

Testing Computer Software Second Edition

Introduction to Software for Chemical Engineers, Second Edition [Linear Mixed Models](#) **Requirements Engineering for Software and Systems, Second Edition** [The Certified Software Quality Engineer Handbook](#) **Jira Software Essentials Release It! Antipatterns** [Software Testing](#) [Automotive Software Engineering](#) [Model-Driven Software Engineering in Practice](#) [Linear Mixed Models](#) **Code Complete A Philosophy of Software Design** **Numerical Methods, Software, and Analysis** [Documenting Software Architectures](#) **Embedded Software Development for Safety-Critical Systems, Second Edition** [Writing Secure Code](#) [Software Engineering](#) **The Art of Agile Development** [Introduction to Software Testing](#) [Linear Mixed Models](#) [Software Licensing Handbook](#) **Guide to Advanced Software Testing, Second Edition** **Software Maintenance** [Software Engineering](#) [Model-Driven Software Engineering in Practice, Second Edition](#) **Embedded Software Development for Safety-Critical Systems, Second Edition** **The Complete Guide to Software Testing** [Introduction to Software for Chemical Engineers, Second Edition](#) [Fuzzing for Software Security Testing and Quality Assurance, Second Edition](#) [The C Programming Language](#) [Software Defined Networks](#) [Producing Open Source Software](#) **Engineering Analysis with ANSYS** **Software Docker in Action** **Code Object-oriented Software Construction** [The CERT C Coding Standard](#) **Introduction to Software Engineering** [Software Reuse, Second Edition](#)

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[The C Programming Language](#) Apr 02 2020 Introduces the features of the C programming language, discusses data types, variables, operators, control flow, functions, pointers, arrays, and structures, and looks at the UNIX system interface

[Software Defined Networks](#) Mar 02 2020 Software Defined Networks: A Comprehensive Approach, Second Edition provides in-depth coverage of the technologies collectively known as Software Defined Networking (SDN). The book shows how to explain to business decision-makers the benefits and risks in shifting parts of a network to the SDN model, when to integrate SDN technologies in a network, and how to develop or acquire SDN applications. In addition, the book emphasizes the parts of the technology that encourage opening up the network, providing treatment for alternative approaches to SDN that expand the definition of SDN as networking vendors adopt traits of SDN to their existing solutions. Since the first edition was published, the SDN market has matured, and is being gradually integrated and morphed into something more compatible with mainstream networking vendors. This book reflects these changes, with coverage of the OpenDaylight controller and its support for multiple southbound protocols, the Inclusion of NETCONF in discussions on controllers and devices, expanded coverage of NFV, and updated coverage of the latest approved version (1.5.1) of the OpenFlow specification. Contains expanded coverage of controllers Includes a new chapter on NETCONF and SDN Presents expanded coverage of SDN in optical networks Provides support materials for use in computer networking courses

Code Complete Nov 21 2021 Widely considered one of the best practical guides to programming, Steve McConnell's original CODE COMPLETE has been helping developers write better software for more than a decade. Now this classic book has been fully updated and revised with leading-edge practices—and hundreds of new code samples—illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking—and help you build the highest quality code. Discover the timeless techniques and strategies that help you: Design for minimum complexity and maximum creativity Reap the benefits of collaborative development Apply defensive programming techniques to reduce and flush out errors Exploit opportunities to refactor—or evolve—code, and do it safely Use construction practices that are right-weight for your project Debug problems quickly and effectively Resolve critical construction issues early and correctly Build quality into the beginning, middle, and end of your project

Embedded Software Development for Safety-Critical Systems, Second Edition Aug 07 2020 This is a book about the development of dependable, embedded software. It is for systems designers, implementers, and verifiers who are experienced in general embedded software development, but who are now facing the prospect of delivering a software-based system for a safety-critical application. It is aimed at those creating a product that must satisfy one or more of the international standards relating to safety-critical applications, including IEC 61508, ISO 26262, EN 50128, EN 50657, IEC 62304, or related standards. Of the first edition, Stephen Thomas, PE, Founder and Editor of FunctionalSafetyEngineer.com said, "I highly recommend Mr. Hobbs' book."

