Free Debugging With Fiddler Second Editions

Debugging Embedded Microprocessor Systems provides techniques for engineers, technicians, and students who need to correct design faults in embedded systems. Using real-world scenarios, designers can learn practical, time-saving ways to avoid and repair potentially costly problems. Prevention is stressed. In this book, the author addresses hardware and software issues, including up-front design techniques to prevent bugs and contain design creep. Practical advice includes descriptions of common tools which can be used to help identify and repair bugs, as well as test routines. RTOS and embedded PC environments are also covered. Each chapter of Debugging Embedded Microprocessor Systems opens with an example design problem which illustrates real-world issues such as design changes, time pressures, equipment or component availability, etc. Case studies of past debugging projects are presented in the final chapter. Addresses real-world issues like design changes, time pressures, equipment or component availability Practical, time-saving methods for preventing and correcting design problems Covers debugging tools and programmer test routines

A total guide to debuggers: what they do, how they work, and how to use them to produce better programs "Debuggers are the magnifying glass, the microscope, the logic analyzer, the profiler, and the browser with which a program can be examined."-Jonathan B. Rosenberg Debuggers are an indispensable tool in the development process. In fact, during the course of the average software project, more hours are spent debugging software than in compiling code. Yet, not many programmers really know how to constructively interpret the results they get back from debuggers. And even fewer know what makes these complex suites of algorithms and data structures tick. Now in this extremely accessible guide, Jonathan B. Rosenberg demystifies debuggers for programmers and shows them how to make better use of debuggers in their next projects. Taking a hands-on, problem-solving approach to a complex subject, Rosenberg explains how debuggers work and why programmers use them. Most importantly, he provides practical discussions of debugger algorithms and procedures for their use, accompanied by many practical examples. The author also discusses a wide variety of systems applications, from Microsoft's Win32 debug API to a large parallel architecture. Visit our Web site at: http://www.wiley.com/compbooks/

Proudly presenting the latest edition of one of the all-time bestselling books on the C++ language, successful author Ivor Horton repeats the formula that has made each previous edition so popular by teaching you both the standard C++ language and C++/CLI as well as Visual C++ 2008. Thoroughly updated for the 2008 release, this book shows you how to build real-world applications using Visual C++ and guides you through the ins and outs of C++ development. With this book by your side, you are well on your way to becoming a successful C++ programmer.

Offers application debugging techniques for Microsoft .NET 2.0, covering topics such as exception monitoring, crash handlers, and multithreaded deadlocks.
An Essential Reference for Intermediate and Advanced R Programmers Advanced R presents useful tools and techniques for attacking many types of R programming problems, helping you avoid mistakes and dead ends. With more than ten years of experience programming in R, the author illustrates the elegance, beauty, and flexibility at the heart of R. The book develops the necessary skills to produce quality code that can be used in a variety of circumstances. You will learn: The fundamentals of R, including standard data types and functions Functional programming as a useful framework for solving wide classes of problems The positives and negatives of metaprogramming How to write fast, memory-efficient code This book not only helps current R users become R programmers but also shows existing programmers what's special about R. Intermediate R programmers can dive deeper into R and learn new strategies for solving diverse problems while programmers from other languages can learn the details of R and understand why R works the way it does.
The author explains how he organized and supervised effective software development teams at the Microsoft company to come up with timely and high-quality commercial applications, offering a candid look at the group dynamics of software development. Original. (Advanced).
This chapter focuses on the software development tools for embedded systems, especially on the debugging and investigation tools. The chapter starts by presenting the capabilities of a source code debugger – a tool that allows the developer to see what is inside his program at the current execution point or at the moment when the program crashed. The debugger features are described using as an example one of the most popular and widely used debuggers, GDB – GNU Debugger, provided by Free Software Foundation. In order to cover all the requirements of an embedded system, the chapter presents in the following how to design a debug agent that fits into our special target requirements starting from a simple debug routine and evolving to a fully featured debugger. It also presents the typical use cases and the key points of the design like context switching, position-independent executables, debug event handling and multi-core. It then presents the benefits of using the JTAG, an external device used to connect the debugger directly to the target, allowing the debugger to have full control of the target and its resources. Toward the end the chapter presents other tools that may help in the debugging process, like integrated development tools based on free open-source software (Eclipse, GDB), instrumented code and analysis tools.
Debugging is crucial to successful software development, but even many experienced programmers find it challenging. Sophisticated debugging tools are available, yet it may be difficult to determine which features are useful in which situations. The Art of Debugging is your guide to making the debugging process more efficient and effective. The Art of Debugging illustrates the use three of the most popular debugging tools on Linux/Unix platforms: GDB, DDD, and Eclipse.

