Engineering Applications: Numerical Integration and Differentiation. **Part 7 Ordinary Differential Equations:** 25 Runge-Kutta Methods. 26 Stiffness and Multistep Methods. 27 Boundary-Value and Eigenvalue Problems. 28 Engineering Applications: Ordinary Differential Equations. **Part 8 Partial Differential Equations:** 29 Finite Difference: Elliptic Equations. 30 Finite Difference: Parabolic Equations. 31 Finite-Element Method. 32 Engineering Applications: Partial Differential Equations. **Appendix A** The Fourier Series. **Appendix B** Getting Started with Matlab. Bibliography. Index

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by Michael T Heath, University of Illinois at Urbana-Champaign

2002 / 576 pages / Hardcover

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SIMULATION MODELING AND ANALYSIS

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by Averill Law, Averill M. Law & Associates

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Since the publication of the first edition in 1982, the goal of Simulation Modeling and Analysis has always been to provide a comprehensive, state-of-the-art, and technically correct treatment of all important aspects of a simulation study. The book strives to make this material understandable by the use of intuition and numerous figures, examples, and problems. It is equally well suited for use in university courses, simulation practice, and self study. The book is widely regarded as the "bible" of simulation and now has more than 100,000 copies in print. The book can serve as the primary text for a variety of courses; for example:

- A first course in simulation at the junior, senior, or beginning-graduate-student level in engineering, manufacturing, business, or computer science (Chaps. 1 through 4, and parts of Chaps. 5 through 9). At the end of such a course, the students will be prepared to carry out complete and effective simulation studies, and to take advanced simulation courses.
- A second course in simulation for graduate students in any of the above disciplines (most of Chaps. 5 through 12). After completing this course, the student should be familiar with the more advanced methodological issues involved in a simulation study, and should be prepared to understand and conduct simulation research.
- An introduction to simulation as part of a general course in operations research or management science (part of Chaps. 1, 3, 5, 6, and 9).

NEW TO THIS EDITION

- A CD-ROM containing the Student Version of the ExpertFit distribution-fitting software will be included and will tie to the book
- Up-to-date treatment of the latest simulation software, including a common example in four of the leading products
- All of the software used in the book has been upgraded to FORTRAN and C.
- 20% new problems and examples
- More comprehensive and practical discussion of how to validate a simulation model
- New and improved random-number generators
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- Ranking-and-selection procedures for choosing the best system configuration, which allow the use of common random numbers for increased efficiency
- More detailed discussion of how to use the method of common random numbers in practice
- Greatly expanded and self-contained discussion of classical design of experiments, with a particular emphasis on how to correctly implement these techniques in the context of simulation modeling
- Several detailed examples on the use of simulation-based optimization

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1 Basic Simulation Modeling. 2 Modeling Complex Systems. 3 Simulation Software. 4 Review of Basic Probability and Statistics. 5 Building Valid, Credible, and Appropriately Detailed Simulation Models. 6 Selecting Input Probability Distributions. 7 Random-Number Generators. 8 Generating Random Variates. 9 Output Data Analysis for a Single System. 10 Comparing Alternative System Configurations. 11 Variance-Reduction Techniques. 12 Experimental Design, Sensitivity Analysis, and Optimization. 13 Simulation of Manufacturing Systems

International Edition



SIMULATION WITH ARENA

Fourth Edition

by W. David Kelton, University Of Cincinnati-Cincinnati

2007 (August 2006) / Hardcover / 704 pages

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ISBN-13: 978-0-07-128604-6 / MHID: 0-07-128604-7 [IE]

