

C Concurrency In Action Anthony Williams

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C# for Programmers Addison-Wesley Professional

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.

Hands-On Design Patterns with C++ John Wiley & Sons
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*.

[The Art of Debugging with GDB, DDD, and Eclipse](#) Packt Publishing Ltd

Filled with dozens of working code examples that illustrate the use of over 40 popular Boost libraries, this book takes you on a tour of Boost, helping you to independently build the libraries from source and use them in your own code. The first half of the book focuses on basic programming interfaces including generic containers and algorithms, strings,

resource management, exception safety, and a miscellany of programming utilities that make everyday programming chores easy. Following a short interlude that introduces template metaprogramming and functional programming, the later chapters are devoted to systems programming interfaces, focusing on directory handling, I/O, concurrency, and network programming

Prominent Families of New York Nicojosuttis

A comprehensive guide with extensive coverage on concepts such as OOP, functional programming, generic programming, and STL along with the latest features of C++ Key FeaturesDelve into the core patterns and components of C++ in order to master application designLearn tricks, techniques, and best practices to solve common design and architectural challenges Understand the limitation imposed by C++ and how to solve them using design patternsBook Description C++ is a general-purpose programming language designed with the goals of efficiency, performance, and flexibility in mind. Design patterns are commonly accepted solutions to well-recognized design problems. In essence, they are a library of reusable components, only for software architecture, and not for a concrete implementation. The focus of this book is on the design patterns that naturally lend themselves to the needs of a C++ programmer, and on the patterns that uniquely benefit from the features of C++, in particular, the generic programming. Armed with the knowledge of these patterns, you will spend less time searching for a solution to a common problem and be familiar with the solutions developed from experience, as well as their advantages and drawbacks. The other use of design patterns is as a concise and an efficient way to communicate. A pattern is a familiar and instantly recognizable solution to specific problem; through its use, sometimes with a single line of code, we can convey a considerable amount of information. The code conveys: "This is the problem we are facing, these are additional considerations that are most important in our case; hence, the following well-known solution was chosen." By the end of this book, you will have gained a comprehensive understanding of design

patterns to create robust, reusable, and maintainable code. What you will learn
Recognize the most common design patterns used in C++
Understand how to use C++ generic programming to solve common design problems
Explore the most powerful C++ idioms, their strengths, and drawbacks
Rediscover how to use popular C++ idioms with generic programming
Understand the impact of design patterns on the program's performance
Who this book is for
This book is for experienced C++ developers and programmers who wish to learn about software design patterns and principles and apply them to create robust, reusable, and easily maintainable apps.

C++ System Programming Cookbook Addison-Wesley Professional

"This book should be on every C++ programmer's desk. It's clear, concise, and valuable." - Rob Green, Bowling Green State University
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

C++ Templates Packt Publishing Ltd

Do you need to develop flexible software that can be customized quickly? Do you need to add the power and efficiency of frameworks to your software?

The ADAPTIVE Communication Environment (ACE) is an open-source toolkit for building high-performance

networked applications and next-generation middleware. ACE's power and flexibility arise from

object-oriented frameworks, used to achieve the systematic reuse of networked application software.

ACE frameworks handle common network programming tasks and can be customized using

C++ language features to produce complete distributed applications.

C++ Network Programming, Volume 2, focuses on ACE frameworks, providing thorough coverage of the

concepts, patterns, and usage rules that form their structure. This book is a practical guide to designing

object-oriented frameworks and shows developers how to apply frameworks to concurrent networked

applications. C++ Networking, Volume 1, introduced ACE and the wrapper facades, which are basic

network computing ingredients. Volume 2 explains how frameworks build on wrapper facades to

provide higher-level communication services. Written by two experts in the ACE community, this

book contains: An overview of ACE frameworks
Design dimensions for networked services
Descriptions of the key capabilities of the most important ACE frameworks
Numerous C++ code examples that demonstrate how to use ACE

frameworks
C++ Network Programming, Volume 2,

teaches how to use frameworks to write networked applications quickly, reducing development effort and overhead. It will be an invaluable asset to any C++ developer working on networked applications.