The text-command based GDB (the GNU Project Debugger) is included with most distributions. DDD is a popular GUI front end for GDB, while Eclipse provides a complete integrated development environment. In addition to offering specific advice for debugging with each tool, authors Norm Matloff and Pete Salzman cover general strategies for improving the process of finding and fixing coding errors, including how to: –Inspect variables and data structures –Understand segmentation faults and core dumps –Know why your program crashes or throws exceptions –Use features like catchpoints, convenience variables, and artificial arrays –Avoid common debugging pitfalls Real world examples of coding errors help to clarify the authors' guiding principles, and coverage of complex topics like thread, client-server, GUI, and parallel programming debugging will make you even more proficient. You'll also learn how to prevent errors in the first place with text editors, compilers, error reporting, and static code checkers. Whether you dread the thought of debugging your programs or simply want to improve your current debugging efforts, you'll find a valuable ally in The Art of Debugging.

This fully updated second edition includes 100+ pages of new material, including new chapters on Verifying Code, Predicting Errors, and Preventing Errors. Cutting-edge tools such as FindBUGS and AGITAR are explained, techniques from integrated environments like Jazz.net are highlighted, and all-new demos with ESC/Java and Spec#, Eclipse and Mozilla are included. This complete and pragmatic overview of debugging is authored by Andreas Zeller, the talented researcher who developed the GNU Data Display Debugger(DDD), a tool that over 250,000 professionals use to visualize the data structures of programs while they are running. Unlike other books on debugging, Zeller's text is product agnostic, appropriate for all programming languages and skill levels. Why Programs Fail explains best practices ranging from systematically tracking error reports, to observing symptoms, reproducing errors, and correcting defects. It covers a wide range of tools and techniques from hands-on observation to fully automated diagnoses, and also explores the author's innovative techniques for isolating minimal input to reproduce an error and for tracking cause and effect through a program. It even includes instructions on how to create automated debugging tools. The new edition of this award-winning productivity-booster is for any developer who has ever been frustrated by elusive bugs. Brand new chapters demonstrate cutting-edge debugging techniques and tools, enabling readers to put the latest time-saving developments to work for them. Learn by doing. New exercises and detailed examples focus on emerging tools, languages and environments, including AGITAR, FindBUGS, Python and Eclipse. The text includes exercises and extensive references for further study, and a companion website with source code for all examples and additional debugging resources.

Implement reverse engineering techniques to analyze software, exploit software targets, and defend against security threats like malware and viruses. Key Features Analyze and improvise software and hardware with real-world examples

Learn advanced debugging and patching techniques with tools such as IDA Pro, x86dbg, and Radare2. Explore modern security techniques to identify, exploit, and avoid cyber threats Book Description If you want to analyze software in order to exploit its weaknesses and strengthen its defenses, then you should explore reverse engineering. Reverse Engineering is a hackerfriendly tool used to expose security flaws and questionable privacy practices.In this book, you will learn how to analyse software even without having access to its source code or design documents. You will start off by learning the low-level language used to communicate with the computer and then move on to covering reverse engineering techniques. Next, you will explore analysis techniques using real-world tools such as IDA Pro and x86dbg. As you progress through the chapters, you will walk through use cases encountered in reverse engineering, such as encryption and compression, used to obfuscate code, and how to to identify and overcome anti-debugging and anti-analysis tricks. Lastly, you will learn how to analyse other types of files that contain code. By the end of this book, you will have the confidence to perform reverse engineering. What you will learn Learn core reverse engineering Identify and extract malware components Explore the tools used for reverse engineering Run programs under non-native operating systems Understand binary obfuscation techniques Identify and analyze anti-debugging and anti-analysis tricks Who this book is for If you are a security engineer or analyst or a system programmer and want to use reverse engineering to improve your software and hardware, this is the book for you. You will also find this book useful if you are a developer who wants to explore and learn reverse engineering. Having some programming/shell scripting knowledge is an added advantage.