Browse <http://www.mhhe.com/kelton4e>

This fourth edition of Simulation with Arena has the same goal as the first three editions: to provide a comprehensive treatment of simulation concepts in general and the Arena simulation software in particular. It starts by having the reader develop simple, well-animated, high-level models, and then progresses to advanced modeling and analysis. Statistical design and analysis of simulation experiments is integrated with the modeling chapters, reflecting the joint nature of these activities in good simulation studies. The objective is to help the reader carry out effective simulation modeling, analysis, and projects using the Arena simulation system. An informal, tutorial writing style is used to aid the beginner in fully understanding the ideas and topics presented. Included is a CD containing the current version of the Arena academic software and the examples referenced throughout the text. Starting with an introduction to simulation concepts, the book progresses through an overview of the Arena software, basic model development, input analysis, additional modeling constructs, output analysis, and advanced modeling. It also includes chapters on integrating Arena simulation models with other applications, specialized statistical issues, continuous simulation, and conducting a successful simulation study. It is intended primarily to be a text in a first course on simulation or for self-study. However, the later chapters could be incorporated into an advanced or graduate-level course. Building on the success of the first three editions, published in 1998, 2002, and 2004, this edition retains the basic outline and tutorial style, built around a sequence of successively more complicated examples. All the examples and discussion, however, have been modified and updated to be consistent with the current version of the Arena software, and additional examples have been developed, along with more exercises. As before, a password-protected website for instructors provides support in terms of downloadable lecture slides and solutions to end-of-chapter exercises. The book draws heavily on the experience and expertise of the authors, a professor at the University of Cincinnati specializing in simulation, and two seasoned members of Rockwell Software (formerly Systems Modeling), the developers of Arena, who are active in product design and development, training, consulting, and applications.

NEW TO THIS EDITION

- Update throughout to move to the new current version of the Arena software, which will be version 10,
- Added a new model at the end of Chapt. 3 to illustrate the basic concepts that can lead to an interesting operational analysis. This model is already well formulated, addressing the classic problem in business-process re-engineering of whether it's better to have specialized single-task staff or generalized multi-purpose staff, and provides a "quick victory" on a meaningful issue using only the most basic of modeling constructs and tools.
- Replaced the car-repair model in Chapt. 5 with a more approachable model, possibly a call center as in the first and second editions, that illustrates the points, but is easier to teach (will be developed in two or three stages) and is better suited as a vehicle to illustrate analysis and further modeling points in subsequent chapters.
- Addition of other new models to illustrate logistics and supply-chain management,
- Enhancements as needed in later chapters to illustrate new software capabilities.
- Add new Exercises in all the chapters, updated with solutions in the new software.

CONTENTS

1. What is Simulation? 2. Fundamental Simulation Concepts. 3. A Guided Tour Through Arena. 4. Modeling Basic Operations and Inputs. 5. Modeling Detailed Operations. 6. Statistical Design and Analysis of Terminating Simulations. 7. Intermediate Modeling and Steady-State Statistical Analysis. 8. Entity Transfer. 9. A Sampler of Further Modeling Issues and Techniques. 10. Arena Integration and Customization. 11. Continuous and Combined Discrete/Continuous Models. 12. Further Statistical Issues. 13. Conducting Simulation Studies Appendix A: A Functional Specification for The Washington Post Appendix B: IIE/RS Contest Problems Appendix C: A Refresher on Probability and Statistics Appendix D: Arena's Probability Distributions Appendix E: Academic Software Installation. Instructions. References. Index. CD with current academic version of Arena and all examples used in the book

International Edition

SIMULATION USING PROMODEL

Second Edition

by Charles R Harrell, Brigham Young University, Provo, Biman K Ghosh, California State Polytechnic University, Pomona and Royce Bowden, Mississippi State University, Mississippi State

2004 / 640 pages
ISBN-13: 978-0-07-291980-6 / MHID: 0-07-291980-9 (with CD)
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Sample chapter, Overview, TOC, Author bio, Preface, What's new, Feature summary, Supplement list, Reviewer notes, Cover graphic, Instructors manual, Pageout, Rep locator, Review/feedback form, Order a copy, Solutions manual (Browse <http://www.mhhe.com/007248263x>)

Simulation Using Promodel covers the art and science of simulation in general and the use of Promodel simulation software in particular. The text blends theory with practice presenting actual applications in business, services and manufacturing. This second edition reflects the most recent version of the Promodel software available.