A Tour of C++ Prentice Hall Professional
Get your guided tour through the Python 3.9

interpreter: Unlock the inner workings of the Python language, compile the Python interpreter from

source code, and participate in the development of CPython. Are there certain parts of Python that just

seem like magic? This book explains the concepts, ideas, and technicalities of the Python interpreter in

an approachable and hands-on fashion. Once you see how Python works at the interpreter level, you can

optimize your applications and fully leverage the power of Python. By the End of the Book You'll Be

Able To: Read and navigate the CPython 3.9 interpreter source code. You'll deeply comprehend

and appreciate the inner workings of concepts like lists, dictionaries, and generators. Make changes to

the Python syntax and compile your own version of CPython, from scratch. You'll customize the Python

core data types with new functionality and run CPython's automated test suite. Master Python's

memory management capabilities and scale your Python code with parallelism and concurrency.

Debug C and Python code like a true professional. Profile and benchmark the performance of your

Python code and the runtime. Participate in the development of CPython and know how to contribute

to future versions of the Python interpreter and standard library. How great would it feel to give

back to the community as a "Python Core Developer?" With this book you'll cover the critical

concepts behind the internals of CPython and how they work with visual explanations as you go along.

Each page in the book has been carefully laid out with beautiful typography, syntax highlighting for

code examples. What Python Developers Say About The Book: "It's the book that I wish existed years

ago when I started my Python journey. [...] After reading this book your skills will grow and you will

be able solve even more complex problems that can improve our world." - Carol Willing, CPython Core Developer & Member of the CPython Steering Council "CPython Internals is a great (and unique) resource for anybody looking to take their knowledge of Python to a deeper level." - Dan Bader, Author of Python Tricks "There are a ton of books on Python which teach the language, but I haven't really come across anything that would go about explaining the internals to those curious minded." - Milan Patel, Vice President at (a major investment bank)

Programming with POSIX Threads Prentice Hall PTR

Effective C++ has been updated to reflect the latest ANSI/ISO standards. The author, a recognised authority on C++, shows readers fifty ways to improve their programs and designs.

Boost.Asio C++ Network Programming Cookbook Addison-Wesley Professional

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

Software Architecture with C++ Addison-Wesley Professional

A hands-on guide to making system programming with C++ easy Key FeaturesWrite system-level code leveraging C++17Learn the internals of the Linux Application Binary Interface (ABI) and apply it to system programmingExplore C++ concurrency to take advantage of server-level constructsBook Description C++ is a general-purpose programming language with a bias toward system programming as it provides ready access to hardware-level resources, efficient compilation, and a versatile approach to higher-level abstractions. This book will help you understand the benefits of system programming with C++17. You will gain a firm understanding of various C, C++, and POSIX standards, as well as their respective system types for both C++ and POSIX. After a brief refresher on C++, Resource Acquisition Is Initialization (RAII), and the new C++ Guideline Support Library (GSL), you will learn to program Linux and Unix systems along with process management. As you progress through the chapters, you will become acquainted with C++'s support for IO. You will then study various memory management methods, including a chapter on allocators and how they benefit system programming. You will also explore how to program file input and output and learn about POSIX sockets. This book will help you get to grips with safely setting up a UDP and TCP server/client. Finally, you will be guided through Unix time interfaces, multithreading, and error handling with C++

exceptions. By the end of this book, you will be comfortable with using C++ to program high-quality systems. What you will learnUnderstand the benefits of using C++ for system programmingProgram Linux/Unix systems using C++Discover the advantages of Resource Acquisition Is Initialization (RAII)Program both console and file input and outputUncover the POSIX socket APIs and understand how to program themExplore advanced system programming topics, such as C++ allocatorsUse POSIX and C++ threads to program concurrent systemsGrasp how C++ can be used to create performant system applicationsWho this book is for If you are a fresh developer with intermediate knowledge of C++ but little or no knowledge of Unix and Linux system programming, this book will help you learn system programming with C++ in a practical way.

