Cengage Technology Editions are being launched to support educators and learners in making a smooth transition from print to digital learning and instruction. These hybrid editions combine full ebooks or digital solutions packages with print editions for maximum flexibility and benefits, including:

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- engaged students, improved learning experiences and better outcomes
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- *Java Programs to Accompany Programming Logic and Design, Eighth Edition* | Smith NEW EDITION  
  - *Smith*
- *Microsoft Visual Basic Programs to Accompany Programming Logic and Design, Eighth Edition* | Smith NEW EDITION  
  - *Smith*
- *C++ Programs to Accompany Programming Logic and Design, Eighth Edition* | Smith NEW EDITION  
  - *Smith*
- *Visual Logic* | Vanguard  
  - *Vanguard*
- *A Guide to Working with Visual Logic* | Crews  
  - *Crews*

## PROGRAMMING

### Alice
- *Alice in Action with Java™, Second Edition* | Adam NEW EDITION  
  - *Adam*
- *Alice 3 in Action: Computing Through Animation, Second Edition* | Adam NEW EDITION  
  - *Adam*
  - *Herbert*

### Java
  - *Farrell*

### C++
  - *Zak*
  - *Farrell*

### C#
  - *Doyle*
  - *Farrell*

### Visual Basic
  - *Zak*
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  - *Zak*

### Mobile Applications
- *Objective-C and iOS Programming: A Simplified Approach to Developing Apps for the Apple iPhone® and iPad®* | Khan NEW TITLE  
  - *Khan*
  - *Hoisington*
  - *Hoisington*

## WEB DEVELOPMENT

- *Principles of Web Design, Sixth Edition* | Sklar NEW EDITION  
  - *Sklar*
- *JavaScript, Sixth Edition* | Vodnik/Gosselin NEW EDITION  
  - *Vodnik/Gosselin*
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  - *Gosselin*
  - *Gosselin/Kokoska/Easterbrooks*
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INTRODUCTION TO COMPUTER SCIENCE

ABOUT THE AUTHORS

G. Michael Schneider
G. Michael Schneider is a Professor Emeritus of Mathematics and Computer Science at Macalester College in St. Paul, Minnesota and a Visiting Professor of Computer Science at Columbia University in New York. His interests include parallel processing, computer networks, and computer science education. He has written textbooks on software development, data structures, computer organization, and a breadth-first overview of computer science. Schneider was a member of the committee that authored the ACM/IEEE Computing Curriculum 2001. He has received Fulbright Grants to teach computer science curriculum development in Mauritius, Malaysia, Nepal and Mongolia.

Judith Gersting
Judith Gersting is a Professor Emeritus of Computer Science at the University of Hawaii at Hilo and at Indiana University-Purdue University at Indianapolis, where she now teaches part-time. Gersting has written a number of college textbooks. Her areas of specialization include theoretical computer science and computer science education.

INVITATION TO COMPUTER SCIENCE, 6E, International Edition is a well-respected text that provides an overview of the computer science field. Using a flexible, non-language specific model, it offers a solid foundation for the first course in a Computer Science curriculum. This new edition maintains its bestselling, algorithm-driven approach and includes expanded chapter exercises and practice problems, as well as new boxes dedicated to mobile applications and current issues throughout. Online language modules are available in C++, Java, Python, C#, and Ada, allowing the option of incorporating a programming language to expand concepts from the text.

KEY FEATURES
• Features added on mobile applications and current issues.
• Expanded End of Chapter Exercises and Practice Problems.
• Revamped Ethics chapter (Chapter 17).
• Presents a language-independent, breadth-first introduction to computer science that includes coverage of hardware, software, applications and a modern view of ethics.
• Highlights mobile applications and other current issues with lively feature boxes.
• Includes expanded exercise sets and practice problems that allow opportunity for concept application.
• Provides the option to incorporate one or more programming languages with online modules for Java, C++, Python, C# and Ada.
• Provides hands-on experience via optional online Lab Manual and accompanying software containing 20 laboratory projects that map directly to the main text.
• Optional CourseMate for INVITATION FOR COMPUTER SCIENCE brings course concepts to life with interactive learning, study, and exam preparation tools that support the printed textbook.

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SUPPLEMENTS
Instructor Resources
CourseMate

ISBN: 978-1-133-19108-7
©2013
744 pages

www.cengageasia.com
Greg Anderson, David Ferro & Robert Hilton

ISBN: 978-0-538-47573-0
January 2010
640 pages

Written for the beginning computing student, this text engages readers by relating core computer science topics to their industry application. The book is written in a comfortable, informal manner, and light humor is used throughout the text to maintain interest and enhance learning. All chapters contain a multitude of exercises, quizzes, and other opportunities for skill application.

KEY FEATURES
• Intended for an introductory course in computer science for majors and non-majors.
• Introduces students to real-world material that will be useful both in academic and industry environments.
• Features two new chapters that cover user interface design and problem solving.
• Includes a thoroughly revised Programming chapter that discusses the latest version of Java and now contains coverage of C++.
• Offers many new exercises and examples in every chapter.

CONTENTS

SUPPLEMENTS
Instructor Resources

ABOUT THE AUTHORS
Greg Anderson
Greg Anderson has over 23 years of industry software engineering experience and provided educational seminars across North America for over 12 years.

David Ferro
David is an Associate Professor in Computer Science at Weber State University and has also taught in History, Honors, and IS&T departments there.

Robert Hilton
Robert Hilton is a faculty member in the Computer Science department at Weber State University.
Foundations of Computer Science, Third Edition

Behrouz A. Forouzan, De Anza College

ISBN: 978-1-4080-8841-8
©2014
640 pages

Based on the Association for Computing Imagery model curriculum guidelines, Foundations of Computer Science gives students a bird’s eye view of Computer Science.

This easy-to-read and easy-to-navigate text covers all the fundamentals of computer science required for first year undergraduates embarking on a computing degree.

KEY FEATURES
- The rapid growth of networking and its implications for computer science studies.
- New security issues.
- Recent improvements in computer technology.
- End of chapter material.
- Interactive quizzes and enhanced PowerPoint slides.
- Java applets for students to see the simulation of some concepts (e.g. number conversion, encryption and decryption, and programs)

CONTENTS
1 Introduction
2 Number systems
3 Data Storage
4 Operations on Data
5 Computer Organization
6 Computer Networks
7 Operating Systems
8 Algorithms
9 Programming Languages
10 Software Engineering
11 Data Structures
12 Abstract Data Types
13 File Structures
14 Databases
15 Data Compression
16 Security
17 Theory of Computation
18 Artificial Intelligence

SUPPLEMENTS
Instructor Resources
CourseMate

D.S. Malik

©2012
1088 pages

Designed for a first Computer Science (CS1) Java course, JAVA PROGRAMMING: FROM PROBLEM ANALYSIS TO PROGRAM DESIGN, 5e motivates students while building a cornerstone for the Computer Science curriculum. This text approaches programming using the latest version of Java, and includes updated programming exercises and programs. The engaging and clear-cut writing style will help students learn key concepts through concise explanations and practice in this complex and powerful language.

KEY FEATURES
• VISUAL DIAGRAMS: More than 240 visual diagrams help readers comprehension by clearly illustrating difficult concepts.
• PROGRAMMING CODE WITH DESCRIPTIONS: Programming code used in examples is accompanied by a description of what each line in the code does, leading readers step-by-step through the programming process.
• PROGRAMMING EXAMPLES: Extensive programming examples demonstrate the accurate, concrete stages of Input, Output, Program Analysis and Algorithm Design, and a Complete Program Listing, which challenge readers to write Java programs with a specified outcome.
• NEW: New debugging sections have been added, and many of the older ones have been rewritten. These sections are indicated with a debugging icon.
• NEW: Contains more than 120 exercises, 25 new programming exercises, and numerous new examples spread throughout the book.
• NEW: In Chapters 6 and 12 the GUI figures have been captured and replaced in Windows 7 Professional environment.

CONTENTS

SUPPLEMENTS
Instructor Resources
Fundamentals of Python: First Programs, International Edition
Kenneth A. Lambert

ISBN: 978-1-111-82446-4
©2012
496 pages

KEY FEATURES
• Early emphasis on problem solving and algorithm development.
• Covers multiple design strategies, including top-down design and recursive design with functions, object-based programming, and object-oriented design.
• Engages students’ interest with modern applications such as graphics, graphical user interfaces (GUIs), networks, and image processing.
• Walks students through the development of complete programs in numerous case studies.
• Provides exercises at the end of each section to reinforce students’ understanding of each concept.
• Includes sets of programming projects to give students practice in problem solving.
• Offers complete source code for all program examples at the publisher’s Web site.

CONTENTS
1. Introduction.
2. Data Types and Expressions.
3. Control Statements.
4. Strings and Text Files.
5. Lists and Dictionaries.
6. Design with Functions.
8. Design with Classes.
9. Graphical User Interfaces.
11. Searching, Sorting, and Complexity. (Online only)

SUPPLEMENTS
Instructor Resources
Gary Bronson's A FIRST BOOK OF C++, 4e, International Edition takes a hands-on, applied approach to the first programming language course for students studying computer science. The book begins with procedural programming in C, and then gradually introduces object-oriented programming features and the C++ language syntax that enables first-time programmers to use them.