[Documenting Software Architectures](#) Aug 19 2021 Software architecture—the conceptual glue that holds every phase of a project together for its many stakeholders—is widely recognized as a critical element in modern software development. Practitioners have increasingly discovered that close attention to a software system's architecture pays valuable dividends. Without an architecture that is appropriate for the problem being solved, a project will stumble along or, most likely, fail. Even with a superb architecture, if that architecture is not well understood or well communicated the project is unlikely to succeed. Documenting Software Architectures, Second Edition, provides the most complete and current guidance, independent of language or notation, on how to capture an architecture in a commonly understandable form. Drawing on their extensive experience, the authors first help you decide what information to document, and then, with guidelines and examples (in various notations, including UML), show you how to express an architecture so that others can successfully build, use, and maintain a system from it. The book features rules for sound documentation, the goals and strategies of documentation, architectural views and styles, documentation for software interfaces and software behavior, and templates for capturing and organizing information to generate a coherent package. New and improved in this second edition: Coverage of architectural styles such as service-oriented architectures, multi-tier architectures, and data models Guidance for documentation in an Agile development environment Deeper treatment of documentation of rationale, reflecting best industrial practices Improved templates, reflecting years of

use and feedback, and more documentation layout options A new, comprehensive example (available online), featuring documentation of a Web-based service-oriented system Reference guides for three important architecture documentation languages: UML, AADL, and SysML *Release It!* May 28 2022 A single dramatic software failure can cost a company millions of dollars - but can be avoided with simple changes to design and architecture. This new edition of the best-selling industry standard shows you how to create systems that run longer, with fewer failures, and recover better when bad things happen. New coverage includes DevOps, microservices, and cloud-native architecture. Stability antipatterns have grown to include systemic problems in large-scale systems. This is a must-have pragmatic guide to engineering for production systems. If you're a software developer, and you don't want to get alerts every night for the rest of your life, help is here. With a combination of case studies about huge losses - lost revenue, lost reputation, lost time, lost opportunity - and practical, down-to-earth advice that was all gained through painful experience, this book helps you avoid the pitfalls that cost companies millions of dollars in downtime and reputation. Eighty percent of project life-cycle cost is in production, yet few books address this topic. This updated edition deals with the production of today's systems - larger, more complex, and heavily virtualized - and includes information on chaos engineering, the discipline of applying randomness and deliberate stress to reveal systematic problems. Build systems that survive the real world, avoid downtime, implement zero-downtime upgrades and continuous delivery, and make cloud-native applications resilient. Examine ways to architect, design, and build software - particularly distributed systems - that stands up to the typhoon winds of a flash mob, a Slashdotting, or a link on Reddit. Take a hard look at software that failed the test and find ways to make sure your software survives. To skip the pain and get the experience...get this book.

Requirements Engineering for Software and Systems, Second Edition Aug 31 2022 As requirements engineering continues to be recognized as the key to on-time and on-budget delivery of software and systems projects, many engineering programs have made requirements engineering mandatory in their curriculum. In addition, the wealth of new software tools that have recently emerged is empowering practicing engineers to improve their requirements engineering habits. However, these tools are not easy to use without appropriate training. Filling this need, Requirements Engineering for Software and Systems, Second Edition has been vastly updated and expanded to include about 30 percent new material. In addition to new exercises and updated references in every chapter, this edition updates all chapters with the latest applied research and industry practices. It also presents new material derived from the experiences of professors who have used the text in their classrooms. Improvements to this edition include: An expanded introductory chapter with extensive discussions on requirements analysis, agreement, and consolidation An expanded chapter on requirements engineering for Agile methodologies An expanded chapter on formal methods with new examples An expanded section on requirements traceability An updated and expanded section on requirements engineering tools New exercises including ones suitable for research projects Following in the footsteps of its bestselling predecessor, the text illustrates key ideas associated with requirements engineering using extensive case studies and three common example systems: an airline baggage handling system, a point-of-sale system for a large pet store chain, and a system for a smart home. This edition also includes an example of a wet well pumping system for a wastewater treatment station. With a focus on software-intensive systems, but highly applicable to non-software systems, this text provides a probing and comprehensive review of recent developments in requirements engineering in high integrity systems.

Object-oriented Software Construction Sep 27 2019 This volume aims to study how practicing software developers, in industrial as well as academic environments, can use object technology to improve the quality of the software they produce. It includes topics on concurrency and Internet programming.

