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Unit Test Frameworks John Wiley & Sons

This undergraduate textbook first introduces basic electronic circuitry before explaining more advanced elements such as the Arithmetic Logic Unit, sequential circuits, and finally microprocessors. In keeping with this integrated and graduated approach, the authors then explain the relationship to first assembly programming, then higher-level languages, and finally computer organisation. Authors use the Raspberry Pi and ARM microprocessors for their explanations The material has been extensively class tested at TU Eindhoven by an experienced team of lecturers and researchers. This is a modern, holistic treatment of well-established topics, valuable for undergraduate students of computer science and electronics engineering and for self- Mathematical Foundations of Computer Networking McGraw-Hill Education study. The authors use the Raspberry Pi and ARM microprocessors for their explanations. Introductory Statistics Jones & Bartlett Learning

Mathematical techniques pervade current research in computer networking, yet are not taught to most computer science undergraduates. This self-contained, highlyaccessible book bridges the gap, providing the mathematical grounding students and professionals need to successfully design or evaluate networking systems. The only book of its kind, it brings together information previously scattered amongst multiple texts. It first provides crucial background in basic mathematical tools, and then illuminates the specific theories that underlie computer networking. Coverage includes: * Basic probability * Statistics * Linear Algebra * Optimization * Signals, Systems, and Transforms, including Fourier series and transforms, Laplace transforms, DFT, FFT, and Z transforms * Queuing theory * Game Theory * Control theory * Information theory

Essentials of Software Engineering PHI Learning Pvt. Ltd.

Introductory Statistics is designed for the one-semester, introduction to statistics course and is geared toward students majoring in fields other than math or engineering. This text assumes students have been exposed to intermediate algebra, and it focuses on the applications of statistical knowledge rather than the theory behind it. The foundation of this textbook is Collaborative Statistics, by Barbara Illowsky and Susan Dean. Additional

topics, examples, and ample opportunities for practice have been added to each chapter. The development choices for this textbook were made with the guidance of many faculty members who are deeply involved in teaching this course. These choices led to innovations in art, terminology, and practical applications, all with a goal of increasing relevance and accessibility for students. We strove to make the discipline meaningful, so that students can draw from it a working knowledge that will enrich their future studies and help them make sense of the world around them. Coverage and Scope Chapter 1 Sampling and Data Chapter 2 Descriptive Statistics Chapter 3 Probability Topics Chapter 4 Discrete Random Variables Chapter 5 Continuous Random Variables Chapter 6 The Normal Distribution Chapter 7 The Central Limit Theorem Chapter 8 Confidence Intervals Chapter 9 Hypothesis Testing with One Sample Chapter 10 Hypothesis Testing with Two Samples Chapter 11 The Chi-Square Distribution Chapter 12 Linear Regression and Correlation Chapter 13 F Distribution and One-Way ANOVA

Designing Embedded Hardware "O'Reilly Media, Inc." Digital Design and Computer Organization introduces digital design as it applies to the creation of computer systems. It summarizes the tools of logic design and their mathematical basis, along with in depth coverage of combinational and sequential circuits. The book includes an accompanying CD that includes the majority of circuits highlig

This textbook covers digital design, fundamentals of computer architecture, and assembly language. The book starts by introducing basic number systems, character coding, basic knowledge in digital design, and components of a computer. The book goes on to discuss information representation in computing; Boolean algebra and logic gates; sequential logic; input/output; and CPU performance. The author also covers ARM architecture, ARM instructions and ARM assembly language which is used in a variety of devices such as cell phones, digital TV, automobiles, routers, and switches. The book contains a set of laboratory experiments related to digital design using Logisim software; in addition, each chapter features objectives, summaries, key terms, review questions and problems. The book is targeted to students majoring Computer Science, Information System and IT and follows the ACM/IEEE 2013 guidelines. • Comprehensive textbook covering digital design, computer architecture, and ARM architecture and assembly • Covers basic number system and coding, basic knowledge in digital design, and components of a computer • Features laboratory exercises in addition to objectives, summaries, key terms, review questions, and problems in each chapter Essentials of 80x86 Assembly Language Jones & Bartlett Learning This best selling text on computer organization has been thoroughly updated to reflect the newest technologies. Examples highlight the latest processor designs, benchmarking standards, languages and tools. As with previous editions, a MIPs processor is the core used to present the fundamentals of