Hands-On System Programming with C++ Packt Publishing Ltd

A problem-solution-based guide to help you overcome hurdles effectively while working with kernel APIs, filesystems, networks, threads, and process communications Key FeaturesLearn to apply the latest C++ features (from C++11, 14, 17, and 20) to facilitate systems programmingCreate robust and concurrent systems that make the most of the available hardware resourcesDelve into C++ inbuilt libraries and frameworks to design robust systems as per your business needsBook Description C++ is the preferred language for system programming due to its efficient low-level computation, data abstraction, and object-oriented features. System programming is about designing and writing computer programs that interact closely with the underlying operating system and allow computer hardware to interface with the programmer and the user. The C++ System Programming Cookbook will serve as a reference for developers who want to have ready-to-use solutions for the essential aspects of system programming using the latest C++ standards wherever possible. This C++ book starts out by giving you an overview of system programming and refreshing your C++ knowledge. Moving ahead, you will learn how to deal with threads and processes, before going on to

discover recipes for how to manage memory. The concluding chapters will then help you understand how processes communicate and how to interact with the console (console I/O). Finally, you will learn how to deal with time interfaces, signals, and CPU scheduling. By the end of the book, you will become adept at developing robust systems applications using C++. What you will learn

Get up to speed with the fundamentals including makefile, man pages, compilation, and linking and debugging

Understand how to deal with time interfaces, signals, and CPU scheduling

Develop your knowledge of memory management

Use processes and threads for advanced synchronizations (mutexes and condition variables)

Understand interprocess communications (IPC): pipes, FIFOs, message queues, shared memory, and TCP and UDP

Discover how to interact with the console (console I/O)

Who this book is for This book is for C++ developers who want to gain practical knowledge of systems programming. Though no experience of Linux system programming is assumed, intermediate knowledge of C++ is necessary.

Functional Programming in C++ MIT Press

A fast-paced, thorough introduction to modern C++ written for experienced programmers. After reading C++ Crash Course, you'll be proficient in the core language concepts, the C++ Standard Library, and the Boost Libraries. C++ is one of the most widely used languages for real-world software. In the hands of a knowledgeable programmer, C++ can produce small, efficient, and readable code that any programmer would be proud of. Designed for intermediate to advanced programmers, C++ Crash Course cuts through the weeds to get you straight to the core of C++17, the most modern revision of the ISO standard. Part 1 covers the core of the C++ language, where you'll learn about everything from types and functions, to the object life cycle and expressions. Part 2 introduces you to the C++ Standard Library and Boost Libraries, where you'll learn about all of the high-quality, fully-featured facilities available to you. You'll cover special utility classes, data structures, and algorithms, and learn how to manipulate file systems and build high-performance programs that communicate over networks. You'll learn all the major features of modern C++, including: Fundamental types, reference types, and user-defined types The object lifecycle including storage duration, memory management, exceptions, call stacks, and the RAII paradigm Compile-time polymorphism with templates and run-time polymorphism with virtual classes Advanced expressions, statements, and

functions Smart pointers, data structures, dates and times, numerics, and probability/statistics facilities Containers, iterators, strings, and algorithms Streams and files, concurrency, networking, and application development With well over 500 code samples and nearly 100 exercises, C++ Crash Course is sure to help you build a strong C++ foundation.

Expert C Programming No Starch Press

Discover the Beauty of Modern C++ "Beautiful C++ presents the C++ Core Guidelines from a developer's point of view with an emphasis on what benefits can be obtained from following the rules and what nightmares can result from ignoring them. For true geeks, it is an easy and entertaining read. For most software developers, it offers something new and useful."

