Grokking Concurrency

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Monografía

This easy-to-read, hands-on guide demystifies concurrency concepts like threading, asynchronous programming, and parallel processing in any language. Perplexed by concurrency? Don't be. This engaging, fully-illustrated beginner's guide gets you writing the kind of high-performance code your apps deserve. Inside, you'll find thorough explanations of concurrency's core concepts--all explained with interesting illustrations, insightful examples, and detailed techniques you can apply to your own projects. In Grokking Concurrency you will: Get up to speed with the core concepts of concurrency, asynchrony, and parallel programming Learn the strengths and weaknesses of different hardware architectures Improve the sequential performance characteristics of your software Solve common problems for concurrent programming Compose patterns into a series of practices for writing scalable systems Write and implement concurrency systems that scale to any size Discover effective concurrency practices that will help you leverage multiple cores, excel with high loads, handle terabytes of data, and continue working after hardware and software failures. The core concepts in this guide will remain eternally relevant, whether you're building web apps, IoT systems, or handling big data. About the Technology Concurrency is an approach to running computer programs efficiently by separating them into tasks that can execute independently. This basic idea makes it possible to accelerate game graphics, train large AI models, rapidly scale web applications, streamline big data processing, and much more. Concurrency can get complicated, so this book gets you started gently with interesting examples, entertaining illustrations, and easy-to-follow Python code. About the Book Grokking Concurrency is a perfectly paced introduction to the fundamentals of concurrent, parallel, and asynchronous programming. In it, you'll learn the practices you'll need to program multicore processors, GPUs, and other high-performance systems. Author Kirill Bobrov skips the math, jargon, and academic language and concentrates on clear, plain-English explanations. What's Inside Writing and running concurrent programs Patterns for performance, scalability, and resilience Choosing the right hardware Asynchronous communication About the Reader Examples in Python. No prior experience with concurrency or high-performance computing required. About the Author Kirill Bobrov is a software engineer with a passion for data engineering. Quotes I recommend Grokking Concurrency as a gentle introduction to creating programs that perform on today's highly parallel architectures. - Robert Robey, Los Alamos National Laboratory This book combines computer architecture, operating systems, distributed computing, analysis, algorithms, and design. Anyone building a concurrent application should read this book first. - David Beazley, Author of Python Cookbook and Python Distilled A comprehensive, accessible, and practical overview of concurrent programming. It clarifies concepts like parallelism, race conditions, deadlocks, and more. - Arnaud Bailly, IOG

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