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Beginning Linux?Programming - Neil Matthew 2004-01-02

The book starts with the basics, explaining how to compile and run your first program. First, each concept is explained to give you a solid understanding of the material. Practical examples are then presented, so you see how to apply the knowledge in real applications.

Transaction Processing - Jim Gray 1992-09-30

The key to client/server computing. Transaction processing techniques are deeply ingrained in the fields of databases and operating systems and are used to monitor, control and update information in modern computer systems. This book will show you how large, distributed, heterogeneous computer systems can be made to work reliably. Using transactions as a

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unifying conceptual framework, the authors show how to build high-performance distributed systems and high-availability applications with finite budgets and risk. The authors provide detailed explanations of why various problems occur as well as practical, usable techniques for their solution. Throughout the book, examples and techniques are drawn from the most successful commercial and research systems. Extensive use of compilable C code fragments demonstrates the many transaction processing algorithms presented in the book. The book will be valuable to anyone interested in implementing distributed systems or client/server architectures.

Lions' Commentary on UNIX 6th Edition with Source Code - John Lions 1996-01-01

For the past 20 years, UNIX insiders have cherished and zealously guarded pirated photocopies of this manuscript, a "hacker trophy" of sorts. Now legal (and legible) copies are available. An international "who's who" of UNIX wizards, including Dennis Ritchie, have contributed essays extolling the merits and importance of this underground classic.

But how Do it Know? - J. Clark Scott 2009

This book thoroughly explains how computers work. It starts by fully examining a NAND gate, then goes on to build every piece and part of a small, fully operational computer. The necessity and use of codes is presented in parallel with the appriorate pieces of hardware. The book can be easily understood by anyone whether they have a technical background or not. It could be used as a textbook.

Concepts, Techniques, and Models of Computer Programming - Peter Van Roy 2004-02-20

Teaching the science and the technology of programming as a unified discipline that shows the deep relationships between programming paradigms. This innovative text presents computer programming as a unified discipline in a way that is both practical and scientifically sound. The book focuses on techniques of lasting value and explains them precisely in terms of a simple abstract machine. The book presents all major programming paradigms in a uniform framework that shows their deep relationships and how and where to use them together. After an introduction to programming concepts, the book presents both well-known and lesser-known computation models ("programming paradigms"). Each model has its own set of techniques and each is included on the basis of its usefulness in practice. The general models include declarative programming, declarative concurrency, message-passing concurrency, explicit state, object-oriented programming, shared-state concurrency, and

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relational programming. Specialized models include graphical user interface programming, distributed programming, and constraint programming. Each model is based on its kernel language—a simple core language that consists of a small number of programmer-significant elements. The kernel languages are introduced progressively, adding concepts one by one, thus showing the deep relationships between different models. The kernel languages are defined precisely in terms of a simple abstract machine. Because a wide variety of languages and programming paradigms can be modeled by a small set of closely related kernel languages, this approach allows programmer and student to grasp the underlying unity of programming. The book has many program fragments and exercises, all of which can be run on the Mozart Programming System, an Open Source software package that features an interactive incremental development environment.

Introduction to Computer Science Using Python - Charles Dierbach 2012-11-30

Introduction to Computer Science Using Python: A Computational Problem-Solving Focus,recommended by Guido van Rossum, the creator of Python ("This is not your average Python book...I think this book is a great text for anyone teaching CS1"). With a focus on computational problem solving from Chapter 1, this text provides numerous hands-on exercises and examples, each chapter ending with a significant-size program demonstrating the step-by-step process of program development, testing, and debugging. A final chapter includes the history of computing, starting with Charles Babbage, containing over 65 historical images. An end-of-book Python 3 Programmers' Reference is also included for quick lookup of Python details. Extensive instructor materials are provided for those adopting for classroom use, including an instructors' manual, over 1,000 well-developed slides covering all fundamental topics of each chapter, source code, and test bank.