Numerical Methods, Software, and Analysis Sep 19 2021

Automotive Software Engineering Feb 22 2022 The software-based implementation of vehicle functions provides for unparalleled freedoms of concept and design. However, automobile development calls for the accommodation of contrasting prerequisites such as higher demands on safety and reliability vs. lower cost ceilings, longer product life cycles vs. shorter development times along with a growing proliferation of model variants. Automotive Software Engineering has established its position at the center of these seemingly conflicting opposites.

A Philosophy of Software Design Oct 21 2021

Software Licensing Handbook Jan 12 2021 The Software Licensing Handbook leads you through the twists and turns of the language found in almost all software, maintenance and professional services contracts. Plain English explanations of standard contract wording enables anyone to understand what you are reading, regardless of whether you are buying OR selling software. Additionally, sections on negotiation and contract management enable you to fully understand, appreciate and if necessary, implement a complete contracting process.

Introduction to Software Testing Mar 14 2021 Extensively class-tested, this textbook takes an innovative approach to software testing: it defines testing as the process of applying a few well-defined, general-purpose test criteria to a structure or model of the software. It incorporates the latest innovations in testing, including techniques to test modern types of software such as OO, web applications, and embedded software. The book contains numerous examples throughout. An instructor's solution manual, PowerPoint slides, sample syllabi, additional examples and updates, testing tools for students, and example software programs in Java are available on an extensive website.

Fuzzing for Software Security Testing and Quality Assurance, Second Edition May 04 2020 This newly revised and expanded second edition of the popular Artech House title, Fuzzing for Software Security Testing and Quality Assurance, provides practical and professional guidance on how and why to integrate fuzzing into the software development lifecycle. This edition introduces fuzzing as a process, goes through commercial tools, and explains what the customer requirements are for fuzzing. The advancement of evolutionary fuzzing tools, including American Fuzzy Lop (AFL) and the emerging full fuzz test automation systems are explored in this edition. Traditional software programmers and testers will learn how to make fuzzing a standard practice that integrates seamlessly with all development activities. It surveys all popular commercial fuzzing tools and explains how to select the right one for software development projects. This book is a powerful new tool to build secure, high-quality software taking a weapon from the malicious hacker's arsenal. This practical resource helps engineers find and patch flaws in software before harmful viruses, worms, and Trojans can use these vulnerabilities to rampage systems. The book shows how to make fuzzing a standard practice that integrates seamlessly with all development activities.

The Certified Software Quality Engineer Handbook Jul 30 2022 A comprehensive reference manual to the Certified Software Quality Engineer Body of Knowledge and study guide for the CSQE exam.

Linear Mixed Models Oct 01 2022 Highly recommended by JASA, Technometrics, and other journals, the first edition of this bestseller showed how to easily perform complex linear mixed model (LMM) analyses via a variety of software programs. Linear Mixed Models: A Practical Guide Using Statistical Software, Second Edition continues to lead readers step by step through the process of fitting LMMs. This second edition covers additional topics on the application of LMMs that are valuable for data analysts in all fields. It also updates the case studies using the latest versions of the software procedures and provides up-to-date information on the options and features of the

software procedures available for fitting LMMs in SAS, SPSS, Stata, R/S-plus, and HLM. New to the Second Edition A new chapter on models with crossed random effects that uses a case study to illustrate software procedures capable of fitting these models Power analysis methods for longitudinal and clustered study designs, including software options for power analyses and suggested approaches to writing simulations Use of the lmer() function in the lme4 R package New sections on fitting LMMs to complex sample survey data and Bayesian approaches to making inferences based on LMMs Updated graphical procedures in the software packages Substantially revised index to enable more efficient reading and easier location of material on selected topics or software options More practical recommendations on using the software for analysis A new R package (WWGbook) that contains all of the data sets used in the examples Ideal for anyone who uses software for statistical modeling, this book eliminates the need to read multiple software-specific texts by covering the most popular software programs for fitting LMMs in one handy guide. The authors illustrate the models and methods through real-world examples that enable comparisons of model-fitting options and results across the software procedures.