hardware technologies at work in a computer system. The book presents an entire MIPS instruction set—instruction by instruction—the fundamentals of assembly language, computer arithmetic, pipelining, memory hierarchies and I/O. A new aspect of the third edition is the explicit connection between program performance and CPU performance. The authors show how hardware and software components--such as the specific algorithm, programming language, compiler, ISA and processor implementation--impact program performance. Throughout the book a new feature focusing on program performance describes how to search for bottlenecks and improve performance in various parts of the system. The book digs deeper into the hardware/software interface, presenting a complete view of the function of the programming language and compiler--crucial for understanding computer organization. A CD provides a toolkit of simulators and compilers along with tutorials for using them. For instructor resources click on the grey "companion site" button found on the right side of this page. This new edition represents a major revision. New to this edition: * Entire Text has been updated to reflect new technology * 70% new exercises. * Includes a CD loaded with software, projects and exercises to support courses using a number of tools * A new interior design presents defined terms in the margin for quick reference * A new feature, "Understanding Program Performance" focuses on performance from the programmer's perspective * Two sets of exercises and solutions, "For More Practice" and "In More Depth," are included on the CD * "Check Yourself" questions help students check their understanding of major concepts * "Computers In the Real World" feature illustrates the diversity of uses for information technology *More detail below... Software Engineering: A Practitioner's Approach Jones & Bartlett Learning

Computer Architecture/Software Engineering

Computer Organization and Design RISC-V Edition Springer

Build your first digital twin MVP and gain first-hand experience of using the technology, the challenges it presents, and its impact on your organization Key FeaturesCreate a digital twin prototype using Microsoft Azure Digital TwinExplore the digital twin approach to the design, operations, and maintenance of industrial assets and productsUnderstand key characteristics and components of a digital twin through practical use cases and business scenariosBook Description Digital twin technology enables organizations to create digital representations of physical entities such as assets, systems, and processes throughout their life cycle. It improves asset performance, utilization, and safe operations and reduces manufacturing, operational, and maintenance costs. The book begins by introducing you to the concept of digital twins and sets you on a path to develop a digital twin strategy to positively influence business outcomes in your organization. You'll understand how digital twins relate to physical assets, processes, and technology and learn about the prerequisite conditions for the right platform, scale, and use case of your digital twins. You'll then get hands-on with Microsoft's Azure Digital Twins platform for your digital twin development and deployment. The book equips you with the knowledge to evaluate enterprise and specialty platforms, including the cloud and industrial IoT required to set up your digital twin prototype. Once you've built your prototype, you'll be able to test and validate it relative to the intended purpose of the twin through pilot deployment, full deployment, and value tracking techniques. By the end of this book, you'll have developed the skills to build and deploy your digital twin prototype, or minimum viable twin, to demonstrate, assess, and monitor your asset at specific stages in the asset life cycle. What you will learn I dentify key criteria for the applicability of digital twins in your organization Explore the RACI matrix and rapid experimentation for choosing the right tech stack for your digital twin systemEvaluate public cloud, industrial IoT, and enterprise platforms to set up your prototypeDevelop a digital twin prototype and validate it using a unit test, integration test, and functional testPerform an RoI analysis of your digital twin to determine its economic viability for the businessDiscover techniques to improve your digital twin for future enhancementsWho this book is for The digital twin book is for mid-career subject experts, including engineers and operations managers, building their first prototype (MVP) using digital twin technology. The book will help professionals responsible for mechanical, process, and reliability engineering domains. You don't have to be a developer or programmer, but

beginner-level programming skills will be helpful.