Game Physics Cookbook - Gabor Szauer 2017-03-24

Discover over 100 easy-to-follow recipes to help you implement efficient game physics and collision detection in your games About This Book Get a comprehensive coverage of techniques to create high performance collision detection in games Learn the core mathematics concepts and physics involved in depicting collision detection for your games Get a hands-on experience of building a rigid body physics engine Who This Book Is For This book is for beginner to intermediate game developers. You don't need to have a formal education in games—you can be a

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hobbyist or indie developer who started making games with Unity 3D. What You Will Learn Implement fundamental maths so you can develop solid game physics Use matrices to encode linear transformations Know how to check geometric primitives for collisions Build a Physics engine that can create realistic rigid body behavior Understand advanced techniques, including the Separating Axis Theorem Create physically accurate collision reactions Explore spatial partitioning as an acceleration structure for collisions Resolve rigid body collisions between primitive shapes In Detail Physics is really important for game programmers who want to add realism and functionality to their games. Collision detection in particular is a problem that affects all game developers, regardless of the platform, engine, or toolkit they use. This book will teach you the concepts and formulas behind collision detection. You will also be taught how to build a simple physics engine, where Rigid Body physics is the main focus, and learn about intersection algorithms for primitive shapes. You'll begin by building a strong foundation in mathematics that will be used throughout the book. We'll guide you through implementing 2D and 3D primitives and show you how to perform effective collision tests for them. We then pivot to one of the harder areas of game development—collision detection and resolution. Further on, you will learn what a Physics engine is, how to set up a game window, and how to implement rendering. We'll explore advanced physics topics such as constraint solving. You'll also find out how to implement a rudimentary physics engine, which you can use to build an Angry Birds type of game or a more advanced game. By the end of the book, you will have implemented all primitive and some advanced collision tests, and you will be able to read on geometry and linear Algebra formulas to take forward to your own games! Style and approach Gain the necessary skills needed to build a Physics engine for your games through practical recipes, in an easy-to-read manner. Every topic explained in the book has clear, easy to understand code accompanying it.

Understanding Human Dynamics - Defense Science Board Task Force 2014-10-23

Understanding human dynamics is an essential aspect of planning for success across the full spectrum of military and national security operations. While the adage that "warfare is political conflict by other means" is widely recognized, combatants who underestimate the impact of the human element in military operations do so at their risk. During the

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Second World War and the reconstruction that followed, as well as during the Cold War, understanding human dynamics was considered essential. Although, the U.S. military belatedly increased its human dynamics awareness within the current Iraq and Afghanistan theaters, recent progress has been achieved because of its importance in strategic, operational, and tactical decision-making. The U.S. military has also made recent progress in training and sensitizing deployed U.S. forces to the importance of understanding human dynamics in dealing with individuals, groups, and societies. There have been numerous, though mostly uncoordinated, efforts within DoD to manage relevant databases and provide associated tools and cultural advisors. To a large extent, these efforts recapitulate "lessons learned and since forgotten" from prior engagements—capabilities that were permitted to lapse and were no longer organic to DoD. Substantial improvements by DoD are needed in understanding human dynamics. In particular, DoD must take a longer-term view and build upon increased capability achieved in Iraq and Afghanistan. It must institutionalize the best of current programs and processes so that this capability is also available across the full spectrum of military operations, including increased emphasis on activities, referred to as Phase 0, that seek to mitigate the likelihood of armed conflict. To be effective in the long term, DoD must develop more coherence in its efforts to enhance human dynamics awareness. Most importantly, capability must be expanded beyond the focus of current armed conflicts so that the Department and military services have the flexibility to adjust rapidly to events in other places in the world. Playing "catch-up" will not be an effective option.

Computer Networks - Tanenbaum 2011

Tanenbaum takes a structured approach to explaining how networks work from the inside out. He starts with an explanation of the physical layer of networking, computer hardware and transmission systems; then works his way up to network applications. Tanenbaum's in-depth application coverage includes email; the domain name system; the World Wide Web (both client- and server-side); and multimedia (including voice over IP, Internet radio video on demand, video conferencing, and streaming media. Each chapter follows a consistent approach: Tanenbaum presents key principles, then illustrates them utilizing real-world example networks that run through the entire book-the Internet, and wireless networks, including Wireless LANs, broadband

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wireless and Bluetooth. The Fifth Edition includes a chapter devoted exclusively to network security. The textbook is supplemented by a Solutions Manual, as well as a Website containing PowerPoint slides, art in various forms, and other tools for instruction, including a protocol simulator whereby students can develop and test their own network protocols.

