

C Templates The Complete 2nd Edition Pdf

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Exceptional C++ - Herb Sutter 1999

"The puzzles and problems in Exceptional C++ not only entertain, they will help you hone your skills to become the sharpest C++ programmer you can be. - Many of these problems are culled from the famous Guru of the Week feature of the Internet newsgroup comp.lang.c++, moderated, expanded and updated to conform to the official ISO/ANSI C++ Standard."--BOOK JACKET. - "Try your skills against the C++ masters and come away with the insight and experience to create more efficient, effective, robust, and portable C++ code."--Jacket.

Effective STL - Scott Meyers 2001

C++'s Standard Template Library is revolutionary, but learning to use it well has always been a challenge for students. In Effective STL, best-selling author Scott Meyers (Effective C++, More Effective C++) reveals the critical rules of thumb employed by the experts -- the things they almost always do or almost always avoid doing -- to get the most out of the library. This book offers clear, concise, and concrete guidelines to C++ programmers. While other books describe what's in the STL, Effective STL shows the student how to use it. Each of the book's 50 guidelines is backed by Meyers' legendary analysis and incisive examples, so the student will learn not only what to do, but also when to do it - and why.

Programming - Bjarne Stroustrup 2014

An introduction to programming by the inventor of C++, Programming prepares students for programming in the real world. This book assumes that they aim eventually to write non-trivial programs, whether for work in software development or in some other technical field. It explains fundamental concepts and techniques in greater depth than traditional introductions. This approach gives students a solid foundation for writing useful, correct, maintainable, and efficient code. This book is an introduction to programming in general, including object-oriented programming and generic programming. It is also a solid introduction to the C++ programming language, one of the most widely used languages for real-world software. It presents modern C++ programming techniques from the start, introducing the C++ standard library to simplify

programming tasks.

Practical C++ Programming - Steve Oualline 2002-12

C++ is a powerful, highly flexible, and adaptable programming language that allows software engineers to organize and process information quickly and effectively. But this high-level language is relatively difficult to master, even if you already know the C programming language. The new second edition of "Practical C++ Programming is a complete introduction to the C++ language for programmers who are learning C++. Reflecting the latest changes to the C++ standard, this new edition takes a useful down-to-earth approach, placing a strong emphasis on how to design clean, elegant code. In short, to-the-point chapters, all aspects of programming are covered including style, software engineering, programming design, object-oriented design, and debugging. It also covers common mistakes and how to find (and avoid) them. End of chapter exercises help you ensure you've mastered the material. Steve Oualline's clear, easy-going writing style and hands-on approach to learning make "Practical C++ Programming a nearly painless way to master this complex but powerful programming language.

The Design and Evolution of C++ - Bjarne Stroustrup 1994-10-08

C++ Template Metaprogramming - David Abrahams 2004-12-10

C++ Template Metaprogramming sheds light on the most powerful idioms of today's C++, at long last delivering practical metaprogramming tools and techniques into the hands of the everyday programmer. A metaprogram is a program that generates or manipulates program code. Ever since generic programming was introduced to C++, programmers have discovered myriad "template tricks" for manipulating programs as they are compiled, effectively eliminating the barrier between program and metaprogram. While excitement among C++ experts about these capabilities has reached the community at large, their practical application remains out of reach for most programmers. This book explains what metaprogramming is and how it is best used. It provides the foundation you'll need to use the template metaprogramming effectively in your own work. This book is aimed at any programmer who is comfortable with idioms of the Standard Template Library (STL). C++ power-users will gain a new insight into their existing work and a new fluency in the domain of metaprogramming. Intermediate-level programmers who have learned a few advanced template techniques will see where these tricks fit in the big picture and will gain the conceptual foundation to use them with discipline. Programmers who have caught the scent of metaprogramming, but for whom it is still mysterious, will finally gain a clear understanding of how, when, and why it works. All readers will leave with a new tool of unprecedented power at their disposal—the Boost Metaprogramming Library. Note: CD materials are only available with the print edition.

C++ Templates **quan lan** - David Vandevoorde 2019

A Complete Guide to Programming in C++ - Ulla Kirch-Prinz 2002

This guide was written for readers interested in learning the C++ programming language from scratch, and for both novice and advanced C++ programmers wishing to enhance their knowledge of C++. The text is organized to guide the reader from elementary language concepts to professional software development, with in

depth coverage of all the C++ language elements en route.

C++17 - The Complete Guide - Nicolai M Josuttis 2019-09-06

All the new language and library features of C++17 (for those who know the previous versions of C++). C++17 is the next evolution in modern C++ programming, which is already now supported by the latest version of gcc, clang, and Visual C++. Although it is not as big a step as C++11, it contains a large number of small and valuable language and library features, which will change the way we program in C++. As usual, not everything is self-explanatory, combining new features gives even more power, and there are hidden traps. This book presents all the new language and library features of C++17. It covers the motivation and context of each new feature with examples and background information. The focus is on how these features impact day-to-day programming, what it means to combine them, and how to benefit from this in practice.