KEY FEATURES
- Gives introductory programming students a solid foundation in the C++ programming language.
- Guides students through the syntax and semantics of C++ before introducing classes.
- Offers a variety of end-of-section problems, including skill-building and programming exercises.
- The ANSI/ISO C++ iostream library and namespace mechanism are used in all programs.
- NEW! Part I has been restructured to include arrays, files, and pointers, so it can be used as the basis for a complete introductory semester course in C++.
- NEW! The four chapters covering object-oriented programming have been revised and moved to Part II so that they form a logical continuation from structured programming to object-oriented programming.
- NEW! More than 50 new exercises have been added, and each exercise is labeled to indicate its function (Practice, Program, Modify, Debug, Desk check, or For thought).
- NEW! Three new Chapter Supplements have been added to introduce the fundamentals of object-oriented design and the Unified Modeling Language (UML).
C++ Programming: From Problem Analysis to Program Design, Seventh Edition

D.S. Malik

©2015 1430 pages

C++ PROGRAMMING: FROM PROBLEM ANALYSIS TO PROGRAM DESIGN, Seventh Edition remains the definitive text for a first programming language course. D.S. Malik’s time-tested, student-centered methodology uses a strong focus on problem-solving and full-code examples to vividly demonstrate the how and why of applying programming concepts and utilizing C++ to work through a problem. This new edition includes thoroughly updated end-of-chapter exercises, more than 30 new programming exercises, and many new examples created by Dr. Malik to further strengthen student understanding of problem solving and program design.

KEY FEATURES
• Thoroughly covers several features of the new C++ 11 Standard, including, for example, range-based for loops.
• Includes a reorganized Chapter 4 that now includes an earlier introduction of if and if...else structures, allowing students to incorporate selection statements before introducing the logical operators.
• A full-color interior precisely displays syntax highlighting, emphasizing C++ keywords and comments for beginning programmers.
• More than 300 visual diagrams illustrate challenging concepts.
• Numbered full-code examples throughout walk students through the stages of Input, Output, Problem Analysis, and Algorithm Design to illustrate key topics in each chapter. Every programming example includes a full explanation and sample run.
• A CourseMate digital companion brings the text to life with nearly 20 instructional videos that walk students step-by-step through key programming examples — plus such interactive study tools as quizzes, flashcards, and games. The CourseMate's digital Lab Manual offers additional hands-on exercises, helping students reinforce critical thinking through practice.

CONTENTS
2. Basic Elements of C++.
3. Input/Output.
4. Control Structures I (Selection).
5. Control Structures II (Repetition).
7. Namespaces, the class string, and User-Defined Simple Data Types.
8. Arrays.
10. Classes and Data Abstraction.
11. Inheritance and Composition.
12. Pointers, Classes, Virtual Functions, and Abstract Classes.
14. Exception Handling.
15. Recursion.
17. Linked Lists.
18. Stacks and Queues.
Appendices.

SUPPLEMENTS
Instructor Resources
CourseMate
www.cengageasia.com
C++ Programming: Program Design Including Data Structures, Seventh Edition

D.S. Malik

©2015
1680 pages

C++ PROGRAMMING: PROGRAM DESIGN INCLUDING DATA STRUCTURES, Seventh Edition remains the definitive text to span a first and second programming course. D.S. Malik’s time-tested, student-centered methodology uses a strong focus on problem-solving and full-code examples to vividly demonstrate the how and why of applying programming concepts and utilizing C++ to work through a problem. This new edition includes thoroughly updated end-of-chapter exercises, more than 30 new programming exercises, and many new examples created by Dr. Malik to further strengthen student understanding of problem solving and program design. New features of the C++ 11 Standard are discussed, ensuring this text meets the needs of the modern CS1/CS2 course sequence.

KEY FEATURES
• Thoroughly covers several features of the new C++ 11 Standard, including, for example, range-based for loops.
• Includes a reorganized Chapter 4 that now includes an earlier introduction of if and if…else structures, allowing students to incorporate selection statements before introducing the logical operators.
• All end-of-chapter exercises — including 200 brand new to this edition — now correlate directly to the learning objectives at the start of each chapter, creating a cohesive tie between content and assessment.
• A CourseMate digital companion brings the text to life with nearly 20 instructional videos that walk students step-by-step through key programming examples — plus a digital Lab Manual offers additional hands-on exercises.

CONTENTS
2. Basic Elements of C++.
3. Input/Output.
4. Control Structures I (Selection).
5. Control Structures II (Repetition).
7. Namespaces, the class string, and User-Defined Simple Data Types.
8. Arrays.
10. Classes and Data Abstraction.
11. Inheritance and Composition.
12. Pointers, Classes, Virtual Functions, and Abstract Classes.
14. Exception Handling.
15. Recursion.
16. Linked Lists.
17. Stacks and Queue.
20. Graph Algorithms.
Appendices.

SUPPLEMENTS
Instructor Resources
CourseMate

Gary Bronson

©2013
752 pages

This proven, pragmatic text is designed specifically for today's first- and second-year engineering and science students with a wealth of new applications and examples taken from real situations involving electrical and structural engineering, fluid mechanics, mathematics, power generation, and heat transfer challenges. The book starts with a solid foundation in procedural programming before moving into a reorganized, clear presentation of object-oriented concepts. Dynamic case studies, career spotlights and engineering-driven applications showcase the relevance of concepts students are learning to their careers. Helpful tips demonstrate how to avoid common C++ programming errors, while updates ensure that students are learning the most recent C++ code standards.

KEY FEATURES
- Completely reorganized Part II provides additional clarity with timely updates of object-oriented concepts.
- Expanded, revised exercises throughout this edition reflect today’s latest engineering-based challenges.
- Coverage starts with solid introduction to procedural programming before introducing object-oriented design.
- Foundational coverage offers both procedural and object-oriented viewpoints.
- Clear presentation interweaves thorough explanations and frequent examples.
- Engaging, interactive applications and features showcase engineering topics.
- Important coverage of ANSI/ISO standards demonstrates their influence on programming and business today.
- The latest coverage includes the most recent C++ code standards as well as the standard template library.

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SUPPLEMENTS
Instructor Resource


Behrouz A. Forouzan & Richard F. Gilberg

ISBN: 978-0-534-49132-1
February 2006
1184 pages

www.cengageasia.com
Data Structures and Algorithms in Java, Fourth Edition
Adam Drozdek

©2013
824 pages

Data structures serve as a foundation upon which many other computer science fields are built. Thus, some knowledge of data structures is a prerequisite for students who wish to work in the design, implementation, testing, or maintenance of virtually any software systems. The Java language, an object-oriented descendant of C and C++, has gained popularity in industry and academia as an excellent programming language due to widespread use of the Internet. Thus, the use of Java to teach a data and algorithms course is well justified.

NEW TO THIS EDITION
• A section on treaps (6.10)
• A section on k-d tress (6.11)
• A section on k-d B-trees (7.1.5)
• A section on generational garbage collection (12.3.4)

FEATURES
• Emphasizes the connection between data structures and their algorithms, with an analysis of the algorithms' complexity

CONTENTS

SUPPLEMENTS
Instructor Resources
DATA STRUCTURES AND ALGORITHMS IN C++, INTERNATIONAL EDITION, 4E
Adam Drozdek

©2013
74 pages

Experienced author Adam Drozdek highlights the fundamental connection between data structures and their algorithms, giving equal weight to the practical implementation of data structures and the theoretical analysis of algorithms and their efficiency. It provides the balance of theory and practice students need to excel in a variety of applications in a modern, object-oriented paradigm.

NEW TO THIS EDITION
- New sections in this edition discuss additional sorting methods (Sections 9.1.3.1; 9.3.6), while coverage of a new hashing technique (Section 10.5.1) demonstrates how to more efficiently index and retrieve items in a database.

FEATURES
- New coverage in this edition thoroughly introduces treaps (Section 6.10), details both k-d trees (Section 6.11) and k-d B-trees (Sections 7.1.5), and explains generational garbage collection (Section 12.3.4).
- Dynamic case studies in most of this edition’s chapters further highlight key concepts while providing insights into a broad range of practical data structures implementation.
- This edition’s well-developed theoretical analysis centers on both the complexity and efficiency of algorithms to help you cultivate your students’ strong abstract-thinking skills with an approach that enables you to seamlessly integrate algorithms into your course.
- Manageable examples of C++ code throughout this edition reinforce the practical importance of data structures as readers work to design, implement, test, or maintain virtually any software system.

CONTENTS

SUPPLEMENTS
Instructor Resources
Data Structures Using C++,
D.S. Malik

July 2009
976 pages

KEY FEATURES
• Designed for a CS2 one-semester course focused on data structures.
• Reinforces concepts through extensive diagrams and examples.
• Features complete Programming Examples throughout that outline the critical steps to writing a program for a case study including Input/Output, Algorithm Design, Main Algorithm, and Complete Program.
• Offers robust end-of-chapter exercises that provide ample opportunity for practice.

CONTENTS
Software Engineering Principles and C++ Classes. Object-Oriented Design (OOD) and C++.

SUPPLEMENTS
Instructor Resources

Data Structures: A Pseudocode Approach Using C,
Second Edition
Richard F. Gilberg & Behrouz A. Forouzan
ISBN: 978-0-534-39080-8
October 2004
672 pages
Understanding Operating Systems, Seventh Edition
Ann McIver McHoes & Ida M. Flynn

©2014
608 pages

Now in its Seventh Edition, UNDERSTANDING OPERATING SYSTEMS continues to provide a clear and straightforward explanation of operating system theory and practice. As in previous editions, the book’s highly regarded structure begins with a discussion of fundamentals before moving on to specific operating systems. Fully updated, this new edition includes expanded analysis of the impact on operating systems of such innovations as multi-core processing and wireless technologies. Revised Research Topics in the exercise section encourage independent student research. The final four chapters have been updated to include information on current versions of UNIX (including the latest Macintosh OS), Linux, and Windows, and a new chapter on Android has been added.