Tips for the practical use of debuggers, such as NuMega SoftIce, Microsoft Visual Studio Debugger, and Microsoft Kernel Debugger, with minimum binding to a specific environment are disclosed in this debugger guide. How debuggers operate and how to overcome obstacles and repair debuggers is demonstrated. Programmers will learn how to look at what is inside a computer system, how to reconstruct the operating algorithm of a program distributed without source code, how to modify the program, and how to debug drivers. The use of debugging applications and drivers in Windows and Unix operating systems on Intel Pentium/DEC Alpha-based processors is also detailed.

The start-to-finish tutorial and reference for Windows 2000 kernel debugging! The expert guide to Windows 2000 kernel debugging and crash dump analysis Interpreting Windows 2000 stop screens--in depth! Making the most of WinDbg and KD Debugging hardware: ports, BIOS, PCI and SCSI buses, and chipsets Advanced coverage: remote debugging, Debugging Extensions, Driver Verifier, and more Step-by-step crash dump analysis and kernel debugging How to interpret every element of a Windows 2000 stop screen Using WinDbg: configuring options, symbol paths, DLLs, and more Debugging hardware: ports, BIOS, PCI and SCSI buses, chipsets, and more Configuring local and remote

kernel debugging environments Includes extensive code samples This comprehensive guide to Windows 2000 kernel debugging will be invaluable to anyone who must analyze and prevent Windows 2000 system crashes--especially device driver authors and debuggers. Renowned kernel debugging expert Steven McDowell covers every aspect of kernel debugging and crash dump analysis--including advanced hardware debugging and other techniques barely addressed in Microsoft's documentation. Discover what Microsoft's WinDbg debugger can (and can't) do for you, and how to configure both local and remote kernel debugging environments. Learn to use Windows 2000's crash dump feature, step by step. Learn how to start and stop errant drivers, pause target systems, retrieve system and driver state, and step through source code using breakpoints and source-level debugging. McDowell demonstrates techniques for taking control of target systems,including finding "lost" memory blocks, setting process and thread contexts, and reviewing I/O system error logs. You'll learn how to use Microsoft's powerful Debugger Extensions to run virtually any command you choose, and master the new Driver Verifier, which can detect common mistakes in driver code with unprecedented speed and accuracy.

Every software developer and IT professional understands the crucial importance of effective debugging. Often, debugging consumes most of a developer’s workday, and mastering the required techniques and skills can take a lifetime. In Effective Debugging, Diomidis Spinellis helps experienced programmers accelerate their journey to mastery, by systematically categorizing, explaining, and illustrating the most useful debugging methods, strategies, techniques, and tools. Drawing on more than thirty-five years of experience, Spinellis expands your arsenal of debugging techniques, helping you choose the best approaches for each challenge. He presents vendor-neutral, example-rich advice on general principles, high-level strategies, concrete techniques, high-efficiency tools, creative tricks, and the behavioral traits associated with effective debugging. Spinellis’s 66 expert techniques address every facet of debugging and are illustrated with step-by-step instructions and actual code. He addresses the full spectrum of problems that can arise in modern software systems, especially problems caused by complex interactions among components and services running on hosts scattered around the planet. Whether you’re debugging isolated runtime errors or catastrophic enterprise system failures, this guide will help you get the job done—more quickly, and with less pain. Key features include High-level strategies and methods for addressing diverse software failures Specific techniques to apply when programming, compiling, and running code Better ways to make the most of your debugger General-purpose skills and tools worth investing in Advanced ideas and techniques for escaping dead-ends and the maze of complexity Advice for making programs easier to debug Specialized approaches for debugging multithreaded, asynchronous, and embedded code Bug avoidance through improved software design, construction, and

management

The Art of Debugging with GDB, DDD, and EclipseNo Starch Press

Use Windows debuggers throughout the development cycle—and build better software Rethink your use of Windows debugging and tracing tools—and learn how to make them a key part of test-driven software development. Led by a member of the Windows Fundamentals Team at Microsoft, you'll apply expert debugging and tracing techniques—and sharpen your C++ and C# code analysis skills—through practical examples and common scenarios. Learn why experienced developers use debuggers in every step of the development process, and not just when bugs appear. Discover how to: Go behind the scenes to examine how powerful Windows debuggers work Catch bugs early in the development cycle with static and runtime analysis tools Gain practical strategies to tackle the most common code defects Apply expert tricks to handle user-mode and kernel-mode debugging tasks Implement postmortem techniques such as JIT and dump debugging Debug the concurrency and security aspects of your software Use debuggers to analyze interactions between your code and the operating system Analyze software behavior with Xperf and the Event Tracing for Windows (ETW) framework