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I Study Chapters: 1 Introduction to Simulation. 2 System Dynamics. 3 Simulation Basics. 4 Discrete-Event Simulation. 5 Getting Started. 6 Data Collection and Analysis. 7 Model Building. 8 Model Verification and Validation. 9 Simulation Output Analysis. 10 Comparing Systems. 11 Optimization. 12 Modeling Manufacturing Systems. 13 Modeling Material Handling Systems. 14 Modeling Service Systems. II Labs: 1 Introduction to ProModel 2002. 2 ProModel World View, Menu and Tutorial. 3 Running a ProModel Simulation. 4 A Quick Look at ProModel. 5 ProModel's Output Module. 6 Fitting Statistical Distribution to Input Data. 7 Basic Modeling Concepts. 8 Model Verification and Validation. 9 Output Analysis. 10 Comparing Alternative Systems. 11 Simulation Optimization with SimRunner. 12 Intermediate Modeling Concepts. 13 Material Handling Concepts. 14 Additional Modeling Concepts. III Case Study Assignments: Case 1 Toy Airplane Manufacturing. Case 2 Jai Hind Cycles Inc. Plans New Production Facility. Case 3 The FSB Coin System. Case 4 Automated Warehousing at Athletic Shoe Company. Case 5 Concentrate Line at Florida Citrus Company. Case 6 Balancing the Production Line at Southern California Door Company. Case 7 Material Handling at California Steel Industries, Inc. Appendixes: A Common Continuous and Discrete Distributions. B Critical Values for Students t Distribution (ta). C F Distribution for $\alpha=0.05$

International Edition

SIMULATION WITH ARENA

Third Edition

by W David Kelton, University of Cincinnati - Cincinnati; Randall P Sadowski, Systems Modeling Corporation, Rockwell Software and David T Sturrock, Systems Modeling Corporation, Rockwell Software

2004 / 672 pages
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ISBN-13: 978-0-07-123525-9 / MHID: 0-07-123525-6 [IE with CD]

<http://www.arenasimulation.com/40academic/SWA3e.htm>

The first edition of this book was the first text to be written on the Arena software, which is a very popular simulation modeling software. What makes this text the authoritative source on Arena is that it was written by the creators of Arena themselves. The new third edition follows in the tradition of the successful first and second editions in its tutorial style (via a sequence of carefully crafted examples) and an accessible writing style. The updates include thorough coverage of the new version of the Arena software (Arena 7.01), enhanced support for Excel and Access, and updated examples to reflect the new version of software. The CD-ROM that accompanies the book contains the Academic version of the Arena software. The software features new capabilities such as model documentation, enhanced plots, file reading and writing, printing and animation symbols.

CONTENTS

1 What is Simulation? 2 Fundamental Simulation Concepts. 3 A Guided Tour Through Arena. 4 Modeling Basic Operations and Inputs. 5 Modeling Detailed Operations. 6 Statistical Analysis of Output from Terminating Simulations. 7 Intermediate Modeling and Steady-State Statistical Analysis. 8 Entity Transfer. 9 A Sampler of Further Modeling Issues and Techniques. 10 Arena Integration and Customization. 11 Continuous and Combined Discrete/Continuous Models. 12 Further Statistical Issues. 13 Conducting Simulation Studies. Appendix A A Functional Specification for the Washington Post. Appendix B IIE/RS Contest Problems. Appendix C A Refresher on Probability and Statistics. Appendix D Arena's Probability Distributions. Appendix E Academic Software Installation Instructions