The C++ Standard Library - Nicolai M. Josuttis 2012

The C++ Standard Library provides a set of common classes and interfaces that greatly extend the core C++ language. Josuttis' book not only provides comprehensive documentation of each library component, it also offers clearly written explanations of complex concepts, describes the practical programming details needed for effective use, and gives example after example of working code. This thoroughly up-to-date book reflects the newest elements of the C++ standard library incorporated into the full ANSI/ISO C++ language standard. In particular, the text focuses on the Standard Template Library (STL), examining containers, iterators, function objects, and STL algorithms.

C++ Lambda Story - Bartłomiej Filipek 2021-02

This book shows the story of lambda expressions in C++. You'll learn how to use this powerful feature in a step-by-step manner, slowly digesting the new capabilities and enhancements that come with each revision of the C++ Standard. This is a Black and White version. The full-colour print is also available but more expensive. We'll start with C++98/03, and then we'll move on to the latest C++ Standards. C++98/03 - how to code without lambda support. What was the motivation for the new modern C++ feature? C++11 - early days. You'll learn about all the elements of a lambda expression and even some tricks. This is the longest chapter as we need to cover a lot. C++14 - updates. Once lambdas were adopted, we saw some options to improve them. C++17 - more improvements, especially by handling this pointer and allowing constexpr. C++20 - in this section we'll have a look at the latest and very fresh C++20 Standard. Additionally, throughout the chapters, you'll learn about the following techniques: Immediately Invoked Functional Expressions (IIFE) How to instrument a default functor to gather extra information Replacing std::bind1st, std::bind2nd and removed functional stuff The Overloaded Pattern and how to inherit from a lambda Passing C++ captureless lambda as a function pointer to C API LIFTING with lambdas Storing lambdas in a container Variadic templates and arguments packs Lambdas and asynchronous execution and many more All equipped with more than 85 runnable code samples!

The Rust Programming Language (Covers Rust 2018) - Steve Klabnik 2019-09-03

The official book on the Rust programming language, written by the Rust development team at the Mozilla Foundation, fully updated for Rust 2018. The Rust Programming Language is the official book on Rust: an open source systems

programming language that helps you write faster, more reliable software. Rust offers control over low-level details (such as memory usage) in combination with high-level ergonomics, eliminating the hassle traditionally associated with low-level languages. The authors of The Rust Programming Language, members of the Rust Core Team, share their knowledge and experience to show you how to take full advantage of Rust's features--from installation to creating robust and scalable programs. You'll begin with basics like creating functions, choosing data types, and binding variables and then move on to more advanced concepts, such as:

- Ownership and borrowing, lifetimes, and traits
- Using Rust's memory safety guarantees to build fast, safe programs
- Testing, error handling, and effective refactoring
- Generics, smart pointers, multithreading, trait objects, and advanced pattern matching
- Using Cargo, Rust's built-in package manager, to build, test, and document your code and manage dependencies
- How best to use Rust's advanced compiler with compiler-led programming techniques

You'll find plenty of code examples throughout the book, as well as three chapters dedicated to building complete projects to test your learning: a number guessing game, a Rust implementation of a command line tool, and a multithreaded server. New to this edition: An extended section on Rust macros, an expanded chapter on modules, and appendixes on Rust development tools and editions.

Thinking In C++ (2Nd Edition) - MAHAPATRA P B 2000

Templates for the Solution of Linear Systems - Richard Barrett 1994-01-01

In this book, which focuses on the use of iterative methods for solving large sparse systems of linear equations, templates are introduced to meet the needs of both the traditional user and the high-performance specialist. Templates, a description of a general algorithm rather than the executable object or source code more commonly found in a conventional software library, offer whatever degree of customization the user may desire. Templates offer three distinct advantages: they are general and reusable; they are not language specific; and they exploit the expertise of both the numerical analyst, who creates a template reflecting in-depth knowledge of a specific numerical technique, and the computational scientist, who then provides "value-added" capability to the general template description, customizing it for specific needs. For each template that is presented, the authors provide: a mathematical description of the flow of algorithm; discussion of convergence and stopping criteria to use in the iteration; suggestions for applying a method to special matrix types; advice for tuning the template; tips on parallel implementations; and hints as to when and why a method is useful.