Programming Elm - Jeremy Fairbank 2019-07-02

Elm brings the safety and stability of functional programing to front-end development, making it one of the most popular new languages. Elm's functional nature and static typing means that run-time errors are nearly impossible, and it compiles to JavaScript for easy web deployment. This book helps you take advantage of this new language in your web site development. Learn how the Elm Architecture will help you create fast applications. Discover how to integrate Elm with JavaScript so you can update legacy applications. See how Elm tooling makes deployment quicker and easier. Functional programming offers safer applications with decreased runtime errors, but functional solutions that are type safe and easy to use have been hard to find, until the Elm language. Elm has the benefits of functional languages while compiling to JavaScript. This book provides a complete tutorial for the Elm language, starting with a simple static application that introduces Elm syntax, modules, and the virtual DOM, to exploring how to create a UI using functions. See how Elm handles the issues of state in functional languages. You'll continue to build up larger applications involving HTTP requests for communication. Integrate your Elm applications with JavaScript so you can update legacy applications or take advantage of JavaScript resources. Elm also provides built-in tooling to alleviate the tooling creep that's so common in JavaScript. This book covers Elm's deployment and testing tools that ease development confusion. Dive into advanced concepts including creating single-page applications, and creating performance improvements. Elm expert Jeremy Fairbank brings his years of web development experience to teaching how to use Elm for front-end development. Your web UIs will be faster, safer, and easier to develop with Elm and this tutorial. What You Need: You will need the latest version of Elm, 0.19, along with a browser to run the examples in this book.

Architecture of a Database System - Joseph M. Hellerstein 2007

Architecture of a Database System presents an

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architectural discussion of DBMS design principles, including process models, parallel architecture, storage system design, transaction system implementation, query processor and optimizer architectures, and typical shared components and utilities.

Think Bayes - Allen B. Downey 2021-05-18

If you know how to program, you're ready to tackle Bayesian statistics. With this book, you'll learn how to solve statistical problems with Python code instead of mathematical formulas, using discrete probability distributions rather than continuous mathematics. Once you get the math out of the way, the Bayesian fundamentals will become clearer and you'll begin to apply these techniques to real-world problems. Bayesian statistical methods are becoming more common and more important, but there aren't many resources available to help beginners. Based on undergraduate classes taught by author Allen B. Downey, this book's computational approach helps you get a solid start. Use your programming skills to learn and understand Bayesian statistics Work with problems involving estimation, prediction, decision analysis, evidence, and Bayesian hypothesis testing Get started with simple examples, using coins, dice, and a bowl of cookies Learn computational methods for solving real-world problems

Project Oberon - Niklaus Wirth 1992

Project Oberon contains a definition of the Oberon Language and describes its relation to Modula-2 and the software tools developed with the system. This definitive, first-hand account of the design, development, and implementation of Oberon completes the Oberon trilogy.

TCP / IP For Dummies - Candace Leiden 2009-07-15

Packed with the latest information on TCP/IP standards and protocols TCP/IP is a hot topic, because it's the glue that holds the Internet and the Web together, and network administrators need to stay on top of the latest developments. TCP/IP For Dummies, 6th Edition, is both an introduction to the basics for beginners as well as the perfect go-to resource for TCP/IP veterans. The book includes the latest on Web protocols and new hardware, plus very timely information on how TCP/IP secures connectivity for blogging, vlogging, photoblogging, and social networking. Step-by-step instructions show you how to install and set up TCP/IP on clients and servers; build security with encryption, authentication, digital certificates, and signatures; handle new voice and mobile technologies, and much more. Transmission Control Protocol / Internet

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Protocol (TCP/IP) is the de facto standard transmission medium worldwide for computer-to-computer communications; intranets, private internets, and the Internet are all built on TCP/IP The book shows you how to install and configure TCP/IP and its applications on clients and servers; explains intranets, extranets, and virtual private networks (VPNs); provides step-by-step information on building and enforcing security; and covers all the newest protocols You'll learn how to use encryption, authentication, digital certificates, and signatures to set up a secure Internet credit card transaction Find practical security tips, a Quick Start Security Guide, and still more in this practical guide.

HTML5 and CSS3 All-in-One For Dummies - Andy Harris 2014-01-08

A new edition of a bestseller covers the latest advances inweb development! HTML5 and CSS3 are essential tools for creating dynamic websitesand boast updates and enhanced features that can make your websiteseven more effective and unique. This friendly, all-in-one guidecovers everything you need to know about each of these technologiesand their latest versions so that you can use them together.Building on the bestselling formats of the first two editions, thisnew edition teaches you the fundamentals of HTML5 and CSS3, andthen presents ways for using them with JavaScript, MySQL, and Ajaxto create websites that work. Covers using JavaScript, PHP, MySQL, and Ajax in the context ofprogramming dynamic web pages with CSS3 and HTML5 Includes self-contained minibooks that review HTML, CSS, designand layout, client-side JavaScript, Ajax and server-side, andputting it all together Examines new web development advancements including newtechnologies and changes to the standards Features a website that contains supporting materials includingcode and several valuable programs that are useful for webdevelopment HTML5 and CSS3 All-in-One For Dummies, 3rd Edition servesas the perfect reference for both web development beginners andseasoned professionals looking to learn more about how to get themost out of the powerful combination of HTML5 and CSS3.