International Edition



OBJECT-ORIENTED AND CLASSICAL SOFTWARE ENGINEERING

Seventh Edition

by Stephen R. Schach, Vanderbilt University–Nashville

2007 (June 2006) / Hardcover / 608 pages

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Classical and Object-Oriented Software Engineering, 7/e presents an excellent introduction to software engineering fundamentals, covering both traditional and object-oriented techniques. The coverage of both Agile processes and Open Source Software has been considerably expanded. In addition, the Osbert Oglesby running case study has been replaced with a new case study on the Martha Stockton Greengage Foundation. The new study highlights even more aspects of the Unified Process. New to this Edition: ● All-new coverage of agile processes. eXtreme Programming (XP) is now presented within the larger context of agile processes. ● Expanded material on open-source software. Additional coverage on open-source software development is included throughout the manuscript, particularly Chapters 2 and 4. ● More problems. New problems have been added to every chapter. ● Brand new Case Study. Based on feedback from reviewers and users, a new case study on the Martha Stockton Greengage Foundation illustrates techniques of software development in Chapters 10-15. The case study deals with a real-world situation that students will be likely to encounter in real life: home mortgages. This case study replaces the Osbert Oglesby case study from previous editions. ● New Online Content. This text is available with a website that contains PowerPoints, solutions, and C++ and Java code for the Term Project and Case Studies. The book's unique organization remains in place, with Part I covering underlying software engineering theory, and Part II presenting the more practical life cycle. Complementing this well-balanced approach is the straightforward, student-friendly writing style, through which difficult concepts are presented in a clear, understandable manner. The new seventh edition provides an extensive updating of this classic software engineering text!

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FEATURES

- This book is accompanied by a website that contains PowerPoints, solutions, and C++ and Java code for the Term Project and Case Studies.

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Case Study. Appendix G Design Workflow: The MSG Foundation Case Study. Appendix H Implementation Workflow: The MSG Foundation Case Study (C++ Version). Appendix I Implementation Workflow: The MSG Foundation Case Study (Java Version). Appendix J Test Workflow: The MSG Foundation Case Study

International Edition

SOFTWARE ENGINEERING: A PRACTITIONER'S APPROACH

Sixth Edition

by Roger S Pressman, R.S. Pressman & Associates

2005 / 896 pages

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For over 20 years, Software Engineering: A Practitioner's Approach has been the best selling guide to software engineering for students and industry professionals alike. The sixth edition continues to lead the way in software engineering. A new Part 4 on Web Engineering presents a complete engineering approach for the analysis, design, and testing of Web Applications, increasingly important for today's students. Additionally, the UML coverage has been enhanced and significantly increased in this new edition. The pedagogy has also been improved in the new edition to include sidebars. They provide information on relevant software tools, specific workflow for specific kinds of projects, and additional information on various topics. Additionally, Pressman provides a running case study called "Safe Home" throughout the book, which provides the application of software engineering to an industry project. New additions to the book also include chapters on the Agile Process Models, Requirements Engineering, and Design Engineering. The book has been completely updated and contains hundreds of new references to software tools that address all important topics in the book. The ancillary material for the book includes an expansion of the case study, which illustrates it with UML diagrams. The On-Line Learning Center includes resources for both instructors and students such as checklists, 700 categorized web references, Powerpoints, a test bank, and a software engineering library-containing over 500 software engineering papers.

NEW TO THIS EDITION

- Five new chapters on Web Engineering (Part 3) present methods for formulation, planning, analysis, design and testing of Web applications.
- The new modular organization allows instructors to use the book in a variety of different course formats. Options include a "design course," a "survey course," "management course," and a "web engineering course."
- The SafeHome case study has been enhanced and extended to illustrate important topics and to allow the student to better understand the inner workings of a project team as software is engineered and built.
- New sidebars are used extensively to present complimentary software engineering topics, suggest relevant tools, and define workflow for various technical and management activities.
- A new chapter on design engineering emphasizes important design concepts and principles and lays the foundation for the four design chapter that follow.
- The coverage on UML(Unified Modeling Language)has been significantly enhanced for the sixth edition.
- A new chapter on agile development considers Extreme Programming and other agile methods.
- A new chapter on requirements engineering that emphasizes technique that emphasizes techniques for requirements inception, elicitation, elaboration, negotiation, specification, validation, and management.
- Object-oriented design has been integrated throughout the text in this edition.