NEW TO THIS EDITION
• Spotlight on 16 industry innovators (one per chapter) and how their accomplishments have furthered the field of computer science add a human perspective to the technical content.
• Exercises throughout the text have been expanded and updated, and now focus more on relating the content to the student’s real-world experience.
• Both of these operating systems have made this feature readily accessible to everyone.

KEY FEATURES
• A classic Computer Science textbook that is fully up to date with current technology and contemporary operating system theory.
• Covers the fundamentals of operating systems: what they are, what they do, how they function, how they can be evaluated, and how they compare with one another.
• Technical topics are discussed in everyday language, allowing students to grasp such complexities as standalone vs. networked computing systems.
• A discussion of specific operating systems, including Windows, Linux, and UNIX as well as Android and iOS, illustrates for students how operating system theory is put into practice.
• Thorough revisions in every chapter cover the latest technologies.
• A brand-new chapter on Android operating systems discusses the unique challenges posed when running mobile devices.
• Additional coverage of graphic passwords appears in Part I and is discussed in more detail in the Windows and Android chapters in Part 2;

ABOUT THE AUTHOR
Ann McIver McHoes has been writing about computers for 25 years. She co-authored, with the late Ida M. Flynn, the first four editions of Understanding Operating Systems and is now sole author of this classic textbook, which has received awards for excellence from the Text and Academic Authors Association. She teaches at Duquesne University and has also taught business and computer science classes at Chatham University and Carlow University.

CONTENTS
Introductory Chapter.
Part I: OPERATING SYSTEMS CONCEPTS.
1. Introducing Operating Systems.
3. Memory Management: Virtual Memory Systems.
4. Processor Management.
7. Device Management.
10. Management of Network Functions.
Part II: OPERATING SYSTEMS IN PRACTICE.
13. UNIX Operating Systems.
15. Linux Operating Systems.
Appendix A: Algorithms.
Appendix B: ACM Code of Ethics and Professional Conduct.

SUPPLEMENTS
Instructor Resources
This book is intended for use in an undergraduate course on computer organization for computer science and computer engineering majors. The depth and breadth of coverage of its contents are suitable not only for academic teaching in colleges and universities, but also for reading and reference by computer professionals and specialists. The book features an analytical approach to all aspects of modern computer design—the design of all major functional units of a computer is learned by way of the analysis of their characteristics. It presents the detailed design process of these functional units and especially their interconnection to construct the datapath and the control unit of a computer. The last chapter of the book pushes this approach further to the design of the contemporary high-performance pipelined processor.

KEY FEATURES

- Clarifies the concepts taught in each section using worked examples in each chapter.
- Allows instructors to assess the level of understanding of their students with end-of-chapter questions and problems.
- Includes the latest topics in the field of computer organization, such as solid-state drives and multi-core architecture.
- Supports the teaching of this course with ancillaries such as Instructor’s Solutions Manual and PowerPoint slides.

1. Introduction
2. The Representation of Information in a Computer
3. Logic Design of Combinational Circuits
4. Logic Design of Sequential Circuits
5. The Arithmetic Logic Unit
6. Complex Arithmetic Operations
7. Instruction Set Architecture
8. The Central Processing Unit
9. The Control Unit
10. Primary Memory
11. Input/Output
12. Pipelining
Ethics in a Computing Culture
William ‘Bo’ John Brinkman & Alton ‘Al’ F. Sanders

©2013
512 pages

ETHICS IN A COMPUTING CULTURE introduces key ideas in moral theory and professionalism to explore the hottest topics in computer ethics. With a unique blend of theory, application, and critical thinking exercises, each chapter underscores the interdisciplinary links between computing and diverse areas of study. Abundant multicultural cases are presented throughout to highlight contrasts and conflicts in ethical perspectives across the globe.

KEY FEATURES
- Focus on reflection - Decades of educational research show that critical reflection, through both reading and writing, are key to student cognitive development. ETHICS IN A COMPUTING CULTURE allows instructors to easily put this approach into practice.
- Question types relate directly to critical thinking rubrics (e.g. the WSU critical thinking rubric) - Research questions focus on evidence (WSU level 5), Position questions focus on formulating positions (WSU level 2), and Context questions focus on the effects of changing context (WSU level 6). Instructors can easily map our questions onto existing evaluation frameworks, making data collection for ABET evaluations simpler.
- Diverse perspectives in every chapter - Many universities are requiring global topics in general education courses. ETHICS IN A COMPUTING CULTURE contains diversity-oriented or multicultural cases in every chapter.
- Interdisciplinary perspectives in every chapter - Computing is inherently interdisciplinary. Every chapter includes interdisciplinary cases to illustrate the links between computing and other disciplines.

CONTENTS

SUPPLEMENTS
Instructor Resources

ABOUT THE AUTHORS
William ‘Bo’ John Brinkman, II
Bo Brinkman is an Associate Professor of Computer Science and Software Engineering at Miami University in Oxford, Ohio. He has received best paper awards for his work in computer ethics and algorithms and was published in the prestigious Journal of the ACM. His recent work on the ethical implications of augmented reality has been featured on the blogs of the Chronicle of Higher Education, Fast Company, and Read Write Web. Follow Bo on Twitter @EiaCC for the latest updates.

Alton ‘Al’ F. Sanders
Alton F. Sanders began his computer career in 1963. He has worked as a software developer, software consultant, system manager, and university professor. Sanders has received numerous teaching awards, and in addition to his technical publications, has published papers exploring computer ethics and software engineering issues with an ethical impact. He is now Professor Emeritus of Computer Science and Software Engineering at Miami University in Oxford, Ohio.

Michael Sipser

©2013
504 pages

The number one choice for today’s computational theory course, this revision continues the book’s well-known, approachable style with timely revisions, additional practice, and more memorable examples in key areas. A new first-of-its-kind theoretical treatment of deterministic context-free languages is ideal for a better understanding of parsing and LR grammars. You gain a solid understanding of the fundamental mathematical properties of computer hardware, software, and applications with a blend of practical and philosophical coverage and mathematical treatments, including advanced theorems and proofs.

KEY FEATURES
- Current revisions reflect the latest industry developments with new examples and exercises to ensure comprehension.
- Additional exercises, problems and examples emphasize the practical application of theory.
- Expanded math topics offers support for readers who need review.
- New coverage of deterministic context-free languages provides unique, clear and thorough explanation.
- This edition’s exceptional treatment of challenging topics incorporates both formal and informal definitions and descriptions of methods to ensure student retention and prepare readers for more advanced study.
- Worked-out examples encourage reader understanding.
- Reader-friendly approach makes even the most complex topics approachable for students at all levels.

CONTENTS

SUPPLEMENTS
Instructor Resources
Transparent Computing: Concepts, Architecture, and Implementation

Yuezhi ZHOU and Yaoxue ZHANG

©2010
376 pages

With the rapid development of computers, the computing paradigms also witness continuous evolutions which have fundamentally changed our work and lifestyles. Today's computer systems still demand too much “attention” from people and thus keep the vision of “disappearance of technology” only a dream. Reasons for such problems should be analyzed and new computing architectures and paradigms developed. Transparent computing, based on recent developments of computer and network technologies, introduces new ideas and solutions to the blueprint of service-sharing computing.

This book offers a systematic discussion on the ideas and concept behind transparent computing based on the analysis of computer evolution and computing paradigms, their problems and related causes of traditional computing paradigms, and the underlying von Neumann architecture. It then proceeds to propose a new spatio-temporally extended von Neumann architecture based upon “network thinking,” and a new computing paradigm based on such new architecture—transparent computing. It also further elaborates on the meta operating system (e.g., 4VP+), the method to realize transparent computing in local area network environments.

KEY FEATURES
- Presents and summarizes the work of the authors, who have researched in ubiquitous/pervasive computing and transparent computing since 2000.
- Proposes “transparent computing”, a new computing paradigm which decouples software from the underlying hardware, and lets users freely select and run various operating systems on demand as services from any computing devices at any time.
- Introduces the meta operating system, and its implementation through 4VP+, the interactive protocols and virtualization layers to implement the functions of meta operating system.
- Provides application examples of transparent computing system, and discusses the future development of this new concept in the last two chapters.

CONTENTS
1. Introduction.
2. Ubiquitous/Pervasive Computing and Transparent Computing.
11. Future Development.

Dan R. Olsen, Jr.

January 2009
672 pages

This innovative text focuses on the architectures, mathematics, and algorithms that are integral to creating reliable user interfaces. The first sixteen chapters cover the concepts required for current graphical user interfaces, including specific emphasis on the Model-View-Controller architecture. The second part of the book provides an overview of key research areas in interactive systems, with a focus on the algorithms required to implement these systems. Using clear descriptions, equations, and pseudocode, this text simplifies and demystifies the development and application of a variety of user interfaces.

KEY FEATURES
- Intended for an upper-division or graduate course in computer graphics.
- Offers coverage of event-handling techniques and how they integrate with modern development environments.
- Discusses architectures for implementing both simple and complex interactive components.
- Includes an extensive appendix that covers many of the algorithms and mathematics referenced in the text.
- Provides various techniques for text entry and discusses their comparative advantages in different situations.