Real-Time C++ - Christopher Kormanyos 2018-05-02

With this book, Christopher Kormanyos delivers a highly practical guide to programming real-time embedded microcontroller systems in C++. It is divided into three parts plus several appendices. Part I provides a foundation for real-time C++ by covering language technologies, including object-oriented methods, template programming and optimization. Next, part II presents detailed descriptions of a variety of C++ components that are widely used in microcontroller programming. It details some of C++'s most powerful language elements, such as class types, templates and the STL, to develop components for

microcontroller register access, low-level drivers, custom memory management, embedded containers, multitasking, etc. Finally, part III describes mathematical methods and generic utilities that can be employed to solve recurring problems in real-time C++. The appendices include a brief C++ language tutorial, information on the real-time C++ development environment and instructions for building GNU GCC cross-compilers and a microcontroller circuit. For this third edition, the most recent specification of C++17 in ISO/IEC 14882:2017 is used throughout the text. Several sections on new C++17 functionality have been added, and various others reworked to reflect changes in the standard. Also several new sample projects are introduced and existing ones extended, and various user suggestions have been incorporated. To facilitate portability, no libraries other than those specified in the language standard itself are used. Efficiency is always in focus and numerous examples are backed up with real-time performance measurements and size analyses that quantify the true costs of the code down to the very last byte and microsecond. The target audience of this book mainly consists of students and professionals interested in real-time C++. Readers should be familiar with C or another programming language and will benefit most if they have had some previous experience with microcontroller electronics and the performance and size issues prevalent in embedded systems programming.

The C++ Standard Library - Nicolai M. Josuttis 2012-05-25

The Best-Selling C++ Resource Now Updated for C++11 The C++ standard library provides a set of common classes and interfaces that greatly extend the core C++ language. The library, however, is not self-explanatory. To make full use of its components—and to benefit from their power—you need a resource that does far more than list the classes and their functions. *The C++ Standard Library: A Tutorial and Reference, Second Edition*, describes this library as now incorporated into the new ANSI/ISO C++ language standard (C++11). The book provides comprehensive documentation of each library component, including an introduction to its purpose and design; clearly written explanations of complex concepts; the practical programming details needed for effective use; traps and pitfalls; the exact signature and definition of the most important classes and functions; and numerous examples of working code. The book focuses in particular on the Standard Template Library (STL), examining containers, iterators, function objects, and STL algorithms. The book covers all the new C++11 library components, including Concurrency Fractional arithmetic Clocks and timers Tuples New STL containers New STL algorithms New smart pointers New locale facets Random numbers and distributions Type traits and utilities Regular expressions The book also examines the new C++ programming style and its effect on the standard library, including lambdas, range-based for loops, move semantics, and variadic templates. An accompanying Web site, including source code, can be found at www.cppstdlib.com.

Programming Erlang - Joe Armstrong 2013-09-23

A multi-user game, web site, cloud application, or networked database can have thousands of users all interacting at the same time. You need a powerful, industrial-strength tool to handle the really hard problems inherent in parallel, concurrent environments. You need Erlang. In this second edition of the bestselling *Programming Erlang*, you'll learn how to write parallel programs

that scale effortlessly on multicore systems. Using Erlang, you'll be surprised at how easy it becomes to deal with parallel problems, and how much faster and more efficiently your programs run. That's because Erlang uses sets of parallel processes-not a single sequential process, as found in most programming languages. Joe Armstrong, creator of Erlang, introduces this powerful language in small steps, giving you a complete overview of Erlang and how to use it in common scenarios. You'll start with sequential programming, move to parallel programming and handling errors in parallel programs, and learn to work confidently with distributed programming and the standard Erlang/Open Telecom Platform (OTP) frameworks. You need no previous knowledge of functional or parallel programming. The chapters are packed with hands-on, real-world tutorial examples and insider tips and advice, and finish with exercises for both beginning and advanced users. The second edition has been extensively rewritten. New to this edition are seven chapters covering the latest Erlang features: maps, the type system and the Dialyzer, WebSockets, programming idioms, and a new stand-alone execution environment. You'll write programs that dynamically detect and correct errors, and that can be upgraded without stopping the system. There's also coverage of rebar (the de facto Erlang build system), and information on how to share and use Erlang projects on github, illustrated with examples from cowboy and bitcask. Erlang will change your view of the world, and of how you program. What You Need The Erlang/OTP system. Download it from erlang.org.

Impact Evaluation in Practice, Second Edition - Paul J. Gertler 2016-09-12

The second edition of the Impact Evaluation in Practice handbook is a comprehensive and accessible introduction to impact evaluation for policy makers and development practitioners. First published in 2011, it has been used widely across the development and academic communities. The book incorporates real-world examples to present practical guidelines for designing and implementing impact evaluations. Readers will gain an understanding of impact evaluations and the best ways to use them to design evidence-based policies and programs. The updated version covers the newest techniques for evaluating programs and includes state-of-the-art implementation advice, as well as an expanded set of examples and case studies that draw on recent development challenges. It also includes new material on research ethics and partnerships to conduct impact evaluation. The handbook is divided into four sections: Part One discusses what to evaluate and why; Part Two presents the main impact evaluation methods; Part Three addresses how to manage impact evaluations; Part Four reviews impact evaluation sampling and data collection. Case studies illustrate different applications of impact evaluations. The book links to complementary instructional material available online, including an applied case as well as questions and answers. The updated second edition will be a valuable resource for the international development community, universities, and policy makers looking to build better evidence around what works in development.