Operating System Concepts - Abraham Silberschatz 2014

The ninth edition of Operating System Concepts continues to evolve to provide a solid theoretical foundation for understanding operating systems. This edition has been updated with more extensive coverage of the most current topics and applications, improved conceptual coverage and additional content to

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bridge the gap between concepts and actual implementations. A new design allows for easier navigation and enhances reader motivation. Additional end-of-chapter, exercises, review questions, and programming exercises help to further reinforce important concepts. WileyPLUS, including a test bank, self-check exercises, and a student solutions manual, is also part of the comprehensive support package.

Assembly Language for X86 Processors - Kip R Irvine 2015-10-22

Operating System Concepts - Abraham Silberschatz 2005-12-01

A BETTER WAY TO LEARN ABOUT OPERATING SYSTEMSMaster the concepts at work behind modern operating systems! Silberschatz, Galvin, and Gagne's Operating Systems Concepts with Java, Sixth Edition illustrates fundamental operating system concepts using the Java programming language, and introduces you to today's most popular OS platforms. The result is the most modern and balanced introduction to operating systems available.Before you buy, make sure you are getting the best value and all the learning tools you'll need to succeed in your course. If your professor requires eGrade Plus, you can purchase it here at no additional cost!With this special eGrade Plus package you get the new text_no highlighting, no missing pages, no food stains_and a registration code to eGrade Plus, a suite of effective learning tools to help you get a better grade. All this, in one convenient package!eGrade Plus gives you:A complete online version of the textbookApproximately 25 homework questions per chapter which are linked to the relevant section of the online textStudent source codeInstant feedback on your homework and quizzesand more!eGrade Plus is a powerful online tool that provides students with an integrated suite of teaching and learning resources and an online version of the text in one easy-to-use website.

The Elements of Computing Systems, second edition - Noam Nisan 2021-06-15

A new and extensively revised edition of a popular textbook used in universities, coding boot camps, hacker clubs, and online courses. The best way to understand how computers work is to build one from scratch, and this textbook leads learners through twelve chapters and projects that gradually build the hardware platform and software hierarchy for a simple but powerful computer system. In the process, learners gain hands-on knowledge of hardware,

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architecture, operating systems, programming languages, compilers, data structures and algorithms, and software engineering. Using this constructive approach, the book introduces learners to a significant body of computer science knowledge and demonstrates how theoretical and applied techniques taught in other computer science courses fit into the overall picture. The outcome of these efforts is known as Nand to Tetris: a journey that starts with the most elementary logic gate, called Nand, and ends, twelve projects later, with a general-purpose computer system capable of running Tetris. The first edition of this popular textbook inspired Nand to Tetris classes in universities, coding boot camps, hacker clubs, and online course platforms. This second edition has been extensively revised. It has been restructured into two distinct parts—part I, Hardware, and part II, Software—with six projects in each part. All chapters and projects have been rewritten, with an emphasis on separating abstraction from implementation, and many new sections, figures, and examples have been added. Substantial new appendixes offer focused presentation on technical and theoretical topics.

How Can Self-learners Learn Programming in the Most Efficient Way? A Pragmatic Approach - Sebastien Phlix 2016-12-13

Master's Thesis from the year 2016 in the subject Computer Science - Programming, grade: 20/20, Ecole des hautes etudes commerciales de Paris (HEC Entrepreneurs), language: English, abstract: This paper provides a structured approach for self-learning programming for free on the internet. Its recommendations are based on a review of the existing academic literature which is complemented by the analysis of numerous contributions by software developers, self-learners, and teachers of programming. Additionally, it incorporates effective learning techniques derived from psychological research. Its intended readers are primarily entrepreneurs and 'startup people' who are driven to build new businesses with code, although the proposed approach is also transferable to other domains and audiences. The single most important factor for succeeding in learning programming has been found to be of human nature: learner motivation and persistence. While most beginners and the majority of academic contributions focus mostly on technical aspects such as which language to learn first, or which learning resources to use, this paper analyzes the learning process itself. Learning programming is thus divided into three main steps: First, I highlight the

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importance of setting a strong learning goal for motivation, and provide a big-picture overview of what 'learning programming' encompasses to structure the approach. Second, I provide learners with recommendations as to which language to learn first - there is no one 'best' choice - as well as how and where to find effective learning resources. Lastly, the paper concludes with tips for optimizing the learning process by introducing effective learning techniques, highlighting the importance of programming practice, and collecting additional advice from programmers and self-learners."