CONTENTS

ABOUT THE AUTHOR
Dr. Dan Olsen
Dr. Dan Olsen has been researching in interactive technologies for 30 years. He has done work in generating interactive systems, network-based interaction, human-robot interaction, and portable devices. He is the founding editor of ACM's Transactions on Computer Human Interaction and has received a number of awards for his service and research in the field. He was the Director of the Human-Computer Interaction Institute at Carnegie Mellon University and is currently a Professor of Computer Science at Brigham Young University.
This book gives advanced undergraduate students an overview of programming languages through general principles combined with details about many modern languages. Major languages used in this edition include C, C++, Smalltalk, Java, Ada, ML, Haskell, Scheme, and Prolog; many other languages are discussed more briefly. The text also contains extensive coverage of implementation issues, the theoretical foundations of programming languages, and a large number of exercises, making it the perfect bridge to compiler courses and to the theoretical study of programming languages.

KEY FEATURES
• Overview of the history of programming languages, and introduces the idea of abstraction and the concept of different language paradigms.
• Covers syntax in some detail, including the use of BNF, EBNF, and syntax diagrams.
• Covers the central semantic issues of programming languages.
• Overview of modules and abstract data types, including language mechanisms for equational, or algebraic, specification.
• Introduces the three principal methods of formal semantics: operational, denotational, and axiomatic.
• NEW! The chapter on object-oriented programming is now the last of the three chapters on programming paradigms instead of the first one. The order of these chapters now reflects the increasing complexity of the underlying models of computation of each programming paradigm (functions, logic, objects).
• NEW! Object-oriented programming in Chapter 5 is now introduced with Smalltalk rather than Java.

CONTENTS
1. Introduction.
2. Language Design Criteria.
3. Functional Programming.
4. Logic Programming.
5. Object-Oriented Programming.
7. Basic Semantics.
8. Data Types.
10. Control II – Procedures and Environments.
11. Abstract Data Types and Modules.
13. Parallel Programming.

SUPPLEMENTS
Instructor Resources

www.cengageasia.com
Building Parallel Programs: SMPs, Clusters, and Java, International Edition
Alan Kaminsky

ISBN: 978-0-538-78605-8
February 2009
632 pages

KEY FEATURES
• Clear, contemporary approach that emphasizes the leading programming language, Java. Students learn how to create complete, working parallel programs that enable them to run programs across several computers and test many versions of one problem simultaneously.
• Covers the key techniques for successful parallel programming on SMPs and clusters, today’s primary categories of parallel computers. No other text leaves students as well prepared for parallel programming success in today’s modern computing environment.
• Gives students hands-on practice with programs written in Java as they use the author-developed Java class library, Parallel Java. This tool is ideal for Java programmers just beginning to program in parallel.

CONTENTS

SUPPLEMENTS
Instructor Resources
From the respected instructor and author Paul Addison, PRINCIPLES OF PROGRAM DESIGN: PROBLEM SOLVING WITH JAVASCRIPT, International Edition gives your students the fundamental concepts of good program design, illustrated and reinforced by hands-on examples using JavaScript. Why JavaScript? It simply illustrates the programming concepts explained in the book, requires no special editor or compiler, and runs in any browser. Little or no experience is needed because the emphasis is on learning by doing. There are examples of coding exercises throughout every chapter, varying in length and representing simple to complex problems. Students are encouraged to think in terms of the logical steps needed to solve a problem and can take these skills with them to any programming language in the future. To help reinforce concepts for your students, each chapter has a chapter summary, review questions, hand-on activities, and a running case study that students build on in each chapter.

**KEY FEATURES**

- Early OOP and GUI introduction: This book presents object-oriented programming and graphical user interfaces, with hands-on examples, in Chapter 3. An optional project, called the Object Lesson, is included at the end of each subsequent chapter, which applies traditional programming concepts from the chapter to OOP and GUI applications.
- Direct application of concepts: Problem solutions are developed in pseudo code and converted to JavaScript in each chapter, so that students get to see programming concepts put into action.
- Good programming practices: Students are encouraged to develop good techniques and habits, and follow prescribed conventions and styles, including program documentation, comments in code, and consistent indentation and naming procedures.

**CONTENTS**

1. The Craft of Programming.
2. The JavaScript Language.
3. Objects, Events, and Graphical User Interfaces.
4. The Sequence Structure.
5. The Selection Structure.
6. The Repetition Structure.
7. Complex Conditions.
8. Modules and Functions.
9. Menus and Data Validation.
10. Arrays.
11. Building Programs.
12. Sorting Data.
13. Recursion.

**SUPPLEMENTS**

Instructor Resources
Programming Logic and Design, Comprehensive, Eighth Edition

Joyce Farrell

©2015
704 pages

This fully revised eighth edition of Joyce Farrell’s PROGRAMMING LOGIC AND DESIGN: COMPREHENSIVE prepares student programmers for success by teaching them the fundamental principles of developing structured program logic. Widely used in foundational Programming courses, this popular text takes a unique, language-independent approach to programming, with a distinctive emphasis on modern conventions. Noted for its clear, concise writing style, the book eliminates highly technical jargon while introducing universal programming concepts and encouraging a strong programming style and logical thinking.

KEY FEATURES
• Unique language-independent approach provides a solid foundation in programming logic.
• Business-based examples clearly illustrate key points.
• Wealth of proven practice opportunities keeps students engaged and actively learning.
• Flexible text approach makes it ideal for using the book alone or paired with a language-specific companion text.
• Flowchart Debugging Exercises now supplement the popular text-based Debugging Exercises.
• Mobile Apps are discussed, with an emphasis on how learning structured logic is fundamental to their development.
• CourseMate online resources provide interactive learning, study, and exam preparation tools.

CONTENTS
Chapter 2: Elements of High-Quality Programs.
Chapter 3: Understanding Structure.
Chapter 4: Making Decisions.
Chapter 5: Looping.
Chapter 6: Arrays.
Chapter 7: File Handling and Applications.
Chapter 8: Advanced Data Handling Concepts.
Chapter 9: Advanced Modularization Techniques.
Chapter 10: Object-Oriented Programming.
Chapter 12: Event-Driven GUI Programming, Multithreading, and Animation.
Chapter 13: System Modeling with the UML.
Chapter 14: Using Relational Databases.
Appendix A: Understanding Numbering Systems and Computer Codes.
Appendix B: Solving Difficult Structuring Problems.
Appendix C: Creating Print Charts.
Appendix D: Two Variations on the Basic Structures—case and do-while.

SUPPLEMENTS
Instructor Resources
CourseMate
Programming Logic and Design, Introductory, Eighth Edition

Joyce Farrell

©2015
384 pages

This fully revised eighth edition of Joyce Farrell's PROGRAMMING LOGIC AND DESIGN: INTRODUCTORY prepares student programmers for success by teaching them the fundamental principles of developing structured program logic. Widely used in foundational Programming courses, this popular text takes a unique, language-independent approach to programming, with a distinctive emphasis on modern conventions. Noted for its clear, concise writing style, the book eliminates highly technical jargon while introducing universal programming concepts and encouraging a strong programming style and logical thinking.

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Chapter 7: File Handling and Applications.
Appendix A: Understanding Numbering Systems and Computer Codes.
Appendix B: Solving Difficult Structuring Problems.
Appendix C: Creating Print Charts.
Appendix D: Two Variations on the Basic Structures—case and do-while.

SUPPLEMENTS
Instructor Resources
Just Enough Programming Logic and Design, Second Edition
Joyce Farrell

©2013
312 pages

Find exactly what you need to master the fundamentals of programming logic with the concise JUST ENOUGH PROGRAMMING LOGIC AND DESIGN, 2E. This unique, language-independent introduction to programming logic provides seven chapters focused on key programming and logic content in a direct, efficient format that helps you progress through the subject matter quickly. Everyday examples and clear explanations in a streamlined presentation make this a perfect choice even if you have no prior programming experience. Twenty-five brief new videos from the author expand on and clarify topics, while new Debugging Exercises and a wealth of review and programming exercises in each chapter help you hone your skills.

CONTENTS

SUPPLEMENTS
Instructor Resources

Joyce Farrell

ISBN: 978-1-133-18823-0
©2013
560 pages

This book takes a unique, language-independent approach to ensure readers develop a strong foundation in traditional programming principles and object-oriented concepts before learning the details of a specific programming language. The author presents object-oriented programming terminology without highly technical language, making the book understandable even for readers with no previous programming experience. Common business examples and carefully revised chapters clearly illustrate key points. A wealth of updated programming exercises in every chapter provide diverse practice opportunities, while new Video Lessons expand on key topics. Use this book alone or with a language-specific companion that emphasizes C++, Java or Visual Basic.

CONTENTS

SUPPLEMENTS
Instructor Resources
Java Programs to Accompany Programming Logic and Design, Eighth Edition

Jo Ann Smith

©2015
224 pages

CONTENTS
Chapter 1: An Introduction to Java and the Java Programming Environment.
Chapter 2: Variables, Constants, Operators, and Writing Programs Using Sequential Statements.
Chapter 3: Writing Structured Java Programs.
Chapter 4: Writing Programs That Make Decisions.
Chapter 5: Writing Programs Using Loops.
Chapter 6: Using Arrays in Java Programs.
Chapter 7: File Handling and Applications.
Chapter 8: Advanced Array Techniques.
Chapter 9: Advanced Modularization Techniques.
Chapter 10: Additional Topics

Microsoft® Visual Basic® Programs to Accompany Programming Logic and Design, Eighth Edition

Jo Ann Smith

208 pages

CONTENTS
Chapter 1: An Introduction to Visual Basic and the Visual Basic Programming Environment.
Chapter 2: Variables, Constants, Operators, and Writing Programs Using Sequential Statements.
Chapter 3: Writing Structured Visual Basic Programs.
Chapter 4: Writing Programs That Make Decisions.
Chapter 5: Writing Programs Using Loops.
Chapter 6: Using Arrays in Visual Basic Programs.
Chapter 7: File Handling and Applications.
Chapter 8: Advanced Array Techniques.
Chapter 9: Advanced Modularization Techniques.