C++ Primer - Stanley Lippman 2012-08-06

Bestselling Programming Tutorial and Reference Completely Rewritten for the New C++11 Standard Fully updated and recast for the newly released C++11 standard, this authoritative and comprehensive introduction to C++ will help you to learn

the language fast, and to use it in modern, highly effective ways. Highlighting today's best practices, the authors show how to use both the core language and its standard library to write efficient, readable, and powerful code. C++ Primer, Fifth Edition, introduces the C++ standard library from the outset, drawing on its common functions and facilities to help you write useful programs without first having to master every language detail. The book's many examples have been revised to use the new language features and demonstrate how to make the best use of them. This book is a proven tutorial for those new to C++, an authoritative discussion of core C++ concepts and techniques, and a valuable resource for experienced programmers, especially those eager to see C++11 enhancements illuminated. Start Fast and Achieve More Learn how to use the new C++11 language features and the standard library to build robust programs quickly, and get comfortable with high-level programming Learn through examples that illuminate today's best coding styles and program design techniques Understand the "rationale behind the rules": why C++11 works as it does Use the extensive crossreferences to help you connect related concepts and insights Benefit from up-to-date learning aids and exercises that emphasize key points, help you to avoid pitfalls, promote good practices, and reinforce what you've learned Access the source code for the extended examples from informit.com/title/0321714113 C++ Primer, Fifth Edition, features an enhanced, layflat binding, which allows the book to stay open more easily when placed on a flat surface. This special binding method—noticeable by a small space inside the spine—also increases durability.

Beginning C++ Programming - Richard Grimes 2017-04-24

Modern C++ at your fingertips! About This Book This book gets you started with the exciting world of C++ programming It will enable you to write C++ code that uses the standard library, has a level of object orientation, and uses memory in a safe and effective way It forms the basis of programming and covers concepts such as data structures and the core programming language Who This Book Is For A computer, an internet connection, and the desire to learn how to code in C++ is all you need to get started with this book. What You Will Learn Get familiar with the structure of C++ projects Identify the main structures in the language: functions and classes Feel confident about being able to identify the execution flow through the code Be aware of the facilities of the standard library Gain insights into the basic concepts of object orientation Know how to debug your programs Get acquainted with the standard C++ library In Detail C++ has come a long way and is now adopted in several contexts. Its key strengths are its software infrastructure and resource-constrained applications, including desktop applications, servers, and performance-critical applications, not to forget its importance in game programming. Despite its strengths in these areas, beginners usually tend to shy away from learning the language because of its steep learning curve. The main mission of this book is to make you familiar and comfortable with C++. You will finish the book not only being able to write your own code, but more importantly, you will be able to read other projects. It is only by being able to read others' code that you will progress from a beginner to an advanced programmer. This book is the first step in that progression. The first task is to familiarize you with the structure of C++ projects so you will know how to start reading a project. Next, you will be

able to identify the main structures in the language, functions, and classes, and feel confident being able to identify the execution flow through the code. You will then become aware of the facilities of the standard library and be able to determine whether you need to write a routine yourself, or use an existing routine in the standard library. Throughout the book, there is a big emphasis on memory and pointers. You will understand memory usage, allocation, and access, and be able to write code that does not leak memory. Finally, you will learn about C++ classes and get an introduction to object orientation and polymorphism. Style and approach This straightforward tutorial will help you build strong skills in C++ programming, be it for enterprise software or for low-latency applications such as games or embedded programming. Filled with examples, this book will take you gradually up the steep learning curve of C++.

Atomic Habits - James Clear 2018-10-16

The #1 New York Times bestseller. Over 4 million copies sold! Tiny Changes, Remarkable Results No matter your goals, Atomic Habits offers a proven framework for improving--every day. James Clear, one of the world's leading experts on habit formation, reveals practical strategies that will teach you exactly how to form good habits, break bad ones, and master the tiny behaviors that lead to remarkable results. If you're having trouble changing your habits, the problem isn't you. The problem is your system. Bad habits repeat themselves again and again not because you don't want to change, but because you have the wrong system for change. You do not rise to the level of your goals. You fall to the level of your systems. Here, you'll get a proven system that can take you to new heights. Clear is known for his ability to distill complex topics into simple behaviors that can be easily applied to daily life and work. Here, he draws on the most proven ideas from biology, psychology, and neuroscience to create an easy-to-understand guide for making good habits inevitable and bad habits impossible. Along the way, readers will be inspired and entertained with true stories from Olympic gold medalists, award-winning artists, business leaders, life-saving physicians, and star comedians who have used the science of small habits to master their craft and vault to the top of their field. Learn how to: make time for new habits (even when life gets crazy); overcome a lack of motivation and willpower; design your environment to make success easier; get back on track when you fall off course; ...and much more. Atomic Habits will reshape the way you think about progress and success, and give you the tools and strategies you need to transform your habits--whether you are a team looking to win a championship, an organization hoping to redefine an industry, or simply an individual who wishes to quit smoking, lose weight, reduce stress, or achieve any other goal.