A Guide to Kernel Exploitation - Enrico Perla 2010-10-28

A Guide to Kernel Exploitation: Attacking the Core discusses the theoretical techniques and approaches needed to develop reliable and effective kernel-level exploits, and applies them to different operating systems, namely, UNIX derivatives, Mac OS X, and Windows. Concepts and tactics are presented categorically so that even when a specifically detailed vulnerability has been patched, the foundational information provided will help hackers in writing a newer, better attack; or help pen testers, auditors, and the like develop a more concrete design and defensive structure. The book is organized into four parts. Part I introduces the kernel and sets out the theoretical basis on which to build the rest of the book. Part II focuses on different operating systems and describes exploits for them that target various bug classes. Part III on remote kernel exploitation analyzes the effects of the remote scenario and presents new techniques to target remote issues. It includes a step-by-step analysis of the development of a reliable, one-shot, remote exploit for a real vulnerabilitya bug affecting the SCTP subsystem found in the Linux kernel. Finally, Part IV wraps up the analysis on kernel exploitation and looks at what the future may hold. Covers a range of operating system families — UNIX derivatives, Mac OS X, Windows Details common scenarios such as generic memory corruption (stack overflow, heap overflow, etc.) issues, logical bugs and race conditions Delivers the reader from user-land exploitation to the world of kernel-land (OS) exploits/attacks, with a particular focus on the steps that lead to the creation of successful techniques, in order to give to the reader something more than just a set of tricks

Practical Foundations for Programming Languages - Robert Harper 2016-04-04

This text develops a comprehensive theory of

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programming languages based on type systems and structural operational semantics. Language concepts are precisely defined by their static and dynamic semantics, presenting the essential tools both intuitively and rigorously while relying on only elementary mathematics. These tools are used to analyze and prove properties of languages and provide the framework for combining and comparing language features. The broad range of concepts includes fundamental data types such as sums and products, polymorphic and abstract types, dynamic typing, dynamic dispatch, subtyping and refinement types, symbols and dynamic classification, parallelism and cost semantics, and concurrency and distribution. The methods are directly applicable to language implementation, to the development of logics for reasoning about programs, and to the formal verification language properties such as type safety. This thoroughly revised second edition includes exercises at the end of nearly every chapter and a new chapter on type refinements.

Understanding Computation - Tom Stuart
2013-05-15

Finally, you can learn computation theory and programming language design in an engaging, practical way. Understanding Computation explains theoretical computer science in a context you'll recognize, helping you appreciate why these ideas matter and how they can inform your day-to-day programming. Rather than use mathematical notation or an unfamiliar academic programming language like Haskell or Lisp, this book uses Ruby in a reductionist manner to present formal semantics, automata theory, and functional programming with the lambda calculus. It's ideal for programmers versed in modern languages, with little or no formal training in computer science. Understand fundamental computing concepts, such as Turing completeness in languages Discover how programs use dynamic semantics to communicate ideas to machines Explore what a computer can do when reduced to its bare essentials Learn how universal Turing machines led to today's general-purpose computers Perform complex calculations, using simple languages and cellular automata Determine which programming language features are essential for computation Examine how halting and self-referencing make some computing problems unsolvable Analyze programs by using abstract interpretation and type systems

The Manga Guide to Databases - Mana Takahashi
2009-01-15

Want to learn about databases without the tedium? With its unique combination of Japanese-style comics

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and serious educational content, The Manga Guide to Databases is just the book for you. Princess Ruruna is stressed out. With the king and queen away, she has to manage the Kingdom of Kod's humongous fruit-selling empire. Overseas departments, scads of inventory, conflicting prices, and so many customers! It's all such a confusing mess. But a mysterious book and a helpful fairy promise to solve her organizational problems—with the practical magic of databases. In The Manga Guide to Databases, Tico the fairy teaches the Princess how to simplify her data management. We follow along as they design a relational database, understand the entity-relationship model, perform basic database operations, and delve into more advanced topics. Once the Princess is familiar with transactions and basic SQL statements, she can keep her data timely and accurate for the entire kingdom. Finally, Tico explains ways to make the database more efficient and secure, and they discuss methods for concurrency and replication. Examples and exercises (with answer keys) help you learn, and an appendix of frequently used SQL statements gives the tools you need to create and maintain full-featured databases. (Of course, it wouldn't be a royal kingdom without some drama, so read on to find out who gets the girl—the arrogant prince or the humble servant.) This EduManga book is a translation of a bestselling series in Japan, co-published with Ohmsha, Ltd., of Tokyo, Japan.