The GNU Debugger allows you to see what is going on "inside" a program while it executes - or what a program was doing at the moment it crashed.GDB supports C, C++, Java, Fortran and Assembly among other languages; it is also designed to work closely with the GNU Compiler Collection (GCC).The GNU Debugger Program has four special features that helps you catch bugs in the act: * It starts your program for you, specifying anything that might affect its behavior. * Makes your program stop under specified conditions. * Examines what happened when the program stopped. * Allows you to experiment with changes to see what effect they have on the program.This book will show you: * setting and clearing breakpoints * examining the stack, source files and data * examining the symbol table * altering program execution * specifying a target for debugging * how to control the debugger * how to use canned command sequences * how to install GDB * and much more!This manual is written for programmers. It is designed so someone can begin utilizing GDB after just reading the first chapter, or read the whole manual and master the program. Synopsis of ideas and extensive examples are given.

Data science has taken the world by storm. Every field of study and area of business has been affected as people increasingly realize the value of the incredible quantities of data being generated. But to extract value from those data, one needs to be tra

In the course of their 20+-year engineering careers, authors Brian Fitzpatrick and Ben Collins-Sussman have picked up a treasure trove of wisdom and anecdotes about how successful teams work together. Their conclusion? Even among people who have spent decades learning the technical side of their jobs, most haven't really focused on the human component. Learning to collaborate is just as important to success. If you invest in the "soft skills" of your job, you can have a much greater impact for the same amount of effort. The authors share their insights on how to lead a team effectively, navigate an organization, and build a healthy

relationship with the users of your software. This is valuable information from two respected software engineers whose popular series of talks—including "Working with Poisonous People"—has attracted hundreds of thousands of followers.

Offers application debugging techniques for Microsoft .NET Framework and Windows, covering topics such as exception monitoring, crash handlers, and multithreaded deadlocks.

This is the eBook version of the printed book. If the print book includes a CD-ROM, this content is not included within the eBook version. Sams Teach Yourself Adobe® AIR™ Programming in 24 Hours Michael Givens Covers version 1.5 of Adobe AIR In just 24 sessions of one hour or less, you will be up and running with Adobe AIR 1.5. Using a straightforward, step-by-step approach, each lesson builds upon a real-world foundation allowing you to learn the essentials of Adobe AIR from the ground up. Step-by-step instructions carefully walk you through the most common Adobe AIR 1.5 tasks. Quizzes and Exercises at the end of each chapter help you test your knowledge of Adobe AIR 1.5. By the Way notes present interesting information related to the discussion. Did You Know? tips offer advice or show you alternative ways to do something. Watch Out! cautions alert you to possible problems and give you advice on how to avoid them. Learn how to… Utilize the AIR SDK Write an AIR application with HTML Write an AIR application with Flash CS3 or Dreamweaver CS3 Write an AIR application with PDF integration Debug an AIR application Distribute an AIR application Use the AIR APIs Leverage server-side features for AIR Michael Givens is the CTO of U Saw It Enterprises, a Web technology consulting firm based in Spring, Texas. He is an Adobe Community Expert and an Adobe Corporate Champion known to share his experience and evangelism of all things Adobe. Certified in ColdFusion 5 and as an Advanced CFMX Developer, he has been using ColdFusion since the days of Allaire Spectra and Flex since it was known as Royale. He is the coauthor of Adobe AIR Programming Unleashed (Sams Publishing) and has written articles for the ColdFusion Developer’s Journal and the Flex Developer’s Journal. He also wrote a digital Short Cut titled Apollo in Flight for Sams Publishing. Michael blogs regularly at www.flexination.info. Category: Programming/Application Development Covers: Adobe AIR User Level: Beginning–Intermediate