Large-Scale C++ Volume I - John Lakos 2019-12-02

Writing reliable and maintainable C++ software is hard. Designing such software at scale adds a new set of challenges. Creating large-scale systems requires a practical understanding of logical design – beyond the theoretical concepts addressed in most popular texts. To be successful on an enterprise scale, developers must also address physical design, a dimension of software engineering that may be unfamiliar even to expert developers. Drawing on over 30 years of hands-on experience building massive, mission-critical enterprise systems, John Lakos shows how to create and grow Software Capital. This

groundbreaking volume lays the foundation for projects of all sizes and demonstrates the processes, methods, techniques, and tools needed for successful real-world, large-scale development. Up to date and with a solid engineering focus, *Large-Scale C++, Volume I: Process and Architecture*, demonstrates fundamental design concepts with concrete examples. Professional developers of all experience levels will gain insights that transform their approach to design and development by understanding how to Raise productivity by leveraging differences between infrastructure and application development Achieve exponential productivity gains through feedback and hierarchical reuse Embrace the component's role as the fundamental unit of both logical and physical design Analyze how fundamental properties of compiling and linking affect component design Discover effective partitioning of logical content in appropriately sized physical aggregates Internalize the important differences among sufficient, complete, minimal, and primitive software Deliver solutions that simultaneously optimize encapsulation, stability, and performance Exploit the nine established levelization techniques to avoid cyclic physical dependencies Use lateral designs judiciously to avoid the "heaviness" of conventional layered architectures Employ appropriate architectural insulation techniques for eliminating compile-time coupling Master the multidimensional process of designing large systems using component-based methods This is the first of John Lakos's three authoritative volumes on developing large-scale systems using C++. This book, written for fellow software practitioners, uses familiar C++ constructs to solve real-world problems while identifying (and motivating) modern C++ alternatives. Together with the forthcoming Volume II: Design and Implementation and Volume III: Verification and Testing, *Large-Scale C++* offers comprehensive guidance for all aspects of large-scale C++ software development. If you are an architect or project leader, this book will empower you to solve critically important problems right now – and serve as your go-to reference for years to come. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

[Advanced C++ Programming Cookbook](#) - Dr. Rian Quinn 2020-01-30

A recipe-based guide to refining your C++ programming skills with the help of coding best practices, advanced programming concepts, and the latest features of C++17 and C++20 Key Features Learn how to develop and design your own libraries Find solutions to your app development problems and implement them in a highly reusable manner, following library development best practices Explore advanced C++ features such as containers, coroutines, and modules Book Description If you think you've mastered C++ and know everything it takes to write robust applications, you'll be in for a surprise. With this book, you'll gain comprehensive insights into C++, covering exclusive tips and interesting techniques to enhance your app development process. You'll kick off with the basic principles of library design and development, which will help you understand how to write reusable and maintainable code. You'll then discover the importance of exception safety, and how you can avoid unexpected errors or bugs in your code. The book will take you through the modern elements of C++, such as move semantics, type deductions, and coroutines. As you advance, you'll delve into template programming - the standard tool for most library developers

looking to achieve high code reusability. You'll explore the STL and learn how to avoid common pitfalls while implementing templates. Later, you'll learn about the problems of multithreaded programming such as data races, deadlocks, and thread starvation. You'll also learn high-performance programming by using benchmarking tools and libraries. Finally, you'll discover advanced techniques for debugging and testing to ensure code reliability. By the end of this book, you'll have become an expert at C++ programming and will have gained the skills to solve complex development problems with ease. What you will learn

- Solve common C++ development problems by implementing solutions in a more generic and reusable way
- Achieve different levels of exception safety guarantees by introducing precise declarations
- Write library-quality code that meets professional standards
- Practice writing reliable, performant code that exposes consistent behavior in programs
- Understand why you need to implement design patterns and how it's done
- Work with complex examples to understand various aspects of good library design

Who this book is for This book is for intermediate and expert-level C++ developers who are looking to explore the lesser known functionalities of the language to improve the efficiency of their code and the way they develop applications. Basic knowledge of object-oriented programming concepts and the Standard Template Library (STL) is assumed.

Functional Programming in C++ - Ivan Cukic 2018-11-09

Summary Functional Programming in C++ teaches developers the practical side of functional programming and the tools that C++ provides to develop software in the functional style. This in-depth guide is full of useful diagrams that help you understand FP concepts and begin to think functionally. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

About the Technology Well-written code is easier to test and reuse, simpler to parallelize, and less error prone. Mastering the functional style of programming can help you tackle the demands of modern apps and will lead to simpler expression of complex program logic, graceful error handling, and elegant concurrency. C++ supports FP with templates, lambdas, and other core language features, along with many parts of the STL.

About the Book Functional Programming in C++ helps you unleash the functional side of your brain, as you gain a powerful new perspective on C++ coding. You'll discover dozens of examples, diagrams, and illustrations that break down the functional concepts you can apply in C++, including lazy evaluation, function objects and invocables, algebraic data types, and more. As you read, you'll match FP techniques with practical scenarios where they offer the most benefit.