C++ Programs to Accompany Programming Logic and Design, Eighth Edition

Jo Ann Smith

©2013
224 pages

CONTENTS
Chapter 1: An Introduction to C++ and the C++ Programming Environment.
Chapter 2: Variables, Constants, Operators, and Writing Programs Using Sequential Statements.
Chapter 3: Writing Structured C++ Programs.
Chapter 4: Writing Programs That Make Decisions.
Chapter 5: Writing Programs Using Loops.
Chapter 6: Using Arrays in C++ Programs.
Chapter 7: File Handling and Applications.
Chapter 8: Advanced Array Techniques.
Chapter 9: Advanced Modularization Techniques.
Chapter 10: Object Oriented C++.

Bundle these supplements with Farrell's Programming Logic and Design, Comprehensive or Introductory editions
Help Your Students Understand The Logic Of Programming

Visual Logic is a simple but powerful tool for teaching programming logic and design without traditional high-level programming language syntax. It uses flowcharts to explain essential programming concepts, including variables, input, assignment, output, conditions, loops, procedures, graphics, arrays, and files.

KEY FEATURES

• Offers the ability to interpret and execute flowcharts, providing students with immediate and accurate feedback about their solutions.
• Combines the power of a high-level language with the ease and simplicity of flowcharts.
• Can be used with a number of Course Technology programming books, particularly those designed for an early course in programming in which students are learning concepts and fundamentals, using flowcharts.

For a demonstration and FAQs, visit www.visuallogic.org

A Guide to Working with Visual Logic

Thad Crews

ISBN: 978-0-324-60119-0
August 2008
140 pages
Alice in Action with Java™, Second Edition

Joel Adams

ISBN: 978-1-133-58918-1
©2015
640 pages

This 14-chapter text uses a combination of Alice 3 and pure Java to introduce beginning students to object-oriented (OO) programming concepts. Originally developed to eliminate barriers that have traditionally prevented many students from successfully learning to program, Alice 3, the latest release, makes it easy to build 3D animations using models from the popular Sims™ games, while eliminating syntax errors. The text employs a “spiral” pedagogical approach: the first six chapters use Alice’s innovative drag-and-drop environment to introduce OO concepts through the medium of computer animation, while the final eight chapters use pure Java to revisit and expand on those same concepts.

KEY FEATURES
• Uses Java syntax throughout in order to seamlessly transition from Alice 3 to Java.
• Designed as a full core text for an introductory programming course.
• Features full coverage of object-oriented features—including classes, class hierarchies, and inheritance-- in both Alice 3 and Java.
• Examples throughout the first six chapters are based on Alice 3’s professionally created Sims™ models, donated by Electronic Arts; examples in the final eight chapters have been updated to the latest version of Java.
• Introduces coverage of the NetBeans IDE, including how to open Alice 3 projects in NetBeans.

CONTENTS
1. Getting Started with Alice.
3. Variables and Expressions.
5. Arrays.
6. Events.
7. From Alice to Java
8. Types and Expressions
9. Methods
10. Flow Control in Java
11. Files and Exceptions
12. Arrays and Lists in Java
13. Object-Oriented Programming
14. Events and GUIs
Appendix A. Alice Standard Methods and Functions.
Appendix B. Recursion.
Appendix C. NetBeans
Appendix D. Java Keywords
Appendix E. Unicode Basic Latin Character Set.

SUPPLEMENTS
Instructor Resources
Alice 3 in Action: Computing Through Animation

Joel Adams

ISBN: 978-1-133-58922-8
©2015
280 pages

This brief six-chapter supplementary book uses Alice - the popular 3D virtual reality computer programming system for teaching that reduces the syntax and eliminates many of the common barriers to programming success. Alice and ALICE 3 IN ACTION: COMPUTING THROUGH ANIMATION, 2E make programming both simple and fun. Even beginning students instantly see the possibilities and rewarding results of programming, which is the first step in encouraging further study in this exciting field!

KEY FEATURES

• This supplementary book helps students create a dynamic and exciting first exposure to computer programming while ensuring they clearly grasp object-oriented concepts.
• This book uses Alice, today’s popular tool that teaches programming techniques in a visually rich environment that’s less syntax-intensive to eliminate many of the barriers to programming success.
• Examples throughout the book are based on Alice 3’s professionally created Sims™ models, donated by Electronic Arts.
• Extensive examples, fascinating images, and intriguing end-of-chapter projects help emphasize programming skills and strength your students’ mastery of programming basics.

CONTENTS

1. Getting Started with Alice.
3. Variables and Expressions.
5. Arrays.
6. Events
Appendix A. Alice Standard Methods and Functions.
Appendix B. Recursion.
Appendix C. NetBeans.

ABOUT THE AUTHOR

Joel Adams

Joel Adams, a Professor of Computer Science at Calvin College in Grand Rapids, Michigan, has taught undergraduate computer science since 1984. He spends each July directing the Imaginary Worlds Camp, an animation camp for middle and high school students. Professor Adams is an ACM Distinguished Educator and a two-time Fulbright Scholar; he spent the Fall 2005 semester at Carnegie Mellon as a member of the Alice team.
ABOUT THE AUTHOR
Charles W. Herbert
Charles W. Herbert has been teaching Computer Science and Computer Information Systems at Community College of Philadelphia since 1984, where he has served as the Chair of the CIS Department, Director of Computer Science, and Director of Technical Education. He has worked extensively as a professional programmer. Using his background in curriculum development, he is currently a Principal Investigator for an NSF funded team exploring the use of virtual reality programming in community college computing courses. He is the co-author of Alice 2.0: Introductory Concepts and Techniques.

AN INTRODUCTION TO PROGRAMMING USING ALICE 2.2, 2e, International Edition provides students with a solid introduction to concepts of programming, logic, and related mathematics through the use of Alice, a proven tool for motivating beginning programmers. This new edition has been fully updated to take advantage of the new movie making, virtual reality, and gaming capabilities of Alice 2.2. All chapters are supported with robust exercise sets and visual diagrams.

KEY FEATURES
• Motivates beginning programmers through a highly visual method, allowing students to see their work come to life.
• Includes colorful graphics, screen shots, and examples that illuminate programming concepts.
• Presents an approachable step-by-step pedagogy with numerous accompanying screenshots, creating the ideal learning experience for new programmers.
• New! Fully updated for the latest release of Alice, version 2.2.
• New! Includes two new chapters on Gaming and Movies.
• New! Coverage of recursion and data structures has been simplified and integrated into a single chapter.

CONTENTS
1. Introduction.
3. Events.
5. Boolean Logic.
7. Movies.
8. Games.

SUPPLEMENTS
Instructor Resources

Joyce Farrell

©2014
976 pages

With JAVA PROGRAMMING, 7E, International Edition even first-time programmers can quickly develop useful programs while learning the basic principles of structured and object-oriented programming. The text explains concepts clearly and reinforces the reader-friendly presentation with meaningful real-world exercises. Full programming examples emphasize learning in context. Updated “You Do It” sections, all-new programming exercises, and new continuing cases help students build skills critical for ongoing programming success. Find additional tools to equip beginning programmers with a solid foundation in Java programming in the optional CourseMate with Video Lessons created by the text author.

NEW TO THIS EDITION
• “You Do It” step-by-step programming exercises reinforce key topics from the chapter in a brief and manageable form. Students focus on mastering one new concept at a time as they engage in experiences that lead to success.
• Each chapter highlights two running Case Problems featuring projects that continue to grow throughout the semester, requiring readers to apply concepts learned in each new chapter.
• Each chapter contains several new programming exercises not seen in previous editions.

KEY FEATURES
• Each chapter begins with a list of objectives so that you and your students can review the topics presented in the chapter at a glance.
• Each chapter includes numerous figures to further clarify key content. Code figures are frequently 25 lines long or shorter, illustrating one concept at a time.
• Every complete program shown in this edition is included in a file. Students can run and modify these programs in order to experiment with the programming language.

CONTENTS

SUPPLEMENTS
Instructor Resources

ABOUT THE AUTHOR
Joyce Farrell
Joyce Farrell has authored a wide variety of successful programming textbooks recognized for their clear, direct writing style and effective presentation. In addition to this text, she has written PROGRAMMING LOGIC AND DESIGN, 7E; AN OBJECT-ORIENTED APPROACH TO PROGRAMMING LOGIC AND DESIGN; JAVA™ PROGRAMMING; and OBJECT-ORIENTED PROGRAMMING USING C++. A well-respected instructor, Farrell has taught Computer Information Systems at Harper College in Palatine, Illinois. She has also taught at the University of Wisconsin at Stevens Point and McHenry County College in Crystal Lake, Illinois.
Diane Zak

©2013
768 pages

The book’s exceptional visually-driven presentation helps clarify concepts with useful IPO charts, flowcharts and code examples throughout. New videos and PDF files for each chapter demonstrate how readers can complete exercises using various compilers. To ensure professional success, Microsoft® Visual Studio 2012® is available as an optional bundle, guiding readers in using quality code throughout the entire application lifecycle.