Antipatterns Apr 26 2022 Emphasizing leadership principles and practices, *Antipatterns: Managing Software Organizations and People*, Second Edition catalogs 49 business practices that are often precursors to failure. This updated edition of a bestseller not only illustrates bad management approaches, but also covers the bad work environments and cultural traits commonly found in IT, software development, and other business domains. For each antipattern, it describes the situation and symptoms, gives examples, and offers a refactoring solution. The authors, graduate faculty at Penn State University, avoid an overly scholarly style and infuse the text with entertaining sidebars, cartoons, stories, and jokes. They provide names for the antipatterns that are visual, humorous, and memorable. Using real-world anecdotes, they illustrate key concepts in an engaging manner. This updated edition sheds light on new management and environmental antipatterns and includes a new chapter, six updated chapters, and new discussion questions. Topics covered include leadership principles, environmental antipatterns, group patterns, management antipatterns, and team leadership. Following introductory material on management theory and human behavior, the text catalogs the full range of management, cultural, and environmental antipatterns. It includes thought-provoking exercises that each describe a situation, ask which antipatterns are present, and explain how to refactor the situation. It provides time-tested advice to help you overcome bad practices through successful interaction with your clients, customers, peers, supervisors, and subordinates.

Docker in Action Nov 29 2019 Even small applications have dozens of components. Large applications may have thousands, which makes them challenging to install, maintain, and remove. Docker bundles all application components into a package called a container that keeps things tidy and helps manage any dependencies on other applications or infrastructure. *Docker in Action*, Second Edition teaches you the skills and knowledge you need to create, deploy, and manage applications hosted in Docker containers. This bestseller has been fully updated with new examples, best practices, and entirely new chapters. You'll start with a clear explanation of the Docker model and learn how to package applications in containers, including techniques for testing and distributing applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Producing Open Source Software Jan 30 2020 The corporate market is now embracing free, "open source" software like never before, as evidenced by the recent success of the technologies underlying LAMP (Linux, Apache, MySQL, and PHP). Each is the result of a publicly collaborative process among numerous developers who volunteer their time and energy to create better software. The truth is, however, that the overwhelming majority of free software projects fail. To help you beat the odds, O'Reilly has put together *Producing Open Source Software*, a guide that recommends tried and true steps to help free software developers work together toward a common goal. Not just for developers who are considering starting their own free software project, this book will also help those who want to participate in the process at any level. The book tackles this very complex topic by distilling it down into easily understandable parts. Starting with the basics of project management, it details specific tools used in free software projects, including version control, IRC, bug tracking, and Wikis. Author Karl Fogel, known for his work on CVS and Subversion, offers practical advice on how to set up and use a range of tools in combination with open mailing lists and archives. He also provides several chapters on the essentials of recruiting and motivating developers, as well as how to gain much-needed publicity for your project. While managing a team of enthusiastic developers -- most of whom you've never even met -- can be challenging, it can also be fun. *Producing Open Source Software* takes this into account, too, as it speaks of the sheer pleasure to be had from working with a motivated team of free software developers.

Writing Secure Code Jun 16 2021 Covers topics such as the importance of secure systems, threat modeling, canonical representation issues, solving database input, denial-of-service attacks, and security code reviews and checklists.

Software Engineering Oct 09 2020 Presenting the most comprehensive and practical introduction to the principles of software engineering and how to apply them, this updated edition follows an object-oriented perspective Includes new and expanded material on agile and emerging methods, metrics, quality assurance security, real-world case studies, refactoring, test-driving development, and testing Case studies help readers learn the importance of quality factors, appropriate design, and project management techniques

Embedded Software Development for Safety-Critical Systems, Second Edition Jul 18 2021 This is a book about the development of dependable, embedded software. It is for systems designers, implementers, and verifiers who are experienced in general embedded software development, but who are now facing the prospect of delivering a software-based system for a safety-critical application. It is aimed at those creating a product that must satisfy one or more of the international standards relating to safety-critical applications, including IEC 61508, ISO 26262, EN 50128, EN 50657, IEC 62304, or related standards. Of the first edition, Stephen Thomas, PE, Founder and Editor of FunctionalSafetyEngineer.com said, "I highly recommend Mr. Hobbs' book."