Bit-slice Microprocessor Design - John Mick 1980

Computer Systems Organization -- Computer System Implementation.

The New Turing Omnibus - A. K. Dewdney 2001

"No other volume provides as broad, as thorough, or as accessible an introduction to the realm of computers as A. K. Dewdney's The Turing Omnibus.Updated and expanded, The Turing Omnibus offers 66 concise, brilliantly written articles on the major points of interest in computer science theory, technology, and applications. New for this tour: updated information on algorithms, detecting primes, noncomputable functions, and self-replicating computers--plus completely new sections on the Mandelbrot set, genetic algorithms, the Newton-Raphson Method, neural networks that learn, DOS systems for personal computers, and computer viruses." -- Book cover.

The Definitive Guide to How Computers Do Math - Clive Maxfield 2005-09-27

The Basics of Computer Arithmetic Made Enjoyable and Accessible-with a Special Program Included for Hands-on Learning "The combination of this book and

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its associated virtual computer is fantastic! Experience over the last fifty years has shown me that there's only one way to truly understand how computers work; and that is to learn one computer and its instruction set-no matter how simple or primitive-from the ground up. Once you fully comprehend how that simple computer functions, you can easily extrapolate to more complex machines." - Fred Hudson, retired engineer/scientist "This book-along with the virtual DIY Calculator-is an incredibly useful teaching and learning tool. The interesting trivia nuggets keep you turning the pages to see what's next. Students will have so much fun reading the text and performing the labs that they won't even realize they are learning." -Michael Haghighi, Chairperson of the Business and Computer Information Systems Division, Calhoun Community College, Alabama "At last, a book that presents an innovative approach to the teaching of computer architecture. Written with authority and verve, witty, superbly illustrated, and enhanced with many laboratory exercises, this book is a must for students and teachers alike." -Dr. Albert Koelmans, Lecturer in Computer Engineering, University of Newcastle upon Tyne, UK, and the 2003 recipient of the EASIT-Eng. Gold Award for Innovative Teaching in Computer Engineering Packed with nuggets of information and tidbits of trivia, How Computers Do Math provides an incredibly fun and interesting introduction to the way in which computers perform their magic in general and math in particular. The accompanying CD-ROM contains a virtual computer/calculator called the DIY Calculator, and the book's step-by-step interactive laboratories guide you in the creation of a simple program to run on your DIY Calculator. How Computers Do Math can be enjoyed by non-technical individuals; students of computer science, electronics engineering, and mathematics; and even practicing engineers. All of the illustrations and interactive laboratories featured in the book are provided on the CD-ROM for use by high school, college, and university educators as lecture notes and handouts. For online resources and more information please visit the author's website at www.DIYCalculator.com.

Artificial Intelligence Programming - Eugene Charniak 2014-01-21

Artificial intelligence research has thrived in the years since this best-selling AI classic was first published. The revision encompasses these advances by adapting its coding to Common Lisp, the well-documented language standard, and by bringing

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together even more useful programming tools. Today's programmers in AI will find this volume's superior coverage of programming techniques and easily applicable style anything but common.

Lisp in Small Pieces - Christian Queinnec 2003-12-04

This is a comprehensive account of the semantics and the implementation of the whole Lisp family of languages, namely Lisp, Scheme and related dialects. It describes 11 interpreters and 2 compilers, including very recent techniques of interpretation and compilation. The book is in two parts. The first starts from a simple evaluation function and enriches it with multiple name spaces, continuations and side-effects with commented variants, while at the same time the language used to define these features is reduced to a simple lambda-calculus. Denotational semantics is then naturally introduced. The second part focuses more on implementation techniques and discusses precompilation for fast interpretation: threaded code or bytecode; compilation towards C. Some extensions are also described such as dynamic evaluation, reflection, macros and objects. This will become the new standard reference for people wanting to know more about the Lisp family of languages: how they work, how they are implemented, what their variants are and why such variants exist. The full code is supplied (and also available over the Net). A large bibliography is given as well as a considerable number of exercises. Thus it may also be used by students to accompany second courses on Lisp or Scheme.

The Haskell School of Music - Paul Hudak 2018-08-31

This book explores the fundamentals of computer music and functional programming through the Haskell programming language. Functional programming is typically considered difficult to learn. This introduction in the context of creating music will allow students and professionals with a musical inclination to leverage their experience to help understand concepts that might be intimidating in more traditional computer science settings. Conversely, the book opens the door for programmers to interact with music by using a medium that is familiar to them. Readers will learn how to use the Euterpea library for Haskell (http://www.euterpea.com) to represent and create their own music with code, without the need for other music software. The book explores common paradigms used in algorithmic music composition, such as stochastic generation, musical grammars, self-similarity, and real-time interactive systems. Other topics covered include the basics of

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signal-based systems in Haskell, sound synthesis, and virtual instrument design.