What's inside

- Writing safer code with no performance penalties
- Explicitly handling errors through the type system
- Extending C++ with new control structures
- Composing tasks with DSLs

About the Reader Written for developers with two or more years of experience coding in C++.

About the Author Ivan Čukić is a core developer at KDE and has been coding in C++ since 1998. He teaches modern C++ and functional programming at the Faculty of Mathematics at the University of Belgrade.

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- Introduction to functional programming
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debugging

Effective Modern C++ - Scott Meyers 2014-11-11

Coming to grips with C++11 and C++14 is more than a matter of familiarizing yourself with the features they introduce (e.g., auto type declarations, move semantics, lambda expressions, and concurrency support). The challenge is learning to use those features effectively—so that your software is correct, efficient, maintainable, and portable. That's where this practical book comes in. It describes how to write truly great software using C++11 and C++14—i.e. using modern C++. Topics include: The pros and cons of braced initialization, noexcept specifications, perfect forwarding, and smart pointer make functions The relationships among `std::move`, `std::forward`, rvalue references, and universal references Techniques for writing clear, correct, effective lambda expressions How `std::atomic` differs from `volatile`, how each should be used, and how they relate to C++'s concurrency API How best practices in "old" C++ programming (i.e., C++98) require revision for software development in modern C++ *Effective Modern C++* follows the proven guideline-based, example-driven format of Scott Meyers' earlier books, but covers entirely new material. "After I learned the C++ basics, I then learned how to use C++ in production code from Meyer's series of *Effective C++* books. *Effective Modern C++* is the most important how-to book for advice on key guidelines, styles, and idioms to use modern C++ effectively and well. Don't own it yet? Buy this one. Now". -- Herb Sutter, Chair of ISO C++ Standards Committee and C++ Software Architect at Microsoft

Head First Servlets and JSP - Bryan Basham 2008

Looking to study up for the new J2EE 1.5 Sun Certified Web Component Developer (SCWCD) exam? This book will get you way up to speed on the technology you'll know it so well, in fact, that you can pass the brand new J2EE 1.5 exam. If that's what you want to do, that is. Maybe you don't care about the exam, but need to use servlets and JSPs in your next project. You're working on a deadline. You're over the legal limit for caffeine. You can't waste your time with a book that makes sense only AFTER you're an expert (or worse, one that puts you to sleep). Learn how to write servlets and JSPs, what makes a web container tick (and what ticks it off), how to use JSP's Expression Language (EL for short), and how to write deployment descriptors for your web applications. Master the `c:` out tag, and get a handle on exactly what's changed since the older J2EE 1.4 exam. You don't just pass the new J2EE 1.5 SCWCD exam, you'll understand this stuff and put it to work immediately. *Head First Servlets and JSP* doesn't just give you a bunch of facts to memorize; it drives knowledge straight into your brain. You'll interact with servlets and JSPs in ways that help you learn quickly and deeply. And when you're through with the book, you can take a brand-new mock exam, created specifically to simulate the real test-taking experience.

Modern C++ Programming Cookbook - Second Edition - MARIUS. BANCILA 2020-09-11

Over 100 recipes to help you overcome your difficulties with C++ programming and gain a deeper understanding of the working of modern C++ Key Features Explore the most important language and library features of C++17, including containers, algorithms, regular expressions, threads, and more, Get going with unit testing frameworks Boost.Test, Google Test and Catch, Extend your C++

knowledge and take your development skills to new heights by making your applications fast, robust, and scalable. Book Description C++ is one of the most widely used programming languages. Fast, efficient, and flexible, it is used to solve many problems. The latest versions of C++ have seen programmers change the way they code, giving up on the old-fashioned C-style programming and adopting modern C++ instead. Beginning with the modern language features, each recipe addresses a specific problem, with a discussion that explains the solution and offers insight into how it works. You will learn major concepts about the core programming language as well as common tasks faced while building a wide variety of software. You will learn about concepts such as concurrency, performance, meta-programming, lambda expressions, regular expressions, testing, and many more in the form of recipes. These recipes will ensure you can make your applications robust and fast. By the end of the book, you will understand the newer aspects of C++11/14/17 and will be able to overcome tasks that are time-consuming or would break your stride while developing. What you will learn Get to know about the new core language features and the problems they were intended to solve Understand the standard support for threading and concurrency and know how to put them on work for daily basic tasks Leverage C++'s features to get increased robustness and performance Explore the widely-used testing frameworks for C++ and implement various useful patterns and idioms Work with various types of strings and look at the various aspects of compilation Explore functions and callable objects with a focus on modern features Leverage the standard library and work with containers, algorithms, and iterators Use regular expressions for find and replace string operations Take advantage of the new filesystem library to work with files and directories Use the new utility additions to the standard library to solve common problems developers encounter including string_view, any, optional and variant types Who this book is for If you want to overcome difficult phases of development with C++ and leverage its features using modern programming practices, then this book is for you. The book is designed for both experienced C++ programmers as well as people with strong knowledge of OOP concepts.