Use this collection of best practices and tips for assessing the health of a solution. This book provides detailed techniques and instructions to quickly diagnose aspects of your Azure cloud solutions. The initial chapters of this book introduce you to the many facets of Microsoft Azure, explain why and how building for the cloud differs from on-premise development, and outline the need for a comprehensive strategy to debugging and profiling in Azure. You learn the major types of blades (FaaS, SaaS, PaaS, IaaS), how different views can be created for different scenarios, and you will become familiar with the Favorites section, Cost Management & Billing blade, support, and Cloud Shell. You also will know how to leverage Application Insights for application performance management, in order to achieve a seamless cloud development experience. Application Insights, Log Analytics, and database storage topics are covered. The authors further guide you on identity security with Azure AD and continuous delivery with CI and CD covered in detail along with the capabilities of Azure DevOps. And you are exposed to external tooling and trouble shooting in a production environment. After reading this book, you will be able to apply methods to key Azure services, including App Service (Web Apps, Function Apps, and Logic Apps), Cloud Services, Azure Container Service, Azure Active Directory, Azure Storage, Azure SQL Database, Cosmos DB, Log Analytics, and many more. What You Will Learn Debug and manage the performance of your applications Leverage Application Insights for application performance management Extend and automate CI/CD with the help of various build tools, including Azure DevOps, TeamCity, and Cake bootstrapper Who This Book Is For Application developers, designers, and DevOps personnel who want to find a one-stop shop in best practices for managing their application’s performance in the cloud and for debugging the issues accordingly

A guide to debugging Windows applications for professional developers covers resource leaks, memory corruption, stack problems, release build problems, multithreading problems, and finding crash locations.

This resource helps technical support, escalation engineers, and Windows software testers master necessary prerequisites to understand and start debugging and crash dump analysis on Windows platforms.

Fiddler is a Web Debugging Proxy platform that monitors and modifies web traffic. This freeware tool enables developers, testers, and enthusiasts to inspect traffic, set breakpoints, and "fiddle" with incoming or outgoing data. Fiddler includes powerful event-based scripting, and can be extended using any .NET language. FiddlerCore, the core proxy engine underlying Fiddler, is available to integrate into any .NET application. In this book, you'll learn to fully exploit the power of Fiddler to debug traffic from virtually any web-related application, including Internet Explorer, Google Chrome, Apple Safari, Mozilla Firefox, Opera, and thousands more. You'll see how to debug HTTPS traffic, and use Fiddler with popular devices like iPhone/iPod/iPad, Windows Phone, and others. After exploring the hundreds of built-in features, you'll learn to extend Fiddler using the FiddlerScript engine or build your own applications atop the FiddlerCore class library.

This volume contains selected papers from the Fifth Portuguese Conference on Artificial Intelligence. Topics include constraints, search, knowledge representation, temporal reasoning, planning, diagnosis and repair, and learning.

“Mario Hewardt’s Advanced .NET Debugging is an excellent resource for both beginner and experienced developers working with .NET. The book is also packed with many debugging tips and discussions of CLR internals, which will benefit developers architecting software.” –Jeffrey Richter, consultant, trainer, and author at Wintellect “Mario has done it again. His Advanced Windows Debugging (coauthored with Daniel Pravat) is an invaluable resource for native code debugging, and Advanced .NET Debugging achieves the same quality, clarity, and breadth to make it just as invaluable for .NET debugging.” –Mark Russinovich, Technical Fellow, Microsoft Corporation The Only Complete, Practical Guide to Fixing the Toughest .NET Bugs Advanced .NET Debugging is the first focused, pragmatic guide to tracking down today’s most complex and challenging .NET application bugs. It is the only book to focus entirely on using powerful native debugging tools, including WinDBG, NTSD, and CDB, to debug .NET applications. Using these tools, author Mario Hewardt explains how to identify the real root causes of problems—far more quickly than you ever could with other debuggers. Hewardt first introduces the key concepts needed to successfully use .NET’s native debuggers. Next, he turns to sophisticated debugging techniques, using real-world examples that demonstrate many common C# programming errors. This book enables you to Make practical use of postmortem debugging, including PowerDBG and other “power tools” Understand the debugging details and implications of the new .NET CLR 4.0 Master and successfully use Debugging Tools for Windows, as well as SOS, SOSEX, CLR Profiler, and other powerful tools Gain a deeper, more practical understanding of CLR internals, such as examining thread-specific data, managed heap and garbage collector, interoperability layer, and .NET exceptions Solve difficult synchronization problems, managed heap problems, interoperability problems, and much more Generate and successfully analyze crash dumps A companion web site (advanceddotnetdebugging.com) contains all sample code, examples, and bonus content.