Engineering Analysis with ANSYS Software Dec 31 2019 *Engineering Analysis with ANSYS Software*, Second Edition, provides a comprehensive introduction to fundamental areas of engineering analysis needed for research or commercial engineering projects. The book introduces the principles of the finite element method, presents an overview of ANSYS technologies, then covers key application areas in detail. This new edition updates the latest version of ANSYS, describes how to use FLUENT for CFD FEA, and includes more worked examples. With detailed step-by-step explanations and sample problems, this book develops the reader's understanding of FEA and their ability to use ANSYS software tools to solve a range of analysis problems. Uses detailed and clear step-by-step instructions, worked examples and screen-by-screen illustrative problems to reinforce learning Updates the latest version of ANSYS, using FLUENT instead of FLOWTRAN Includes instructions for use of WORKBENCH Features additional worked examples to show engineering analysis in a broader range of practical engineering applications

Model-Driven Software Engineering in Practice Jan 24 2022 This book discusses how model-based approaches can improve the daily practice of software professionals. This is known as Model-Driven Software Engineering (MDSE) or, simply, Model-Driven Engineering (MDE). MDSE practices have proved to increase efficiency and effectiveness in software development, as demonstrated by various quantitative and qualitative studies. MDSE adoption in the software industry is foreseen to grow exponentially in the near future, e.g., due to the convergence of software development and business analysis. The aim of this book is to provide you with an agile and flexible tool to

introduce you to the MDSE world, thus allowing you to quickly understand its basic principles and techniques and to choose the right set of MDSE instruments for your needs so that you can start to benefit from MDSE right away. The book is organized into two main parts. The first part discusses the foundations of MDSE in terms of basic concepts (i.e., models and transformations), driving principles, application scenarios, and current standards, like the well-known MDA initiative proposed by OMG (Object Management Group) as well as the practices on how to integrate MDSE in existing development processes. The second part deals with the technical aspects of MDSE, spanning from the basics on when and how to build a domain-specific modeling language, to the description of Model-to-Text and Model-to-Model transformations, and the tools that support the management of MDSE projects. The second edition of the book features: a set of completely new topics, including: full example of the creation of a new modeling language (IFML), discussion of modeling issues and approaches in specific domains, like business process modeling, user interaction modeling, and enterprise architecture complete revision of examples, figures, and text, for improving readability, understandability, and coherence better formulation of definitions, dependencies between concepts and ideas addition of a complete index of book content In addition to the contents of the book, more resources are provided on the book's website <http://www.mdse-book.com>, including the examples presented in the book.

Linear Mixed Models Dec 23 2021 Simplifying the often confusing array of software programs for fitting linear mixed models (LMMs), *Linear Mixed Models: A Practical Guide Using Statistical Software* provides a basic introduction to primary concepts, notation, software implementation, model interpretation, and visualization of clustered and longitudinal data. This easy-to-nav

Software Maintenance Nov 09 2020 ' Software systems now invade every area of daily living. Yet, we still struggle to build systems we can really rely on. If we want to work with software systems at any level, we need to get to grips with the way software evolves. This book will equip the reader with a sound understanding of maintenance and how it affects all levels of the software evolution process.

Contents:Part I: The Context of Maintenance:Introduction to the Basic ConceptsThe Maintenance FrameworkFundamentals of Software ChangeLimitations and Economic Implications to Software ChangeThe Maintenance ProcessPart II: What Takes Place During Maintenance:Program UnderstandingReverse EngineeringReuse and ReusabilityTestingManagement and Organisational IssuesPart III: Keeping Track of the Maintenance Process:Configuration ManagementMaintenance MeasuresPart IV: Building Better Systems:Building and Sustaining MaintainabilityMaintenance ToolsPart V: Looking to the Future Readership: Researchers, graduate students and undergraduates in software engineering, programming, information engineering, health informatics and medical informatics; practitioners and industrialists in software development and maintenance. Keywords:Software Maintenance;Software Evolution;Software Change;Program Understanding;Software Reuse;Maintenance Process ModelsReviews:"... an excellent piece of work that comprehensively covers the breadth of software maintenance issues ... the strongest praise I can give is that I intend to use it myself, as a reference to aid my research, and as a textbook the next time I teach maintenance."Journal of Software Maintenance '

Software Testing Mar 26 2022

Linear Mixed Models Feb 10 2021 The third edition provides a comprehensive update of the available tools for fitting linear mixed-effects models in the newest versions of SAS, SPSS, R, Stata, and HLM. There is a focus on new tools for visualization of results and interpretation. New conceptual and theoretical developments in mixed-effects modeling have been included