FEATURES

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- Comprehensive and up-to-date coverage of all important Software Engineering topics.
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Object-Oriented Software Engineering

International Edition

NEW

OBJECT-ORIENTED AND CLASSICAL SOFTWARE ENGINEERING

Seventh Edition

by Stephen R. Schach, Vanderbilt University—Nashville
 2007 (June 2006) / Hardcover / 608 pages
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International Edition

OBJECT-ORIENTED SOFTWARE ENGINEERING: Practical Software Development Using UML and Java

Second Edition

by Timothy Lethbridge, and Robert Laganieri

2005 / 528 pages / Softcover
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(McGraw-Hill UK Title)

www.mcgraw-hill.co.uk/textbooks/lethbridge

The authors' focus in this book is to deliver software engineering knowledge and skills that readers can put into immediate practical use. The book provides the essential topic coverage required by students of software engineering, from the nuts and bolts of objects to software architecture, from writing code to testing, from software development processes to project management. Working through nine contemporary themes in Software Engineering, students are given an awareness of key issues from understanding the customer and user, evaluating alternative requirements and design, to developing quantitative and logical thinking and effective communication. The book is designed to be used primarily in second-year software engineering courses, but is also widely used in its first edition as an introductory software engineering text at all levels. It will also be valuable to programming practitioners who want to develop a better understanding of modern software engineering.

FEATURES

- To reflect the development of software engineering and changes in practice, the book aims to provide students with the most current coverage of UML, a practical grasp of key techniques, and

an understanding of contemporary issues surrounding software engineering. The new edition features:

- Updated to reflect the new UML 2.0 standard- offering the most up-to-date and relevant coverage of UML available
- Features nine contemporary themes in software engineering, such as understanding the user, iterative and agile modeling, and risk management. The themes encourage students to engage with basic considerations that are fundamental to contemporary software engineering. Each of these themes is revisited in many chapters, and is taught in the context of concrete examples and exercises.
- New section on model driven development
- New coverage of web-based software architectures and middleware
- Integrates discussion of agile approaches, and techniques made popular by those approaches including refactoring and test-driven development.
- Improvements to the new edition include moving all discussion of use cases to Chapter 4 for more focused treatment, and more coverage of the essentials of measurement and metrics.
- A wide variety of examples and exercises throughout to provide students with practice in tackling software engineering projects, including many new and changed exercises for the new edition.

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OBJECT-ORIENTED TECHNOLOGY

by Curtis HK Tsang, Clarence SW Lau and Ying K Leung

2004 / 456 pages

ISBN-13: 978-0-07-124046-8 / MHID: 0-07-124046-2

(An Asian Publication)

<http://www.mcgraw-hill.com.sg/olc/tsang>

This book is written for students and developers who wish to master the essential skills and techniques in applying the UML for software development. The reader will learn object-oriented analysis, design and implementation using appropriate UML models, process, techniques and tool. Accompanying the book is the Community Edition of Visual Paradigm for UML (VP-UML), an award-winning CASE tool, which allows the reader to put the theories learned into practice immediately. The authors propose a novel framework for modeling and analysis called the View Alignment Techniques (VAT) that helps software developers create development methods. The Activity Analysis Approach (A³), which is particularly suited for the development of interaction-intensive systems, is described. These concepts have been well proven, as they were followed closely in the development of the VP-UML CASE tool. Three chapters in this book describe structural, use case and dynamic modeling and analysis techniques, together with practical tricks and tips that have been gained by the authors from many years of experience. Each of these three chapters includes a mini-case study which illustrates the unique “from diagram to code” concept in software development. In the final chapter, a major case study is included to help the reader reinforce the theories learned in previous chapters using VP-UML. The key areas in object-oriented technology covered in the book include:

- Requirements modeling using cases: Identifying, capturing and elaborating requirements.
- Domain analysis for object identification: Building structural models for objects and their attributes and relationships.
- Dynamic analysis and design: Building dynamic models, refining structural models and making design decisions.
- Implementation: Translating UML models into codes and implementations.
- Method creation and the framework of View Alignment Techniques: Choosing the right UML models and customizing the analysis and design process.
- A case study: Showing how the Activity Analysis Approach is put into practice, using VP-UML.