Malware analysis is a powerful investigation technique widely used in various security areas including digital forensics and incident response processes. Working through practical examples, you'll be able to analyze any type of malware you may encounter within the modern world.

A reference book for technical support and escalation engineers troubleshooting and debugging complex software issues. The book is also invaluable for software maintenance and

development engineers debugging Windows applications and services.

Debugging becomes more and more the bottleneck to chip design productivity, especially while developing modern complex integrated circuits and systems at the Electronic System Level (ESL). Today, debugging is still an unsystematic and lengthy process. Here, a simple reporting of a failure is not enough, anymore. Rather, it becomes more and more important not only to find many errors early during development but also to provide efficient methods for their isolation. In Debugging at the Electronic System Level the state-of-the-art of modeling and verification of ESL designs is reviewed. There, a particular focus is taken onto SystemC. Then, a reasoning hierarchy is introduced. The hierarchy combines well-known debugging techniques with whole new techniques to improve the verification efficiency at ESL. The proposed systematic debugging approach is supported amongst others by static code analysis, debug patterns, dynamic program slicing, design visualization, property generation, and automatic failure isolation. All techniques were empirically evaluated using real-world industrial designs. Summarized, the introduced approach enables a systematic search for errors in ESL designs. Here, the debugging techniques improve and accelerate error detection, observation, and isolation as well as design understanding.

The First In-Depth, Real-World, Insider’s Guide to Powerful Windows Debugging For Windows developers, few tasks are more challenging than debugging–-or more crucial. Reliable and realistic information about Windows debugging has always been scarce. Now, with over 15 years of experience two of Microsoft’s system-level developers present a thorough and practical guide to Windows debugging ever written. Mario Hewardt and Daniel Pravat cover debugging throughout the entire application lifecycle and show how to make the most of the tools currently available–-including Microsoft’s powerful native debuggers and third-party solutions. To help you find real solutions fast, this book is organized around real-world debugging scenarios. Hewardt and Pravat use detailed code examples to illuminate the complex debugging challenges professional developers actually face. From core Windows operating system concepts to security, Windows® Vista™ and 64-bit debugging, they address emerging topics head-on–and nothing is ever oversimplified or glossed over!

Expert guidance on using Visual Studio Code for editing and debugging your web development projects Visual Studio Code, a free, open source, cross-compatible source code editor, is one of the most popular choices for web developers. It is fast, lightweight, customizable, and contains built-in support for JavaScript, Typescript, and Node.js extensions for other languages, including C++, Python, and PHP. Features such as debugging capability, embedded Git control, syntax highlighting, code snippets, and IntelliSense intelligent code completion support—several of which set it apart from the competition—help make Visual Studio Code an impressive, out-of-the-box solution. Visual Studio Code: End-to-End Editing and Debugging Tools for Web Developers helps readers to become familiar with and productive in Visual Studio Code. This up-to-date guide covers all of the essential components of the software, including the editing features of the workspace, advanced functionality such as code refactoring and key binding, and integration with Grunt, Gulp, NPM, and other external tools. New users, experienced developers, and those considering moving from another developer tool will benefit from this book’s detailed, yet easy-to-follow information on Visual Studio Code. This book: Teaches readers how to use Visual Studio Code to do full-stack development Explains the steps to install Visual Studio Code on Windows, Mac and Linux platforms Provides a foundation for non-users considering moving to Visual Studio Code Helps current users expand their knowledge of the tool and its available extensions Describes how to open a .NET Core project and get end-to-end execution and debugging functionality Visual Studio Code: End-to-End Editing and Debugging Tools for Web Developers is an invaluable guide for both professional and hobbyist web developers seeking immediately-useful information on Visual Studio Code.

The full transcript of Software Diagnostics Services training with step-by-step exercises, notes, and source code to learn live local and remote debugging techniques in kernel, user process and managed .NET spaces using WinDbg debugger. The second edition was fully reworked and updated to use the latest WinDbg version and Windows 10.

If you know a little bit about financial mathematics but don't yet know a lot about programming, then C++ for Financial Mathematics is for you. C++ is an essential skill for many jobs in quantitative finance, but learning it can be a daunting prospect. This book gathers together everything you need to know to price derivatives in C++ without unnecessary complexities or technicalities. It leads the reader step-by-step from programming novice to writing a sophisticated and flexible financial mathematics library. At every step, each new idea is motivated and illustrated with concrete financial examples. As employers understand, there is more to programming than knowing a computer language. As well as covering the core language features of C++, this book teaches the skills needed to write truly high quality software. These include topics such as unit tests, debugging, design patterns and data structures. The book teaches everything you need to know to solve realistic financial problems in C++. It can be used for self-study or as a textbook for an advanced undergraduate or master's level course.