Software Reuse, Second Edition Jun 24 2019 This book is an updated edition of the previous McGraw-Hill edition, which was an essential guide to successful reuse across the entire software life cycle. It explains in depth the fundamentals, economics, and metrics of software reuse. The bottom line is good news for designers of complex systems: Systematic software reuse can succeed, even if the underlying technology is changing rapidly. Software reuse has been called the central technical concept of object-oriented design. This book covers reuse in object-oriented systems, but goes far beyond in its coverage of complex systems - the type that may evolve into "systems of systems." Important new material has been added to this edition on the changed state-of-the-art and state-of-the-practice of software reuse, on product-line architectures, on the economics of reuse, on the maintenance of COTS-based systems. A case study using DoDAF (The Department of Defense Architectural Framework) in system design has been included to show some new thinking about reuse and some attributes of large-scale components of very large systems. After an introduction to basics, the book shows you how to: 1. Access reuse and disadvantages for your systems. 2.Understand and use domain analysis. 3.Estimate total costs, including maintenance, using life-cycle-based models. 4.Organize and manage reuse libraries. 5.Certify software components that have been created at any phase of the software life cycle your organization uses. 6.Implement systematic reuse using COTS (commercial, off-the-shelf) components and other existing software. The book includes several models and reengineering checklists, as well as important case studies. These models and checklists help anyone faced with the problem of whether to build, buy, reuse, or reengineer any software component, system, or subsystem of reasonable complexity. Such components, subsystems, and systems often fit into the new paradigms of service-oriented architectures (SOA) and software-as-a-service (SaAS). Software Reuse: Methods, Models, Costs emphasizes the cost efficient development of high-quality software systems in changing technology environments. Our primary example of domain analysis, which is the analysis of software into potentially reusable artifacts, often at a higher level than simply source code modules, is the assessment of possibilities for reuse in the Linux kernel. There are eight chapters in Software Reuse: Methods, Models, Costs: What is Software Reuse?, Techniques (which included domain analysis), Reuse Libraries, Certification of Reusable Software Components, The Economics of Software Reuse, Reengineering, Case Studies, and Tools For Software Reuse.

Code Oct 28 2019

The CERT C Coding Standard Aug 26 2019 This book is an essential desktop reference for the CERT C coding standard. The CERT C Coding Standard is an indispensable collection of expert information. The standard itemizes those coding errors that are the root causes of software vulnerabilities in C and prioritizes them by severity, likelihood of exploitation, and remediation costs. Each guideline provides examples of insecure code as well as secure, alternative implementations. If uniformly applied, these guidelines will eliminate the critical coding errors that lead to buffer overflows, format string vulnerabilities, integer overflow, and other common software vulnerabilities.

Introduction to Software for Chemical Engineers, Second Edition Nov 02 2022 The field of Chemical Engineering and its link to computer science is in constant evolution and new engineers have a variety of tools at their disposal to tackle their everyday problems. *Introduction to Software for Chemical Engineers, Second Edition* provides a quick guide to the use of various computer packages for chemical engineering applications. It covers a range of software applications from Excel and general mathematical packages such as MATLAB and MathCAD to process simulators, CHEMCAD and ASPEN, equation-based modeling languages, gProms, optimization software such as GAMS and AIMS, and specialized software like CFD or DEM codes. The different packages are introduced and applied to solve typical problems in fluid mechanics, heat and mass transfer, mass and energy balances, unit operations, reactor engineering, process and equipment design and control. This new edition offers a wider view of packages including open source software such as R, Python and Julia. It also includes complete examples in ASPEN Plus, adds ANSYS Fluent to CFD codes, Lingo to the optimization packages, and discusses Engineering Equation Solver. It offers a global idea of the capabilities of the software used in the chemical engineering field and

provides examples for solving real-world problems. Written by leading experts, this book is a must-have reference for chemical engineers looking to grow in their careers through the use of new and improving computer software. Its user-friendly approach to simulation and optimization as well as its example-based presentation of the software, makes it a perfect teaching tool for both undergraduate and master levels.

Introduction to Software Engineering Jul 26 2019 Practical Guidance on the Efficient Development of High-Quality Software Introduction to Software Engineering, Second Edition equips students with the fundamentals to prepare them for satisfying careers as software engineers regardless of future changes in the field, even if the changes are unpredictable or disruptive in nature. Retaining the same organization as its predecessor, this second edition adds considerable material on open source and agile development models. The text helps students understand software development techniques and processes at a reasonably sophisticated level. Students acquire practical experience through team software projects. Throughout much of the book, a relatively large project is used to teach about the requirements, design, and coding of software. In addition, a continuing case study of an agile software development project offers a complete picture of how a successful agile project can work. The book covers each major phase of the software development life cycle, from developing software requirements to software maintenance. It also discusses project management and explains how to read software engineering literature. Three appendices describe software patents, command-line arguments, and flowcharts.