Computer Perceptual Organization in Computer Vision New York ; Toronto : McGraw-Hill "Presents the fundamentals of hardware technologies, assembly language, computer arithmetic, pipelining, memory hierarchies and I/O"--

Pearson Education

Computer Architecture/Software Engineering Computer Organization & Architecture 7e Jones & Bartlett Learning Suitable for a one- or two-semester undergraduate or beginning graduate course in computer science and computer engineering, Computer Organization, Design, and Architecture, Fifth Edition presents the operating principles, capabilities, and limitations of digital computers to enable the development of complex yet efficient systems. With 11 new sections and four revised sections, this edition takes students through a solid, up-to-date exploration of single- and multiple-processor systems, embedded architectures, and performance evaluation. See What 's New in the Fifth Edition Expanded coverage of embedded systems, mobile processors, and cloud computing Material for the "Architecture and Organization" part of the 2013 IEEE/ACM Draft Curricula for Computer Science and Engineering Updated commercial machine architecture examples The backbone of the book is a description of the complete design of a simple but complete hypothetical computer. The author then details the architectural features of contemporary computer systems (selected from Intel, MIPS, ARM, Motorola, Cray and various microcontrollers, etc.) as enhancements to the structure of the simple computer. He also introduces performance enhancements and advanced architectures including networks, distributed systems, GRIDs, and cloud computing. Computer organization deals with providing just enough details on the operation of the computer system for sophisticated users and programmers. Often, books on digital systems ' architecture fall into four categories: logic design, computer organization, hardware design, and system architecture. This book captures the important attributes of these four categories to present a comprehensive text that includes pertinent hardware, software, and system aspects.

SQL Cookbook Elsevier

Bestselling text, The Essentials of Computer Organization and Architecture, Fourth Edition, is comprehensive enough to address all necessary organization and architecture topics, but concise enough to be appropriate for a single-term course. Its focus on real-world examples and practical applications encourages students to develop a "big-picture" understanding of how essential organization and architecture concepts are applied in the computing world. In addition to direct correlation with the ACM/IEEE guidelines for computer organization and architecture, the text exposes readers to the inner workings of a modern digital computer through an integrated presentation of fundamental concepts and principles. Learning MySQL and MariaDB Jones & Bartlett Learning Updated and revised, The Essentials of Computer Organization and Architecture, Third Edition is a comprehensive resource that addresses all of the necessary organization and architecture topics, yet is appropriate for the one-term course.

Essentials of Computer Organization and Architecture Morgan Kaufmann Improve your programming through a solid understanding of C pointers and memory management. With this practical book, you ' II learn how pointers provide the mechanism to dynamically manipulate memory, enhance support for data structures, and enable access to hardware. Author Richard Reese shows you how to use pointers with

arrays, strings, structures, and functions, using memory models throughout the book. Difficult to master, pointers provide C with much flexibility and power—yet few resources are dedicated to this data type. This comprehensive book has the information you need, whether you ' re a beginner or an experienced C or C++ programmer or developer. Get an introduction to pointers, including the declaration of different pointer types Learn about dynamic memory allocation, de-allocation, and alternative memory management techniques Use techniques for passing or returning data to and from functions Understand the fundamental aspects of arrays as they relate to pointers Explore the basics of strings and how pointers are used to support them Examine why pointers can be the source of security problems, such as buffer overflow Learn several pointer techniques, such as the use of opaque pointers, bounded pointers and, the restrict keyword

Computer Systems Morgan Kaufmann

Computer Science

The Essentials of Computer Organization and Architecture Springer Science & Business Media

The new RISC-V Edition of Computer Organization and Design features the RISC-V open source instruction set architecture, the first open source architecture designed to be used in modern computing environments such as cloud computing, mobile devices, and other embedded systems. With the post-PC era now upon us, Computer Organization and Design moves forward to explore this generational change with examples, exercises, and material highlighting the emergence of mobile computing) and the Cloud. Updated content featuring tablet computers, Cloud infrastructure, and the x86 (cloud computing) and ARM (mobile computing devices) architectures is included. An online companion Web site provides advanced content for further study, appendices, glossary, references, and recommended reading. Features RISC-V, the first such architecture designed to be used in modern computing environments, such as cloud computing, mobile devices, and other embedded systems Includes relevant examples, exercises, and material highlighting the emergence of mobile computing and the cloud