Design and architect real-world scalable C++ applications by exploring advanced techniques in low-level programming, object-oriented programming (OOP), the Standard Template Library (STL), metaprogramming, and concurrency Key Features Design professional-grade, maintainable apps by learning advanced concepts such as functional programming, templates, and networking Apply design patterns and best practices to solve real-world problems Improve the performance of your projects by designing concurrent data structures and algorithms Book Description C++ has evolved over the years and the latest release – C++20 – is now available. Since C++11, C++ has been constantly enhancing the language feature set. With the new version, you'll explore an array of features such as concepts, modules, ranges, and coroutines. This book will be your guide to learning the intricacies of the language, techniques, C++ tools, and the new features introduced in C++20, while also helping you apply these when building modern and resilient software. You'll start by exploring the latest features of C++, and then move on to advanced techniques such as multithreading, concurrency, debugging, monitoring, and high-performance programming. The book will delve into object-oriented programming principles and the C++ Standard Template Library, and even show you how to create custom templates. After this, you'll learn about different approaches such as test-driven development (TDD), behavior-driven development (BDD), and domain-driven design (DDD), before taking a look at the coding best practices and design patterns essential for building professional-grade applications. Toward the end of the book, you will gain useful insights into the recent C++ advancements in AI and machine learning. By the end of this C++ programming book, you'll have gained expertise in real-world application development, including the process of designing complex software. What you will learn Understand memory management and low-level programming in C++ to write secure and stable applications Discover the latest C++20 features such as modules, concepts, ranges, and coroutines Understand debugging and testing techniques and reduce issues in your programs Design and implement GUI applications using Qt5 Use multithreading and concurrency to make your programs run faster Develop high-end games by using the object-oriented

capabilities of C++ Explore AI and machine learning concepts with C++ Who this book is for This C++ book is for experienced C++ developers who are looking to take their knowledge to the next level and perfect their skills in building professional-grade applications.

Debugging by Thinking: A Multi-Disciplinary Approach is the first book to apply the wisdom of six disciplines-logic, mathematics, psychology, safety analysis, computer science, and engineering-to the problem of debugging. It uses the methods of literary detectives such as Sherlock Holmes, the techniques of mathematical problem solving, the results of research into the cognitive psychology of human error, the root cause analyses of safety experts, the compiler analyses of computer science, and the processes of modern engineering to define a systematic approach to identifying and correcting software errors. * Language Independent Methods: Examples are given in Java and C++ * Complete source code shows actual bugs, rather than contrived examples * Examples are accessible with no more knowledge than a course in Data Structures and Algorithms requires * A "thought process diary" shows how the author actually resolved the problems as they occurred

Pearce's book is specifically about debugging in the programming language VB.NET for every application type, from Windows Forms to ASP.NET to XML Web services.

The classic, landmark work on software testing The hardware and software of computing have changed markedly in the three decades since the first edition of The Art of Software Testing, but this book's powerful underlying analysis has stood the test of time. Whereas most books on software testing target particular development techniques, languages, or testing methods, The Art of Software Testing, Third Edition provides a brief but powerful and comprehensive presentation of time-proven software testing approaches. If your software development project is mission critical, this book is an investment that will pay for itself with the first bug you find. The new Third Edition explains how to apply the book's classic principles to today's hot topics including: Testing apps for iPhones, iPads, BlackBerrys, Androids, and other mobile devices Collaborative (user) programming and testing Testing for Internet applications, e-commerce, and agile programming environments Whether you're a student looking for a testing guide you'll use for the rest of your career, or an IT manager overseeing a software development team, The Art of Software Testing, Third Edition is an expensive book that will pay for itself many times over.

Learn to find software bugs faster and discover how other developers have solved similar problems. For intermediate to advanced iOS/macOS developers already familiar with either Swift or Objective-C who want to take their debugging skills to the next level, this book includes topics such as: LLDB and its subcommands and options; low-level components used to extract information from a program; LLDB's Python module; and DTrace and how to write D scripts.