Introduction to Software for Chemical Engineers, Second Edition Jun 04 2020 The field of Chemical Engineering and its link to computer science is in constant evolution and new engineers have a variety of tools at their disposal to tackle their everyday problems. Introduction to Software for Chemical Engineers, Second Edition provides a quick guide to the use of various computer packages for chemical engineering applications. It covers a range of software applications from Excel and general mathematical packages such as MATLAB and MathCAD to process simulators, CHEMCAD and ASPEN, equation-based modeling languages, gProms, optimization software such as GAMS and AIMS, and specialized software like CFD or DEM codes. The different packages are introduced and applied to solve typical problems in fluid mechanics, heat and mass transfer, mass and energy balances, unit operations, reactor engineering, process and equipment design and control. This new edition offers a wider view of packages including open source software such as R, Python and Julia. It also includes complete examples in ASPEN Plus, adds ANSYS Fluent to CFD codes, Lingo to the optimization packages, and discusses Engineering Equation Solver. It offers a global idea of the capabilities of the software used in the chemical engineering field and provides examples for solving real-world problems. Written by leading experts, this book is a must-have reference for chemical engineers looking to grow in their careers through the use of new and improving computer software. Its user-friendly approach to simulation and optimization as well as its example-based presentation of the software, makes it a perfect teaching tool for both undergraduate and master levels.

Guide to Advanced Software Testing, Second Edition Dec 11 2020 Software testing is a critical aspect of the software development process, and this heavily illustrated reference takes professionals on a complete tour of this increasingly important, multi-dimensional area. The book offers a practical understanding of all the most critical software testing topics and their relationships and inter-dependencies. This unique resource utilizes a wealth of graphics that support the discussions to offer a clear overview of software testing, from the definition of testing and the value and purpose of testing, through the complete testing process with all its activities, techniques and documentation, to the softer aspects of people and teams working with testing. Practitioners find numerous examples and exercises presented in each chapter to help ensure a complete understanding of the material. The book supports the ISTQB certification and provides a bridge from this to the ISO 29119 Software Testing Standard in terms of extensive mappings between the two; this is a truly unique feature.

The Complete Guide to Software Testing Jul 06 2020 The Complete Guide to Software Testing Bill Hetzel Gain a new perspective to software testing as a life cycle activity, not merely as something that happens at the end of coding. This edition is completely revised and contains new chapters on testing methodologies including ANSI standard-based testing—a survey of testing practices. Dr. Hetzel first develops the concepts and principles of testing. Then he presents detailed discussions of testing techniques, methodologies and management perspectives. Each chapter contains examples, checklists and case studies based on Dr. Hetzel's consulting and management experience. These will help you understand the material and adapt it to your environment. Intended primarily for software developers, testers and managers, auditors and quality assurance specialists will find the book an invaluable aid for the development of testing standards and the evaluation of testing effectiveness. Table of Contents: Introduction. Principles of Testing. Methodology. Testing through Reviews. Testing Requirements. Testing Design. Testing Programs—Testing in the Small. Testing Systems—Testing in the Large. Testing Software Changes. Testing Software Packages. The Role of Management. Organizing the Testing Function. Controlling the Testing Function. Putting the Pieces Together. Testing Practices Survey. Sample Testing Policies. Quality Measurement Diagnostic Checklist. Testing References (Bibliography).

Software Engineering May 16 2021 Today's software engineer must be able to employ more than one kind of software process, ranging from agile methodologies to the waterfall process, from highly integrated tool suites to refactoring and loosely coupled tool sets. Braude and Bernstein's thorough coverage of software engineering perfects the reader's ability to efficiently create reliable software systems, designed to meet the needs of a variety of customers. Topical highlights . . . • Process: concentrates on how applications are planned and developed • Design: teaches software engineering primarily as a requirements-to-design activity • Programming and agile methods: encourages software engineering as a code-oriented activity • Theory and principles: focuses on foundations • Hands-on projects and case studies: utilizes active team or individual project examples to facilitate understanding theory, principles, and practice In addition to knowledge of the tools and techniques available to software engineers, readers will grasp the ability to interact with customers, participate in multiple software processes, and express requirements clearly in a variety of ways. They will have the ability to create designs flexible enough for complex, changing environments, and deliver the proper products.