COMPUTER ORGANIZATION AND DESIGN Jones & Bartlett Learning

Most people who write software have at least some experience with unit testing-even if they don't call it that. If you have ever written a few lines of throwaway code just to try something out, you've built a unit test. On the other end of the software spectrum, many large-scale applications have huge batteries of test cases that are repeatedly run and added to throughout the development process. What are unit test frameworks and how are they used? Simply stated, they are software tools to support writing and running unit tests, including a foundation on which to build tests and the functionality to execute the tests and report their results. They are not solely tools for testing; they can also be used as development tools on a par with preprocessors and debuggers. Unit test frameworks can contribute to almost every stage of software development and are key tools for doing Agile Development and building big-free code. Unit Test Frameworks covers the usage, philosophy, and architecture of unit test frameworks. Tutorials and example code are platform-independent and compatible with Windows, Mac OS X, Unix, and Linux. The companion CD includes complete versions of JUnit, CppUnit, NUnit, and XMLUnit, as well as the complete set of code examples. Data Science For Dummies Morgan Kaufmann

Digital Design and Computer Architecture: ARM Edition covers the fundamentals of digital logic design and reinforces logic concepts through the design of an ARM microprocessor. Combining an engaging and humorous writing style with an updated and hands-on approach to digital design, this book takes the reader from the fundamentals of digital logic to the actual design of an ARM processor. By the end of this book, readers will be able to build their own microprocessor and will have a top-to-bottom understanding of how it works. Beginning with digital logic gates and progressing to the design of combinational and sequential circuits, this book uses these fundamental building blocks as the basis for designing an ARM processor. SystemVerilog and VHDL are integrated throughout the text in examples illustrating the methods and techniques for CAD-based circuit design. The companion website includes a chapter on I/O systems with

practical examples that show how to use the Raspberry Pi computer to communicate with peripheral devices such as LCDs, Bluetooth radios, and motors. This book will be a valuable resource for students taking a course that combines digital logic and computer architecture or students taking a two-guarter sequence in digital logic and computer organization/architecture. Covers the fundamentals of digital logic design and reinforces logic concepts through the design of an ARM microprocessor. Features side-by-side examples of the two most prominent Hardware Description Languages (HDLs)—SystemVerilog and VHDL—which illustrate and compare the ways each can be used in the design of digital systems. Includes examples throughout the text that enhance the reader 's understanding and retention of key concepts and techniques. The Companion website includes a chapter on I/O systems with practical examples that show how to use the Raspberry Pi computer to communicate with peripheral devices such as LCDs, Bluetooth radios, and motors. The Companion website also includes appendices covering practical digital design issues and C programming as well as links to CAD tools, lecture slides, laboratory projects, and solutions to exercises. Digital Design and Computer Architecture Pearson Education India The performance of software systems is dramatically affected by how well software designers understand the basic hardware technologies at work in a system. Similarly, hardware designers must understand the farreaching effects their design decisions have on software applications. For readers in either category, this classic introduction to the field provides a look deep into the computer. It demonstrates the relationships between the software and hardware and focuses on the foundational concepts that are the basis for current computer design.

Compiler Construction Elsevier

With a variety of interactive learning features and user-friendly pedagogy, Java 5 Illuminated provides a comprehensive introduction to programming using the most current version of the Java language, Java 5. In addition to providing all of the material necessary for a complete introductory course in Java programming, the book also features flexible coverage of other topics of interest, including Graphical User Interfaces, data structures, file input and output, and applets. Object-Oriented Programming concepts are developed progressively and reinforced through numerous Programming Activities, allowing students to fully understand and implement both basic and sophisticated techniques at a pace which is neither too fast nor too slow. OO concepts are blended appropriately with fundamental programming techniques, including accumulation, counting, finding maximum and minimum values, and using flag and toggle variables, and supplemented with coverage of sound software engineering practices. Distinguishing this text from other introductory Java books is the authors' extensive use of an "active learning" approach to presenting the material through abundant use of graphics, visualization exercises, animations, numerous full and partial program examples, group projects, and best practices. These and other pedagogical devices facilitate hands-on, interactive learning, and make the book equally appropriate for use in "traditional" lecture environments, a computer-equipped classroom, or lab environment. Java 5 Illuminated Errata Sheet