--Bjarne Stroustrup, inventor of C++ and co-editor of the C++ Core Guidelines

Writing great C++ code needn't be difficult. The C++ Core Guidelines can help every C++ developer design and write C++ programs that are exceptionally reliable, efficient, and well-performing. But the Guidelines are so jam-packed with excellent advice that it's hard to know where to start. Start here, with Beautiful C++. Expert C++ programmers Guy Davidson and Kate Gregory identify 30 Core Guidelines you'll find especially valuable and offer detailed practical knowledge for improving your C++ style. For easy reference, this book is structured to align closely with the official C++ Core Guidelines website. Throughout, Davidson and Gregory offer useful conceptual insights and expert sample code, illuminate proven ways to use both new and longstanding language features more successfully, and show how to write programs that are more robust and performant by default. Avoid "bikeshedding": stop wasting valuable time on trivia Don't hurt yourself by writing code that will cause problems later Know which legacy features to avoid and the modern features to use instead Use newer features properly, to get their benefits without creating new problems Default to higher-quality code that's statically type-safe, leak resistant, and easier to evolve Use the Core Guidelines with any modern C++ version: C++20, C++17, C++14, or C++11 There's something here to improve virtually every program you write, design, or maintain. For ease of experimentation, all sample code is available on Compiler Explorer at <https://godbolt.org/z/cg30-ch0.0>. Register your book for

convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Data-Intensive Text Processing with MapReduce Packt Publishing Ltd

Since Professor Hoare's book Communicating Sequential Processes was first published, his notation has been extensively used for teaching and applying concurrency theory. The most significant development since then has been the emergence of tools to support the teaching and industrial application of CSP. This has turned CSP from a notation used mainly for toy examples into one which can and does support the description of industrial-sized problems. In order to understand the tools you need a good grasp of the fundamental concepts of CSP, therefore the book is, in the first instance, a text on the principles of the language rather than being a manual on how to apply its tools. The Theory and Practice of Concurrency is divided into 3 sections. Part I is a foundation course on CSP, covering essentially the same material as the Hoare book, except that most of the mathematical theory has been omitted. It introduces the ideas behind the operational, denotational and algebraic models of CSP. Parts II and III go into more detail about the theory and practice of CSP. Either of them would make a one semester course or though they are independent of each other. This book assumes no mathematical knowledge except for a basic understanding of sets, sequences and functions. Part I and III use no sophisticated mathematics, and the extra amount needed for Part II is contained within Appendix A (which introduces the theory of partial order and metric/restriction spaces). The book brings substantial new insights into the important subjects of computer security, fault tolerance, real-time modelling, communications protocols and distributed databases. Each of these is supported by a case study and guidance on how to apply automated analysis to verify systems.

C++ Crash Course Simon and Schuster

A comprehensive guide to help aspiring and professional C++ developers elevate the performance of their apps by allowing them to run faster and consume fewer resources. Purchase of the print or Kindle book includes a free eBook in PDF format. Key Features Updated to C++20 with completely revised code and more content on error handling, benchmarking, memory allocators, and concurrent programming Explore the latest C++20 features including concepts, ranges, and coroutines

Utilize C++ constructs and techniques to carry out effective data structure optimization and memory management

Book Description C++ High Performance, Second Edition guides you through optimizing the performance of your C++ apps. This allows them to run faster and consume fewer resources on the device they're running on without compromising the readability of your codebase. The book begins by introducing the C++ language and some of its modern concepts in brief. Once you are familiar with the fundamentals, you will be ready to measure, identify, and eradicate bottlenecks in your C++ codebase. By following this process, you will gradually improve your style of writing code. The book then explores data structure optimization, memory management, and how it can be used efficiently concerning CPU caches. After laying the foundation, the book trains you to leverage algorithms, ranges, and containers from the standard library to achieve faster execution, write readable code, and use customized iterators. It provides hands-on examples of C++ metaprogramming, coroutines, reflection to reduce boilerplate code, proxy objects to perform optimizations under the hood, concurrent programming, and lock-free data structures. The book concludes with an overview of parallel algorithms. By the end of this book, you will have the ability to use every tool as needed to boost the efficiency of your C++ projects. What you will learn