Data Structures Using C++ - D. S. Malik 2009-07-31

Now in its second edition, D.S. Malik brings his proven approach to C++ programming to the CS2 course. Clearly written with the student in mind, this text focuses on Data Structures and includes advanced topics in C++ such as Linked Lists and the Standard Template Library (STL). The text features abundant visual diagrams, examples, and extended Programming Examples, all of which serve to illuminate difficult concepts. Complete programming code and clear display of syntax, explanation, and example are used throughout the text, and each chapter concludes with a robust exercise set. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

A Tour of C++ - Bjarne Stroustrup 2013-09-16

The C++11 standard allows programmers to express ideas more clearly, simply, and directly, and to write faster, more efficient code. Bjarne Stroustrup, the designer and original implementer of C++, thoroughly covers the details of this language and its use in his definitive reference, *The C++ Programming Language*,

Fourth Edition. In *A Tour of C++*, Stroustrup excerpts the overview chapters from that complete reference, expanding and enhancing them to give an experienced programmer—in just a few hours—a clear idea of what constitutes modern C++. In this concise, self-contained guide, Stroustrup covers most major language features and the major standard-library components—not, of course, in great depth, but to a level that gives programmers a meaningful overview of the language, some key examples, and practical help in getting started. Stroustrup presents the C++ features in the context of the programming styles they support, such as object-oriented and generic programming. His tour is remarkably comprehensive. Coverage begins with the basics, then ranges widely through more advanced topics, including many that are new in C++11, such as move semantics, uniform initialization, lambda expressions, improved containers, random numbers, and concurrency. The tour ends with a discussion of the design and evolution of C++ and the extensions added for C++11. This guide does not aim to teach you how to program (see Stroustrup's *Programming: Principles and Practice Using C++* for that); nor will it be the only resource you'll need for C++ mastery (see Stroustrup's *The C++ Programming Language, Fourth Edition*, for that). If, however, you are a C or C++ programmer wanting greater familiarity with the current C++ language, or a programmer versed in another language wishing to gain an accurate picture of the nature and benefits of modern C++, you can't find a shorter or simpler introduction than this tour provides.

Microsoft Azure Essentials - Fundamentals of Azure - Michael Collier 2015-01-29
Microsoft Azure Essentials from Microsoft Press is a series of free ebooks designed to help you advance your technical skills with Microsoft Azure. The first ebook in the series, *Microsoft Azure Essentials: Fundamentals of Azure*, introduces developers and IT professionals to the wide range of capabilities in Azure. The authors - both Microsoft MVPs in Azure - present both conceptual and how-to content for key areas, including: Azure Websites and Azure Cloud Services Azure Virtual Machines Azure Storage Azure Virtual Networks Databases Azure Active Directory Management tools Business scenarios Watch Microsoft Press's blog and Twitter (@MicrosoftPress) to learn about other free ebooks in the "Microsoft Azure Essentials" series.

[Head First Python](#) - Paul Barry 2016-11-21

Want to learn the Python language without slogging your way through how-to manuals? With *Head First Python*, you'll quickly grasp Python's fundamentals, working with the built-in data structures and functions. Then you'll move on to building your very own webapp, exploring database management, exception handling, and data wrangling. If you're intrigued by what you can do with context managers, decorators, comprehensions, and generators, it's all here. This second edition is a complete learning experience that will help you become a bonafide Python programmer in no time. Why does this book look so different? Based on the latest research in cognitive science and learning theory, *Head First Python* uses a visually rich format to engage your mind, rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multi-sensory learning experience is designed for the way your brain really works.

C++ Cookbook - D. Ryan Stephens 2006

"Solutions and examples for C++ programmers"--Cover.

Code Complete - Steve McConnell 2004-06-09

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

PROC TEMPLATE Made Easy - Kevin D. Smith 2013-04-15

This straightforward guide to PROC TEMPLATE shows you how to build your own custom styles and tables in SAS. You'll learn how to create new styles to match your organization's standards or simply to increase your report's aesthetic potential build custom tables with complex structures and traffic lighting to make them easier to read and interpret manage your templates and share them with other SAS users Written for all levels of users, PROC TEMPLATE Made Easy guides you through the process of writing templates. Beginners will benefit from learning how to do so from the ground up. Intermediate and advanced users will learn the more complex features of PROC TEMPLATE as well as how to use styles in the Base SAS reporting procedures. This book explains how PROC TEMPLATE saves templates and teaches you how to create shareable template stores, allowing you to customize your working environment. The visual appendixes of all style attributes and graph colors serve as an essent