NEW TO THIS EDITION
- Now your students can learn how to complete exercises throughout the text using various compilers with helpful new PDF files available for download on cengagebrain.com.
- A full chapter is devoted to Classes and Objects in this edition. New appendices list common syntax errors and guide students to the helpful How To boxes throughout for a clean, easy-to-use presentation.

KEY FEATURES
- Known for its functional visual style, this edition makes extensive use of flowcharts, IPO charts, and code examples throughout each chapter to clarify and illustrate key concepts at a glance.
- A wide variety of practical exercises, labs, mini-quizzes, and contemporary examples to keep readers involved and enthusiastic about programming concepts.
- All end-of-chapter exercises are leveled and clearly identified to guide reader practice.

CONTENTS

SUPPLEMENTS
Instructor Resources

Joyce Farrell

ISBN: 978-0-538-74709-7
June 2008
752 pages

Barbara Doyle

©2014
1088 pages

This insightful introductory book highlights the latest Visual Studio® 2012 and C# 4.0 software with a unique, principles-based approach to give readers a deep understanding of programming concepts. Respected author Barbara Doyle admirably balances principles and concepts, offering just the right amount of detail to create a strong foundation for beginning students. A straightforward approach and understandable vocabulary make it easy for readers to grasp new programming concepts without distraction. The book introduces a variety of fundamental programming concepts, from data types and expressions to arrays and collections, all using the popular C# language.

NEW TO THIS EDITION
• Up-to-the-minute coverage and new figures throughout this edition clearly illustrate all aspects of the Visual Studio® 2012 UI, while a special new appendix highlights its key features. The author employs the latest version of the C# language to introduce a variety of basic programming concepts, from data types and expressions to arrays and collections.
• The author has revised key chapters to effectively present exceptions. These principles are introduced earlier in the book and are also integrated in engaging examples, projects and programming exercises throughout the entire text.
• While this edition assumes no prior programming knowledge, coverage explores a number of advanced software topics, including portable class libraries used to create applications for platforms such as Windows® Phone.
• Redesigned programming exercises at the end of each chapter in this edition provide important opportunities for readers to apply the principles they’re learned using Visual Studio® 2012.

CONTENTS

SUPPLEMENTS
Instructor Resources

Joyce Farrell

©2014
848 pages

Guide today's beginning programmers in the fundamentals of the C# language with Farrell's MICROSOFT® VISUAL C# 2012: AN INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING, 5E, International Edition. Approachable examples and a clear, straightforward pedagogy help readers establish a strong background in both structured and object-oriented programming concepts, introducing critical skills that are easily transferrable to other programming languages. The latest edition of this book incorporates the most recent versions of both C# and Microsoft® Visual Studio® 2012 to ensure students have the contemporary skills necessary for professional success.

NEW TO THIS EDITION
• This edition is written and tested using the latest versions of C# and Microsoft® Visual Studio® 2012 to ensure readers have the most up-to-date skills for professional success.
• Each chapter highlights two running Case Problems featuring projects that continue to grow throughout the semester, requiring readers to apply concepts learned in each new chapter.
• Each chapter contains several new programming exercises not seen in previous editions.
• Many of the debugging exercises in this edition are now revised to emphasize and prepare students to detect and correct faulty logic in addition to problems in syntax.

KEY FEATURES
• Detailed step-by-step programs encourage readers to analyze, test, and modify code written by others.

CONTENTS

SUPPLEMENTS
Instructor Resources

www.cengageasia.com

Diane Zak

©2014
592 pages

CLEARLY VISUAL BASIC: PROGRAMMING WITH MICROSOFT® VISUAL BASIC 2012, 3E by best-selling programming author Diane Zak uses a simple, proven, step-by-step approach that’s ideal for readers learning a first programming language. Clear, brief chapters introduce the latest Visual Basic 2012 in small, manageable segments without cumbersome technical jargon. This easy-to-follow book focuses on the fundamentals, emphasizing broader Visual Studio 2012 methods rather than specific Visual Basic functions, to ensure readers master essential programming skills that can easily transfer to other languages.

NEW TO THIS EDITION
• This edition explores the most important updates to Microsoft® Visual Studio® 2012. All code examples are presented using Windows 8 and have been thoroughly tested using both Windows 7 and 8.
• This edition clearly illustrates and clarifies concepts with vivid examples throughout each chapter drawn directly from business today.
• Ten updated Review Questions in every chapter, as well as numerous new exercises to provide extra choices for applications and study.

KEY FEATURES
• Most chapters in this concise edition are less than 25 pages, focusing on the key concepts for Visual Basic success.
• Each chapter contains a diverse assortment of exercises that feature various types of practice in a range of difficulty. This breadth ensures all types of learners have the opportunity to practice key programming skills.

CONTENTS

SUPPLEMENTS
Instructor Resources

Diane Zak

©2014
928 pages

PROGRAMMING WITH MICROSOFT® VISUAL BASIC 2012, 6E, International Edition by best-selling author Diane Zak is the ideal choice for your introduction to programming course. Students learn to master the basics of effective programming as they work through a wealth of hands-on applications in this book’s engaging real-world setting. Numerous learning features address today’s varied learning styles with an approachable visual presentation, helpful step-by-step tutorials, and engaging “You Do It” activity boxes.

NEW TO THIS EDITION
• This edition explores the most important updates to Microsoft® Visual Studio® 2012, from easily writing asynchronous code to utilizing caller information to simplify tracing and debugging. All code examples are presented using Windows 8 and have been thoroughly tested using both Windows 7 and 8.
• Many examples and exercises in each chapter are all-new or have been thoroughly revised, giving your students ample opportunity for hands-on practice.

KEY FEATURES
• Exercises are clearly differentiated as Introductory, Intermediate, and Advanced for your convenience. Students can also practice skills with Discovery exercises and fun “Swat The Bugs.”
• Students gain a thorough understanding of maximizing breakpoints as a powerful tool for debugging programs. The book also guides readers in stepping through code to ensure precision in programming.
• Stunning, effective interior design adds excitement and visually guides students as they master today’s Visual Basic concepts and skills.
• Engaging, trackable, and affordable, CourseMate offers a variety of interactive quizzes, flashcards, videos, and an interactive eBook to address students’ varied learning styles and help them review for tests and prepare for class. You can assess student engagement in your course using the CourseMate’s Engagement Tracker.

CONTENTS

SUPPLEMENTS
Instructor Resources

ABOUT THE AUTHOR
Diane Zak
Diane Zak’s programming textbooks are known for their friendly and readable style, providing a pleasant, uncomplicated learning experience. She crafts each of her textbooks carefully, always with the student in mind. Diane Zak holds a Bachelor of Science degree in Computer Information Systems, a Bachelor of Science degree in Accounting, and a Master of Arts degree in Adult and Continuing Education. She has taught at various computer training centers and was most recently a professor at College of DuPage in Illinois.
Pairing fundamental programming concepts with both business applications and fun and engaging game applications, the fully revised fifth edition of *MICROSOFT VISUAL BASIC 2012: RELOADED* provides a solid foundation in programming principles and how to use them. The book begins by covering the basics, from creating user interfaces to understanding variables, constants, and calculations. Building on this knowledge, coverage progresses to more advanced topics, such as manipulating and querying a Microsoft Access database, creating Web applications, and creating classes and objects.

**KEY FEATURES**
- Two Programming Tutorials at the end of each chapter provide step-by-step instructions for applying chapter concepts to business and game applications, engaging and motivating students.
- "How-To" boxes highlight important concepts and how those concepts are effectively applied.
- Mini-quizzes placed strategically in each chapter test student knowledge at key points. Answers to the questions are provided in Appendix A.
- Full applications that include both the user interface and all code teach students coding principles in the context of the larger application.
- Each chapter contains elements designed specifically for each of the three distinct learning styles: video tutorials for visual and auditory learners, “Try It!” files for kinesthetic learners.
- New videos created by the author specifically for this edition clearly and succinctly present key concepts for visual and auditory learners.

**CONTENTS**
1. An Introduction to Visual Basic 2012.
2. Creating a User Interface.
3. Memory Locations and Calculations.
6. Repeating Program Instructions.
10. String Manipulation and Menus.
11. Structures and Sequential Files.
14. Creating Classes and Objects.

**SUPPLEMENTS**
**Instructor Resources**
CourseMate
Objective-C and iOS Programming: A Simplified Approach To Developing Apps for the Apple iPhone & iPad

Arshia Khan

©2015
524 pages

This timely and innovative new text meets the need for a concise, one-semester book that provides a thorough introduction to iOS and Objective-C programming and their practical application in developing iPhone apps. The unique nature of the text highlights and clarifies potentially challenging concepts by providing abundant examples, end-of-chapter summaries, programming problems of varying complexity, and a full hands-on project/lab together with its solution. The book facilitates not only iOS and Objective-C programming but also actual app development in one semester by focusing only on the topics required to develop basic apps.

KEY FEATURES
• Provides a comprehensive introduction to iPhone app development through dual coverage of Objective-C and iOS programming.
• Streamlines and simplifies challenging topics through numerous examples and focused, concise chapters that cover only the topics required to develop basic apps.
• Integrates business topics into the world of app development through dynamic case studies in each chapter.
• Includes hands-on labs in each chapter with step-by-step instructions.
• Designed for students with knowledge of at least one object-oriented programming language; no prior knowledge of iOS development is required.
• Offers a complete set of instructor supplements, including a solutions set, test bank, instructor’s manual, and PowerPoint slides.