- Write specialized data structures for performance-critical code
- Use modern metaprogramming techniques to reduce runtime calculations
- Achieve efficient memory management using custom memory allocators
- Reduce boilerplate code using reflection techniques
- Reap the benefits of lock-free concurrent programming
- Gain insights into subtle optimizations used by standard library algorithms
- Compose algorithms using ranges library
- Develop the ability to apply metaprogramming aspects such as `constexpr`, constraints, and concepts
- Implement lazy generators and asynchronous tasks using C++20 coroutines

Who this book is for If you're a C++ developer

looking to improve the efficiency of your code or just keen to upgrade your skills to the next level, this book is for you.

Python Concurrency with Asyncio Simon and Schuster Foreword by Bjarne Stroustrup Software is generally acknowledged to be the single greatest obstacle preventing mainstream adoption of massively-parallel computing. While sequential applications are routinely ported to platforms ranging from PCs to mainframes, most parallel programs only ever run on one type of machine. One reason for this is that most parallel programming systems have failed to insulate their users from the architectures of the machines on which they have run. Those that have been platform-independent have usually also had poor performance. Many researchers now believe that object-oriented languages may offer a solution. By hiding the architecture-specific constructs required for high performance inside platform-independent abstractions, parallel object-oriented programming systems may be able to combine the speed of massively-parallel computing with the comfort of sequential programming.

Parallel Programming Using C++ describes fifteen parallel programming systems based on C++, the most popular object-oriented language of today. These systems cover the whole spectrum of parallel programming paradigms, from data parallelism through dataflow and distributed shared memory to message-passing control parallelism. For the parallel programming community, a common parallel application is discussed in each chapter, as part of the description of the system itself. By comparing the implementations of the polygon overlay problem in each system, the reader can get a better sense of their expressiveness and functionality for a common problem. For the systems community, the chapters contain a discussion of the implementation of the various compilers and runtime systems. In addition to discussing the performance of polygon overlay,

several of the contributors also discuss the performance of other, more substantial, applications. For the research community, the contributors discuss the motivations for and philosophy of their systems. As well, many of the chapters include critiques that complete the research arc by pointing out possible future research directions. Finally, for the object-oriented community, there are many examples of how encapsulation, inheritance, and polymorphism can be used to control the complexity of developing, debugging, and tuning parallel software.

Professional C++ Packt Publishing Ltd

Summary Concurrency in .NET teaches you how to build concurrent and scalable programs in .NET using the functional paradigm. This intermediate-level guide is aimed at developers, architects, and passionate computer programmers who are interested in writing code with improved speed and effectiveness by adopting a declarative and pain-free programming style. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Unlock the incredible performance built into your multi-processor machines. Concurrent applications run faster because they spread work across processor cores, performing several tasks at the same time. Modern tools and techniques on the .NET platform, including parallel LINQ, functional programming, asynchronous programming, and the Task Parallel Library, offer powerful alternatives to traditional thread-based concurrency. About the Book **Concurrency in .NET** teaches you to write code that delivers the speed you need for performance-sensitive applications. Featuring examples in both C# and F#, this book guides you through concurrent and parallel designs that emphasize functional programming in theory and practice. You'll start with the foundations of concurrency and master essential techniques and design practices to optimize code running on modern multiprocessor systems. What's Inside The most important concurrency abstractions Employing the agent programming model Implementing real-time event-stream processing Executing unbounded asynchronous operations Best concurrent practices and patterns that apply to all

platforms About the Reader For readers skilled with C# or F#. About the Book Riccardo Terrell is a seasoned software engineer and Microsoft MVP who is passionate about functional programming. He has over 20 years' experience delivering cost-effective technology solutions in a competitive business environment. Table of Contents PART 1 - Benefits of functional programming applicable to concurrent programs Functional concurrency foundations Functional programming techniques for concurrency Functional data structures and immutability PART 2 - How to approach the different parts of a concurrent program The basics of processing big data: data parallelism, part 1 PLINQ and MapReduce: data parallelism, part 2 Real-time event streams: functional reactive programming Task-based functional parallelism Task asynchronicity for the win Asynchronous functional programming in F# Functional combinators for fluent concurrent programming Applying reactive programming everywhere with agents Parallel workflow and agent programming with TPL Dataflow PART 3 - Modern patterns of concurrent programming applied Recipes and design patterns for successful concurrent programming Building a scalable mobile app with concurrent functional programming