Jira Software Essentials Jun 28 2022 Explore Jira Software to manage your projects proficiently Key Features Plan and manage projects effortlessly with Jira Software by integrating it with other applications Improve your team's performance with Scrum and Kanban, together with agile methodology Easy-to-follow learning guide to install Jira Software and understand how it fits in with Atlassian Jira Book Description Jira Software is an agile project management tool that supports any agile methodology, be it scrum, Kanban, or your own unique flavour. From agile boards to reports, you can plan, track, and manage all your agile software development projects from a single tool. Jira Software brings the power of agile methodology to Atlassian Jira. This second edition of JIRA Agile Essentials, will help you dive straight into the action, exploring critical agile terminologies and concepts in the context of Jira Software. You will learn how to plan, track, and release great software. This book will teach you how to install and run Jira Software and set it up to run with Scrum and Kanban. It will also teach you to use Jira Software your way and run projects beyond the out-of-box Scrum and Kanban way, including a hybrid approach of both the methodologies and other options that come with Jira Software. Later, you will learn how to integrate it with the tools you are already using and enhance Jira with add-ons such as Confluence. You will learn to stay connected with your team from anywhere to ensure

great development. Jira Software has numerous deployment options in the cloud, on your own infrastructure, or at a massive scale. You will be introduced to Bitbucket, Atlassian's distributed version control system, which integrates seamlessly with Jira, allowing your team to work within the two applications as one harmonious environment. With this practical guide, you will develop a great working knowledge of Jira Software and your project management will become much more efficient. What you will learn Understand the basics and agile methodologies of Jira software Use Jira Software in a Scrum environment Manage and run Jira Software projects beyond the out of box Scrum and Kanban way Combine Scrum and Kanban and use other project management options beyond just agile Customize Jira Software's various features and options as per your requirements Work with Jira Agile offline, and plan and forecast projects with agile portfolio Integrate Jira Agile with Confluence and Bitbucket Who this book is for If you want to get started with Jira Software and learn how to run your Jira projects the agile way, then this is the perfect book for you. You will need to be familiar with the basics of Jira, both from an end user's and an administrator's perspective. Experience with workflows, custom fields, and other administrative functions of Jira will be useful.

The Art of Agile Development Apr 14 2021 For those considering Extreme Programming, this book provides no-nonsense advice on agile planning, development, delivery, and management taken from the authors' many years of experience. While plenty of books address the what and why of agile development, very few offer the information users can apply directly.

Model-Driven Software Engineering in Practice, Second Edition Sep 07 2020 This book discusses how model-based approaches can improve the daily practice of software professionals. This is known as Model-Driven Software Engineering (MDSE) or, simply, Model-Driven Engineering (MDE). MDSE practices have proved to increase efficiency and effectiveness in software development, as demonstrated by various quantitative and qualitative studies. MDSE adoption in the software industry is foreseen to grow exponentially in the near future, e.g., due to the convergence of software development and business analysis. The aim of this book is to provide you with an agile and flexible tool to introduce you to the MDSE world, thus allowing you to quickly understand its basic principles and techniques and to choose the right set of MDSE instruments for your needs so that you can start to benefit from MDSE right away. The book is organized into two main parts. The first part discusses the foundations of MDSE in terms of basic concepts (i.e., models and transformations), driving principles, application scenarios, and current standards, like the well-known MDA initiative proposed by OMG (Object Management Group) as well as the practices on how to integrate MDSE in existing development processes. The second part deals with the technical aspects of MDSE, spanning from the basics on when and how to build a domain-specific modeling language, to the description of Model-to-Text and Model-to-Model transformations, and the tools that support the management of MDSE projects. The second edition of the book features: a set of completely new topics, including: full example of the creation of a new modeling language (IFML), discussion of modeling issues and approaches in specific domains, like business process modeling, user interaction modeling, and enterprise architecture complete revision of examples, figures, and text, for improving readability, understandability, and coherence better formulation of definitions, dependencies between concepts and ideas addition of a complete index of book content In addition to the contents of the book, more resources are provided on the book's website <http://www.mdse-book.com>, including the examples presented in the book.