The Missing README - Chris Riccomini 2021-08-10

Key concepts and best practices for new software engineers — stuff critical to your workplace success that you weren't taught in school. For new software engineers, knowing how to program is only half the battle. You'll quickly find that many of the skills and processes key to your success are not taught in any school or bootcamp. The Missing README fills in that gap—a distillation of workplace lessons, best practices, and engineering fundamentals that the authors have taught rookie developers at top companies for more than a decade. Early chapters explain what to expect when you begin your career at a company. The book's middle section expands your technical education, teaching you how to work with existing codebases, address and prevent technical debt, write production-grade software, manage dependencies, test effectively, do code reviews, safely deploy software, design evolvable architectures, and handle incidents when you're on-call. Additional chapters cover planning and interpersonal skills such as Agile planning, working effectively with your manager, and growing to senior levels and beyond. You'll learn: • How to use the legacy code change algorithm, and leave code cleaner than you found it • How to write operable code with logging, metrics, configuration, and defensive programming • How to write deterministic tests, submit code reviews, and give feedback on other people's code • The technical design process, including experiments, problem definition, documentation, and collaboration • What to do when you are on-call, and how to navigate production incidents • Architectural techniques that make code change easier • Agile development practices like sprint planning, stand-ups, and retrospectives This is the book your tech lead wishes every new engineer would read before they start. By the end, you'll know what it takes to transition into the workplace–from CS classes or bootcamps to professional software engineering.

Hacking- The art Of Exploitation - J. Erickson 2018-03-06

This text introduces the spirit and theory of hacking as well as the science behind it all; it also provides some core techniques and tricks of hacking so you can think like a hacker, write your own hacks or thwart potential system attacks.

Computer Graphics from Scratch - Gabriel Gambetta 2021-05-18

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Computer Graphics from Scratch demystifies the algorithms used in modern graphics software and guides beginners through building photorealistic 3D renders. Computer graphics programming books are often math-heavy and intimidating for newcomers. Not this one. Computer Graphics from Scratch takes a simpler approach by keeping the math to a minimum and focusing on only one aspect of computer graphics, 3D rendering. You'll build two complete, fully functional renderers: a raytracer, which simulates rays of light as they bounce off objects, and a rasterizer, which converts 3D models into 2D pixels. As you progress you'll learn how to create realistic reflections and shadows, and how to render a scene from any point of view. Pseudocode examples throughout make it easy to write your renderers in any language, and links to live JavaScript demos of each algorithm invite you to explore further on your own. Learn how to: • Use perspective projection to draw 3D objects on a 2D plane • Simulate the way rays of light interact with surfaces • Add mirror-like reflections and cast shadows to objects • Render a scene from any camera position using clipping planes • Use flat, Gouraud, and Phong shading to mimic real surface lighting • Paint texture details onto basic shapes to create realistic-looking objects Whether you're an aspiring graphics engineer or a novice programmer curious about how graphics algorithms work, Gabriel Gambetta's simple, clear explanations will quickly put computer graphics concepts and rendering techniques within your reach. All you need is basic coding knowledge and high school math. Computer Graphics from Scratch will cover the rest.

Program Arcade Games - Paul Craven 2015-12-31

Learn and use Python and PyGame to design and build cool arcade games. In Program Arcade Games: With Python and PyGame, Second Edition, Dr. Paul Vincent Craven teaches you how to create fun and simple quiz games; integrate and start using graphics; animate graphics; integrate and use game controllers; add sound and bit-mapped graphics; and build grid-based games. After reading and using this book, you'll be able to learn to program and build simple arcade game applications using one of today's most popular programming languages, Python. You can even deploy onto Steam and other Linux-based game systems as well as Android, one of today's most popular mobile and tablet platforms. You'll learn: How to create quiz games How to integrate and start using graphics How to animate graphics How to integrate and use game controllers How to add sound and bit-mapped graphics How to build grid-based games

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Audience"div>This book assumes no prior programming knowledge.