CPython Internals Springer Nature

The authors provide clear examples and thorough explanations of every feature in the C language. They teach C vis-a-vis the UNIX operating system. A reference and tutorial to the C programming language. Annotation copyrighted by Book News, Inc., Portland, OR

C++ Network Programming, Volume 2 Packt Publishing Ltd

C++17 is a major update to the language and brings many exciting additions and improvements that will change your pre for the better. This book shows you all of the significant changes in the new Standard. I spent hundreds of hours investigating how the new features work to ensure this book is helpful and practical. It will not only save you time but will guide you through lots of nuances of the language and the Standard Library. Among the dozens of C++17's enhancements described in the book, you will learn about the following: Class Template Argument Deduction Structured Bindings Fold Expressions Inline Variables Parallel Algorithms

Polymorphic Allocator std::any std::byte std::filesystem std::from_chars std::optional std::string_view std::variant [[nodiscard]] if constexpr If you have experience with C++11/14 and you want to advance to the latest C++ Standard, then pick up the book and start reading. "If you've ever asked 'what's in C++17 and what does it mean for me and my pre?' -- and I hope you have -- then this book is for you." Herb Sutter The book is also available as ebook @Leanpub:

<https://leanpub.com/cpp17indetail>

Congressional Record Packt Publishing Ltd Learn how to speed up slow Python code with concurrent programming and the cutting-edge asyncio library. Use coroutines and tasks alongside async/await syntax to run code concurrently Build web APIs and make concurrency web requests with aiohttp Run thousands of SQL queries concurrently Create a map-reduce job that can process gigabytes of data concurrently Use threading with asyncio to mix blocking code with asyncio code Python is flexible, versatile, and easy to learn. It can also be very slow compared to lower-level languages. Python Concurrency with asyncio teaches you how to boost Python's performance by applying a variety of concurrency techniques. You'll learn how the complex-but-powerful asyncio library can achieve concurrency with just a single thread and use asyncio's APIs to run multiple web requests and database queries simultaneously. The book covers using asyncio with the entire Python concurrency landscape, including multiprocessing and multithreading. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology It ' s easy to overload standard Python and watch your programs slow to a crawl. Th e asyncio library was built to solve these problems by making it easy to divide and schedule tasks. It seamlessly handles multiple operations concurrently, leading to apps that are lightning fast and scalable. About the book Python Concurrency with asyncio introduces asynchronous, parallel, and concurrent programming through hands-on Python examples. Hard-to-grok

concurrency topics are broken down into simple flowcharts that make it easy to see how your tasks are running. You ' ll learn how to overcome the limitations of Python using asyncio to speed up slow web servers and microservices. You ' ll even combine asyncio with traditional multiprocessing techniques for huge improvements to performance. What's inside Build web APIs and make concurrency web requests with aiohttp Run thousands of SQL queries concurrently Create a map-reduce job that can process gigabytes of data concurrently Use threading with asyncio to mix blocking code with asyncio code About the reader For intermediate Python programmers. No previous experience of concurrency required. About the author Matthew Fowler has over 15 years of software engineering experience in roles from architect to engineering director. Table of Contents 1 Getting to know asyncio 2 asyncio basics 3 A first asyncio application 4 Concurrent web requests 5 Non-blocking database drivers 6 Handling CPU-bound work 7 Handling blocking work with threads 8 Streams 9 Web applications 10 Microservices 11 Synchronization 12 Asynchronous queues 13 Managing subprocesses 14 Advanced asyncio