CONTENTS
Part I: OBJECTIVE C.
1. Launching and Getting Started.
2. Variables, Constants, and Data Types.
3. Decisions and Conditions.
4. Looping.
5. Functions.

Part II: iOS PROGRAMMING.
8. Understanding and Implementing iOS Environment.
11. Table Views.
12. Tab Bar View and Picker View Controls.

SUPPLEMENTS
Instructor Resources

ABOUT THE AUTHOR
Arshia Khan
Arshia Khan is an Associate Professor at The College of St. Scholastica in Duluth MN. She has earned a Bachelor of Engineering in Computer Engineering, an M.S. in Computer Science, and a Ph.D. in Information Technology. Her current research interests include quality of healthcare, leading-edge teaching techniques, healthcare mobile app development, and innovative healthcare technology development.
The book offers an intensive, hands-on tutorial approach with clear, step-by-step instruction and numerous screen shots to guide readers efficiently through tasks with real-life app examples. Practical callouts and industry tips, exercises that extend learning beyond the book, and a variety of leveled cases and assignments help reinforce students’ understanding of programming logic and Java tools for Android. Effectively prepare student programmers to meet growing business demand for mobile apps with this engaging text.

KEY FEATURES
• This innovative text is specifically designed to help today’s CIS/Programming Department meet the rapidly growing demand for a new Mobile Applications course.
• Fully revised and updated to work with Jelly Bean and KitKat, the latest versions of Android.
• Features in-depth coverage of app design for tablets, ensuring students learn to work with a variety of mobile devices.
• Chapter 11 now focuses on persistent data, showing students how to save information that can be accessed by multiple activities.
• Bulleted step-by-step instructions help students work through chapter projects with greater ease and speed.

CONTENTS
1. Voila! Meeting the Android.
2. Simplify! The Android User Interface.
7: Reveal! Displaying Pictures in a GridView.
8: Design! Using a DatePicker on a Tablet
9: Customize! Navigating with Tabs on a Tablet App
10: Move! Creating Animation and Graphics.
11: Discover! Persistent Data.

SUPPLEMENTS
Instructor Resources

Corinne Hoisington

ISBN: 978-1-133-59439-0
©2013
240 pages

Gain a strong foundation in Java programming with the confidence and technical skills to build actual, successful mobile applications with ANDROID BOOT CAMP FOR DEVELOPERS USING JAVA™, INTRODUCTORY: A BEGINNER’S GUIDE TO CREATING YOUR FIRST ANDROID APPS. Written by award-winning technology author Corinne Hoisington, this book prepares readers with a thorough introduction to both Java™ and the secrets to creating effective mobile applications. It’s the ideal choice for readers who already have a little programming experience or are new to Java. The book offers a hands-on tutorial approach with clear, step-by-step instruction and numerous screen shots to guide readers through tasks efficiently. Learners gain a solid understanding of programming logic and Java tools for Android today and into the future.

KEY FEATURES
• Insightful new mobile applications text addresses today’s demands and tomorrow’s emerging technology needs.
• Award-winning author brings trusted, practical expertise to book’s presentation.
• Solid introduction to Java and building mobile applications emphasizes strong programming logic and critical java tools.
• Helpful callouts offer quick, practical tips invaluable both now and on-the-job.
• Practical learning features and exercises extend learning beyond the classroom.
• Precise case projects and leveled assignments ensure a variety of hands-on practice and learning opportunities.
• Hands-on tutorial approach provides step-by-step instruction.
• Valuable instructor support provides time-saving tools for your dynamic learning environment.

CONTENTS
1. Voila! Meeting the Android.
2. Simplify! The Android User Interface.
5. Investigate! Android Menus & Loop Structures.

SUPPLEMENTS
Instructor Resources

ABOUT THE AUTHOR
Corinne Hoisington

Corinne Hoisington is a professor at Central Virginia Community College in Lynchburg, VA with over 20 years of teaching experience. Professor Hoisington is the 2004 recipient of the Microsoft Most Valuable Professional in Computer Programming award. A dynamic speaker, she regularly presents on new technology and education trends to instructors across the United States.

www.cengageasia.com
Principles of Web Design: The Web Warrior Series, Sixth Edition

Joel Sklar

©2015
672 pages

PRINCIPLES OF WEB DESIGN, Sixth Edition, guides readers through the entire web site creation process, while developing and enhancing HTML, CSS, and visual design skills along the way. Now updated to include content on designing and delivering web content for smartphones and tablets, this Sixth Edition features all-new sections on HTML5, CSS3, and responsive design as well as technical updates and new screen shots throughout.

KEY FEATURES

• Discusses the latest HTML5 and CSS3 design trends, including building responsive web pages for smartphones and tablets.
• Full color! This allows users to see the truly visual nature of the example web sites used to illustrate web design principles.
• Updated code samples and hands-on activities let students “dive under the hood” and get plenty of coding experience.
• Includes updated examples and information on web design for smartphones and tablets.
• Offers a new chapter on building responsive web pages.
• Updated to reflect the latest HTML5 and CSS3 standards and capabilities, focusing on HTML5 elements that create structure and interaction on web pages.

CONTENTS

Chapter 1: HTML5.
Chapter 2: Web Site Design Principles.
Chapter 3: Site Planning.
Chapter 4: Cascading Style Sheets.
Chapter 5: Web Typography.
Chapter 6: Box Properties.
Chapter 7: Page Layouts.
Chapter 8: Graphics and Color.
Chapter 9: Site Navigation.
Chapter 10: Data Tables.
Chapter 11: Web Forms.
Chapter 12: Web Page Design Studio.
Appendix A: HTML Reference.
Appendix B: CSS Reference.

SUPPLEMENTS

Instructor Resources
Now in its sixth edition, JavaScript guides beginning programmers through web application development using the JavaScript programming language. As with previous editions of the book, the authors introduce key web authoring techniques with a strong focus on industry application. New coverage includes developing for touchscreen and mobile devices, and using the jQuery library. A real-world project, similar to what students would encounter in a professional setting, is developed chapter by chapter.

KEY FEATURES
- Teaches Web authoring techniques to students with little or no programming experience using the industry-standard JavaScript language.
- New full-color interior design features multicolor code samples that visually identify language components and figures that accurately display project previews.
- Real-world projects are written in HTML5; all non-mobile projects are coded for IE8 compatibility.
- An entirely new chapter covers coding for mobile devices and touchscreens, and mobile versions of working projects are incorporated throughout the text.
- Includes a new chapter introducing the basics of jQuery.
- Fully revised to reflect current industry standards for creating arrays and objects, writing equality operators, and listening for events.

CONTENTS
Chapter 1: Introduction to JavaScript.
Chapter 2: Working with Functions, Data Types, and Operators.
Chapter 3: Building Arrays and Control Structures.
Chapter 4: Debugging and Error Handling.
Chapter 5: Working with the Document Object Model (DOM) and DHTML.
Chapter 6: Enhancing and Validating Forms.
Chapter 7: Using Object-Oriented JavaScript.
Chapter 8: Manipulating Data in Strings and Arrays.
Chapter 9: Managing State Information and Security.
Chapter 10: Programming for Mobile Devices and Touchscreens.
Chapter 11: Updating Web Pages with AJAX.
Chapter 12: Introduction to jQuery.
Appendix A: Working with HTML5 and CSS3.
Appendix B: Building a Web Development Environment.
Appendix C: JavaScript Reference.
Appendix D: Solutions to Short Quizzes.

SUPPLEMENTS
Instructor Resources

www.cengageasia.com
ASP.NET Programming with C# and SQL Server, International Edition
Don Gosselin

July 2009
704 pages

ASP.NET Programming with C# and SQL Server covers the basics of ASP.NET, C#, and SQL Server along with advanced topics including object-oriented programming and how to build Web sites that incorporate authentication and security. After completing this text, you will be able to use ASP.NET to build professional quality, database-driven Web sites.

KEY FEATURES
• Goals at the beginning of each chapter provide students with a quick reference to the contents of the chapter, as well as a useful study aid.
• Help features assist students in finding more information on a concept or technique.
• Short Quizzes throughout the chapter help students test their knowledge of a concept or technique.
• Pointers provide students with practical advice and proven strategies related to the concept being discussed. They also contain cross-references to other sections in the book or to related Web sites.
• Facts contain notes and comments that provide additional helpful information on specific techniques and concepts.
• Careful features point out troublesome issues students need to watch out for with a particular technique or concept.
• This book can be purchased with Microsoft® Visual Studio 2008 software. Contact your sales representative for more information.

CONTENTS

SUPPLEMENTS
Instructor Resources
This book covers the basics of PHP and MySQL along with introductions to advanced topics including object-oriented programming and how to build Web sites that incorporate authentication and security. After you complete this course, you will be able to use PHP and MySQL to build professional quality, database-driven Web sites.

**KEY FEATURES**

- Enables users to utilize PHP and MySQL to build professional quality, database-driven Web sites, all with open source software.
- Covers the basics of PHP and MySQL along with advanced topics including object-oriented programming and how to build Web sites that incorporate authentication and security.
- Short *Careful* warnings called point out troublesome issues that you need to watch out for when writing PHP scripts.
- Short *Quizzes* serve as quick comprehension checks at the end of each major topic assess understanding of the section material.
- *Reinforcement Exercises* include both guided and free-form exercises that reinforce the skills learned in the chapter and build on your learning experience by providing additional ways to apply your knowledge in new situations.
- *Discovery Activities* apply the skills learned in the chapter to expand the functionality of an ongoing comprehensive Web site project.