CONTENTS

Chapter 1 Introduction. Chapter 2 Structural Modeling and Analysis. Chapter 3 Use Case Modeling and Analysis. Chapter 4 Dynamic Modeling and Analysis. Chapter 5 Implementing UML Specification. Chapter 6 View Alignment Techniques and Method Customization. Chapter 7 A Case Study: Applying the Activity Analysis

Approach. Appendix A Getting Started with VP-UML. Appendix B Basic UML Concepts. Appendix C Implementation of the Lift Control System in Chapter 5. References. Index

International Edition

PRACTICAL OBJECT-ORIENTED DESIGN WITH UML Second Edition

by Mark Priestley, University of Westminster

2004 / 338 pages / softcover

ISBN-13: 978-0-07-710393-4 / MHID: 0-07-710393-9

ISBN-13: 978-0-07-123923-3 / MHID: 0-07-123923-5 [IE]

(McGraw-Hill UK Title)

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The new second edition of Practical Object Oriented Design with UML provides a concise introduction to the design of object-oriented programs using UML. The book focuses on the application of UML in the development of software, and also offers a detailed tutorial introduction to the UML notation and its application. The book provides the ideal introduction to UML for undergraduates taking modules in object-oriented techniques as part of a Computer Science or Software Engineering degree programme. The exercises will be available to students.

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Part 1: Introduction to object-oriented design: 1 Introduction to UML. 2 Modelling with objects. 3 Software development processes. Part 2: Case study: Restaurant Booking System: 4 Restaurant system: use case model. 5 Restaurant system: analysis. 6 Restaurant system: design. 7 Restaurant system: implementation. Part 3: UML Tutorial: 8 Class and object diagrams. 9 Interaction diagrams. 10 Statecharts and activity diagrams. 11 Constraints and OCL. 12 Implementation models. Part 4: Object-oriented design in practice: 13 Code generation and reverse engineering. 14 Principles and patterns. Appendices: Reference material. A: UML notation reference. B: OCL reference. C: A use case template. References and Further Reading. Index

UML

International Edition

SCHAUM'S OUTLINE OF GUIDE TO UML Second Edition

by Simon Bennett, John Skelton and Ken Lunn

2005 / 380 pages / Softcover

ISBN-13: 978-0-07-710741-3 / MHID: 0-07-710741-1

ISBN-13: 978-0-07-124771-9 / MHID: 0-07-124771-8 [IE]

(McGraw-Hill UK Title)

Schaum Publication

This book provides a step-by-step guide to the notation and use of UML, one of the most widely used, object-oriented notation systems/programming languages in existence. The outline demonstrates the use of the techniques and notation of UML through case studies in systems analysis, showing the student clearly how UML is used in all kinds of practical situations. This revised edition will discuss the new infrastructure of the latest UML Version 2.0, and will include new examples, review questions, and notations.

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Software Project Management

SOFTWARE PROJECT MANAGEMENT

Fourth Edition

By Bob Hughes, and Mike Cotterell

2006 / 384 pages / Softcover

ISBN-13: 978-0-07-710989-9 / MHID: 0-07-710989-9

(McGraw-Hill UK Title)

OLC (Browse <http://www.mcgraw-hill.co.uk/textbooks/hughes>)

From its first appearance in 1995, this book has been consistently well received by tutors and students alike. Now in its fourth edition, this textbook is highly regarded for providing a complete introduction to Software Project Management for both undergraduate and postgraduate students. The new edition retains its clear, accessible style and comprehensive coverage, plus the many examples and exercises throughout the chapters that illustrate the practical application of software project management principles. Reflecting new developments in software project management, the fourth edition has been developed to ensure that the coverage is up-to-date and contemporary. This includes new and expanded coverage of topics such as virtual teams and agile methods.

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- Reflecting the growing interest in agile methods, particularly extreme programming (XP), the text examines the need for increased responsiveness to client needs and the improved speed of delivery that XP can offer.
- In response to reviewer comments and suggestions, material has been added in Chapter 7 on Goldratt's critical chain management technique.
- Coverage of risk has also been extensively revised, taking in recent research in this area, such as the use of causal mapping.
- Standards such as ISO/IEC 12207 and programme management, have now been made part of the main text, integrating their coverage into the chapters where relevant.

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Internet Literacy

INTERNET LITERACY

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By Fred T. Hofstetter, University Of Delaware

2006

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Multimedia

MULTIMEDIA: MAKING IT WORK

Seventh Edition

by Tay Vaughan

2007 (December 2006) / Softcover / 480 pages

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(Osborne Media Title)

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by Charles Holcombe and Jane Holcombe

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