Introductory C with C++ - Richard Petersen 2019-09-16

This is an epub3 version with landmarks and pagelist. C differs from most programming languages in its use of expressions, pointers, and arrays. For those learning C, pointers are the greatest source of confusion. The primary aim of this text is to provide working models of how pointers are used in C as well as an introduction to their use in C++. Most beginners falter on the use of pointers. Many try to avoid pointers completely, but quickly find that pointers are used extensively throughout C programs. Some attain a partial understanding of pointers which, at first, gets them by. However, when faced with complex programming tasks, they find that pointers become a necessity. In most programming languages one learns about pointers only after most other topics have been discussed. Pointers are just one more added feature of the language. In C and in C++, however, pointers are used with every feature. There are pointers to variables, pointers as parameters, pointers as arrays, pointers to structures, and even pointers to pointers. With each feature pointers are used differently. The way pointers work with variables is very different from the way pointers work with arrays. In this text, you learn pointers as you learn each feature of the language. With variables, you learn pointers to variables; with parameters, pointers to parameters; with functions: pointers to functions; with arrays, pointers in arrays; with structures, pointers to structures. In addition, for C++ you will learn pointers to objects, to class members, and derived objects. Such an approach provides an understanding of the many different ways pointers are used throughout the language. The text is arranged in five sections. The first section focuses on the basic structure of the language. Variables, functions, and expressions are carefully examined. The second section deals with arrays. Arrays form an exception in C. Unlike structures they are not data objects. They are completely managed by pointers. The third section describes data structures and file management. The chapter on data structures introduces basic concepts such as linked lists and trees. A special examination is made of recursion and how it operates with lists, trees, and b-trees. The chapters on file management discuss the different types of files with special emphasis on record files b-tree indexes. The fourth section provides an introduction to C++, covering classes and objects, their use with

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pointers, as well as operator overloading and inheritance. The fifth section covers additional topics greater detail such as the pre-processor and bitwise operations.

Building Micro-Frontends - Luca Mezzalira 2021-11-17

What's the answer to today's increasingly complex web applications? Micro-frontends. Inspired by the microservices model, this approach lets you break interfaces into separate features managed by different teams of developers. With this practical guide, Luca Mezzalira shows software architects, tech leads, and software developers how to build and deliver artifacts atomically rather than use a big bang deployment. You'll learn how micro-frontends enable your team to choose any library or framework. This gives your organization technical flexibility and allows you to hire and retain a broad spectrum of talent. Micro-frontends also support distributed or colocated teams more efficiently. Pick up this book and learn how to get started with this technological breakthrough right away. Explore available frontend development architectures Learn how microservice principles apply to frontend development Understand the four pillars for creating a successful micro-frontend architecture Examine the benefits and pitfalls of existing micro-frontend architectures Learn principles and best practices for creating successful automation strategies Discover patterns for integrating micro-frontend architectures using microservices or a monolith API layer

A Short History of the World in 50 Animals - Jacob F. Field 2021-07-08

A Short History of the World in 50 Animals provides a new perspective on the grand sweep of our planet's making, taking readers from the time of the dinosaurs to the time of Dolly, the first cloned mammal. This book will include a great variety of beasts from across the animal kingdom, some well known and others far more surprising, from every continent in the world. Each entry will show the creature's influence on world development, economy, health, culture, religion and society. The size of the animals range from hulking elephants to tiny bees but each one has made a significant impact on history. A Short History of the World in 50 Animals details the impact, legacy and role of fifty animals that determined the world's history and shows how many of them are essential for our future survival. Featuring charming black and white illustrations throughout, which celebrate these extraordinary animals. In the same series: A Short History of the World in 50 Places.

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An Introduction to Digital Logic - A Potton 2013-12-31

Open Data Structures - Pat Morin 2013
Introduction -- Array-based lists -- Linked lists -- Skiplists -- Hash tables -- Binary trees -- Random binary search trees -- Scapegoat trees -- Red-black trees -- Heaps -- Sorting algorithms -- Graphs -- Data structures for integers -- External memory searching.

For the Win - Kevin Werbach 2012
Millions play Farmville, Scrabble, and countless other games, generating billions in sales each year. The careful and skillful construction of these games is built on decades of research into human motivation and psychology: A well-designed game goes right to the motivational heart of the human psyche. In For the Win, Kevin Werbach and Dan Hunter argue persuasively that game-makers need not be the only ones benefiting from game design. Werbach and Hunter, lawyers and World of Warcraft players, created the world's first course on gamification at the Wharton School. In their book, they reveal how game thinking--addressing problems like a game designer--can motivate employees and customers and create engaging experiences that can transform your business. For the Win reveals how a wide range of companies are successfully using game thinking. It also offers an explanation of when gamifying makes the most sense and a 6-step framework for using games for marketing, productivity enhancement, innovation, employee motivation, customer engagement, and more.

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