**CONTENTS**

GETTING STARTED WITH PHP


**SUPPLEMENTS**

Instructor Resources
Principles of HTML, XHTML, and DHTML: The Web Technologies Series
Don Gosselin

ISBN: 978-0-538-47461-0
©2011
700 pages

PRINCIPLES OF HTML, XHTML, AND DHTML teaches students the basics of building structured Web pages with HTML and XHTML, how to add text and images to Web pages, how to create frames, tables, and forms, and how to format and design Web pages using Cascading Style Sheets (or CSS). This text gives equal treatment to both HTML and XHTML, covering all new HTML 5 features while highlighting the differences between the languages. The book will also include enhanced coverage of DHTML, as HTML, X/HTML, and DHTML are commonly taught in the same course. Each chapter provides clear, non-technical explanations of the important concepts and techniques of a particular language or tool. The focus, however, is on learning-by-doing as students complete typical Web authoring tasks, such as adding tables to Web pages.

KEY FEATURES
• Assumes no prior knowledge of HTML, XHTML, or CSS; this text is ideal for the beginning Web programmer.
• Offers extensive diagrams and tables that help readers to visualize common components and relationships.
• Displays code examples in a consistent format, including brief code snippets as well as more complete code listings.
• Provides extensive end-of-chapter material such as Reinforcement Exercises, Comprehension Checks, and Discovery Projects.
• Includes coverage of advanced topics such as the use of JavaScript, how to incorporate multimedia and executable content into a Web page, how to organize and define XML, and how to use Extensible Stylesheet Language (XSL).

CONTENTS
1. Introduction to Web Page Development.
3. Working with Text and Images.
4. Formatting with Cascading Style Sheets.
5. Building Tables and Lists.
6. Gathering Data with Forms.
7. Incorporating Multimedia and Executable Content.
8. Introduction to JavaScript.
10. Manipulating the Browser Object Model.
11. Validating Form Data with JavaScript.

SUPPLEMENTS
Instructor Resources

Jason Miletsky

ISBN: 978-0-538-74527-7
February 2009
644 pages

Principles of Internet Marketing: New Tools and Methods for Web Developers helps readers understand the “why” behind the “how” of Web site development. It teaches the importance of the brand and how that relates to Web site development, the reasons sites are developed, how they build an audience, and most importantly, how companies use the Web to earn revenue and build recognition among their desired market. You will learn the strategies used to drive traffic to a site, the tools that are available to keep audiences coming back (with a focus on social media tools), and the role marketing plays in the building a successful Web site.

KEY FEATURES
• Interviews featuring high-profile individuals (such as Ward Cunningham, and Konstantin Guericke, of LinkedIn) discussing industry-related topics.
• Screen shots demonstrating different types of Web marketing from numerous companies and organizations.
• Tables and statistics illustrating how the Web has changed and continues to change at a rapid pace.
• Key Terms with definitions at the end of each chapter.
• Review Questions and Projects to assess one’s retention of the concepts and gain some hands-on practice on the Web.

CONTENTS

SUPPLEMENTS
Instructor Resources

ABOUT THE AUTHOR
Jason Miletsky
Jay Miletsky is CEO and executive creative director of Mango (formerly PFS Marketwyse), a leading marketing communications agency in the New York Metro area. His marketing work has included successful consultation and campaigns for companies including Hershey’s, AmerisourceBergen, Emerson Electric, JVC, The Michael C. Fina Company, and more. Miletsky is a featured speaker for numerous companies and seminars as well as a guest lecturer for universities. He is the author of 10 books, including Perspectives on Marketing and Perspectives on Branding, and he blogs regularly at jaymiletsky.com and getperspectives.com. You can follow him on Twitter at http://twitter.com/jaymiletsky.
ABOUT THE AUTHOR
Fred Beisse teaches Computer Information Technology at Lane Community College in Eugene, Oregon, where he has designed and led courses in user support, information analysis and visualization, project management, and geographical information systems. Beisse builds on more than 30 years of experience in computer management positions, where he has been responsible for end-user support, computer services, computer facilities planning, and operations management.

KEY FEATURES
- Practical, straightforward approach to technical issues helps students build critical skills with confidence.
- Compelling role-playing scenarios spur dynamic class discussion.
- Numerous case studies illustrate troubleshooting and problem-solving skills at work in real situations.
- New examples illustrate the growing importance of tablet PCs and mobile technology in user support.
- Expanded coverage of ITIL guidelines illustrates how best practices are implemented in information technology.
- A new section on conflict resolution highlights the importance of working effectively on a project team as well as with difficult users.
- Examples of the kinds of questions asked on certification exams helps readers prepare to meet the expectations of exam providers.
- A new help desk software tool, LBE Desktop Helpdesk, is featured, including an appendix with hands-on activities using the software.

CONTENTS
Chapter 1: Introduction to Computer User Support.
Chapter 3: Writing for End Users.
Chapter 4: Skills for Troubleshooting Technology Problems.
Chapter 5: Common Support Problems.
Chapter 6: Help Desk Operation.
Chapter 7: User Support Management.
Chapter 9: End-User Needs Assessment Projects.
Chapter 10: Installing and Managing End-User Technology.
Chapter 11: Technology Training for Users.
Chapter 12: A User Support Utility Tool Kit.
Appendix A: Answers to Check Your Understanding Questions.
Appendix C: User Support Presentations and Meetings.

SUPPLEMENTS
Instructor Resources
This trusted, contemporary guide introduces the latest developments, research, resources and trends as they happen in computer user support. Readers explore the various types of service desks and gain a solid understanding of the diverse roles and skills required. They also review the processes and technologies that ensure a service desk is operating efficiently and effectively and see how today's leading organizations measure service desk success. This edition references the very latest ITIL® 2011 best practices, leading quality and IT service management frameworks and standards to ensure readers have the most recent information regarding the role of outsourcing and certification in the service desk.

**NEW TO THIS EDITION**

- **THE LATEST CONCEPTS KEEP READERS ON THE FOREFRONT OF PROGRESS.** This edition introduces today's computer user support with the most up-to-date concepts, the latest advancements in research, and emerging professional trends.
- **NEW “TECHNOLOGY TRENDS” DEMONSTRATE HOW ADVANCEMENTS IN TECHNOLOGY IMPACT USER SUPPORT.** The author discusses the influence of virtualization, cloud computing, and consumerization (bring your own device) on the service desk, as well as mobile, social, and multi-generational support.
- **UPDATED ITIL® 2011 BEST PRACTICES KEEP READERS CURRENT WITH THE WORLD’S LEADING APPROACH TO IT SERVICE MANAGEMENT.** All references to ITIL best practices now reflect ITIL 2011 standards.
- **UPDATED CASE PROJECTS SUPPORT BLENDED LEARNING.** Service Desk University Case Projects throughout this edition now reflect the latest technology developments and current trends. Revised Case Projects better support a blended learning strategy for all learning styles.

**KEY FEATURES**

- **USEFUL FIGURES AND SCREEN SHOTS CLARIFY HOW CONCEPTS APPLY IN TODAY’S BUSINESS WORLD.** Invaluable figures and screen captures throughout this edition illustrate meaningful, real examples of key service desk concepts in action.

**CONTENTS**


**SUPPLEMENTS**

Instructor Resources

Donna Knapp

©2015
544 pages

ABOUT THE AUTHOR
Donna Knapp
An experienced IT professional with more than 30 years in the industry as a practitioner, consultant, and trainer, Donna Knapp currently works as Curriculum Development Manager for ITSM Academy, a full-service provider of IT Service Management education. Ms. Knapp is an ITIL Expert, a Certified Process Design Engineer, a Certified ISO/IEC 2000 Consultant/Manager, a Certified Scrum Master, and she is certified in Knowledge-Centered Support (KCS) Principles. The author of several books on the service desk industry, she has also developed several highly successful seminars, including “Achieving Customer Service Excellence for Service Desk Professionals” and “ITIL at the Service Desk.”

A GUIDE TO CUSTOMER SERVICE SKILLS FOR THE SERVICE DESK PROFESSIONAL, the definitive service desk text now available in a fully revised fourth edition, teaches technical professionals the skills and work habits needed to successfully interact with customers and achieve job satisfaction. Each chapter describes a specific business skill, soft skill, or self-management skill required to deliver effective technical customer support while providing proven, how-to techniques for mastering that skill. Research and references have been updated in each chapter, and the latest ITIL® vocabulary and concepts are reflected throughout the text.

KEY FEATURES
• Updated to reflect the changing role of the service desk, including an examination of the Business Productivity desk concept and enterprise Genius Bars.
• Now includes coverage of multigenerational and multichannel support, such as the growing use of chat, social media, and avatars; also includes discussion of such key trends as bring your own device (BYOD).
• Features an introduction to DevOps, an emerging culture and professional movement that stresses communication, collaboration, and integration between software developers and IT operations professionals.

CONTENTS
Chapter 1: Introduction to Service Desk Concepts.
Chapter 2: Service Desk Operations.
Chapter 3: The People Component: Service Desk Roles and Responsibilities.
Chapter 5: The Technology Component: Service Desk Tools and Technologies.
Chapter 7: The Service Desk Setting.
Chapter 8: Customer Support as a Profession.

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