C++ Templates - David Vandevoorde 2017-09-15

Templates are among the most powerful features of C++, but they remain misunderstood and underutilized, even as the C++ language and development community have advanced. In C++ Templates, Second Edition, three pioneering C++ experts show why, when, and how to use modern templates to build software that's cleaner, faster, more efficient, and easier to maintain. Now extensively updated for the C++11, C++14, and C++17 standards, this new edition presents state-of-the-art techniques for a wider spectrum of applications. The authors provide authoritative explanations of all new language features that either improve templates or interact with them, including variadic templates, generic lambdas, class template argument deduction, compile-time if, forwarding references, and user-defined literals. They also deeply delve into fundamental language concepts (like value categories) and fully cover all standard type traits. The book starts with an insightful tutorial on basic concepts and relevant language features. The remainder of the book serves as a comprehensive

reference, focusing first on language details and then on coding techniques, advanced applications, and sophisticated idioms. Throughout, examples clearly illustrate abstract concepts and demonstrate best practices for exploiting all that C++ templates can do. Understand exactly how templates behave, and avoid common pitfalls Use templates to write more efficient, flexible, and maintainable software Master today's most effective idioms and techniques Reuse source code without compromising performance or safety Benefit from utilities for generic programming in the C++ Standard Library Preview the upcoming concepts feature The companion website, tmplbook.com, contains sample code and additional updates.

C++ Concurrency in Action - Anthony Williams 2019-02-07

Summary This bestseller has been updated and revised to cover all the latest changes to C++ 14 and 17! C++ Concurrency in Action, Second Edition teaches you everything you need to write robust and elegant multithreaded applications in C++17. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology You choose C++ when your applications need to run fast. Well-designed concurrency makes them go even faster. C++ 17 delivers strong support for the multithreaded, multiprocessor programming required for fast graphic processing, machine learning, and other performance-sensitive tasks. This exceptional book unpacks the features, patterns, and best practices of production-grade C++ concurrency. About the Book C++ Concurrency in Action, Second Edition is the definitive guide to writing elegant multithreaded applications in C++. Updated for C++ 17, it carefully addresses every aspect of concurrent development, from starting new threads to designing fully functional multithreaded algorithms and data structures. Concurrency master Anthony Williams presents examples and practical tasks in every chapter, including insights that will delight even the most experienced developer. What's inside Full coverage of new C++ 17 features Starting and managing threads Synchronizing concurrent operations Designing concurrent code Debugging multithreaded applications About the Reader Written for intermediate C and C++ developers. No prior experience with concurrency required. About the Author Anthony Williams has been an active member of the BSI C++ Panel since 2001 and is the developer of the `just::thread` Pro extensions to the C++ 11 thread library. Table of Contents Hello, world of concurrency in C++! Managing threads Sharing data between threads Synchronizing concurrent operations The C++ memory model and operations on atomic types Designing lock-based concurrent data structures Designing lock-free concurrent data structures Designing concurrent code Advanced thread management Parallel algorithms Testing and debugging multithreaded applications

Data Structures and Algorithms in C++ - Michael T. Goodrich 2011-02-22

An updated, innovative approach to data structures and algorithms Written by an author team of experts in their fields, this authoritative guide demystifies even the most difficult mathematical concepts so that you can gain a clear understanding of data structures and algorithms in C++. The unparalleled author team incorporates the object-oriented design paradigm using C++ as the implementation language, while also providing intuition and analysis of fundamental algorithms. Offers a unique multimedia format for learning the fundamentals of data structures and algorithms Allows you to visualize key

analytic concepts, learn about the most recent insights in the field, and do data structure design Provides clear approaches for developing programs Features a clear, easy-to-understand writing style that breaks down even the most difficult mathematical concepts Building on the success of the first edition, this new version offers you an innovative approach to fundamental data structures and algorithms.

Advanced Metaprogramming in Classic C++ - Davide Di Gennaro 2015-05-08

Advanced Metaprogramming in Classic C++ aims to be both an introduction and a reference to C++ template metaprogramming (TMP); TMP is presented in the book as a set of techniques that will bring a new style in C++ and make code exceptionally clear and efficient. The book deals with language aspects, design patterns, examples and applications (seen as case studies). Special emphasis is put on small reusable techniques that will improve the quality of daily work. What makes the book exceptional is the level of understanding of the concepts involved imparted by the author. This is not just a rote overview of metaprogramming. You will truly understand difficult topics like static assertions, how to write metafunctions, overload resolution, lambda expressions, and many others. More than that, you will work through them with practical examples guided by the author's frank explanations. This book requires you to think and to learn and to understand the language so that you can program at a higher level.

Generic Programming and the STL - Matthew H. Austern 1999

Introduces programmers to the generic programming paradigm and to the C++ Standard Template Library and its use as an extensible framework for generic and interoperable components. Explains ideas underlying generic programming and shows how to create algorithms decoupled from the types and data structures they operate on, and how to write more efficient code that can be used and reused across platforms. Assumes familiarity with C++ and algorithms.

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C++ Templates - David Vandevoorde 2017-09-08

With the greatly increased use of templates, there is a real need in the C++ community for this information. This book is the next C++ classic, acting as both a complete reference as well as a tutorial. It emphasizes the practical use of templates, and includes real-world examples.