

Practical List For Java

Are you a programmer fluent in Java? It's time to take the next step! Almost 20 years after its first version, there is a new Java with important news! Amongst the main new resources, there are the default methods, method references and lambdas. They are simple concepts, but bring important possibilities. In the book we will explore various advancements found in Java 8. Always using practical examples and presenting real usage cases, we migrate the day-to-day legacy code to the new Java 8 functional paradigm. With this triad of concepts, the API managed to evolve in an interesting manner. The `java.util.stream` and `java.util.function` packages are deeply explored, presenting simple ways to work with collections and other data structures. Streams and Collectors will be part of your routine and will become as essential as Collections and the `java.io` currently are to your applications. Lastly, we'll see how the new API `java.time` comes to change from water to wine the way how we work with dates and times.

Covers fundamental and advanced Java database programming techniques for beginning and experienced readers This book covers the practical considerations and applications in database programming using Java NetBeans IDE, JavaServer Pages, JavaServer Faces, and Java Beans, and comes complete with authentic examples and detailed explanations. Two data-action methods are developed and presented in this important resource. With Java Persistence API and plug-in Tools, readers are directed step by step through the entire database programming development process and will be able to design and build professional data-action projects with a few lines of code in mere minutes. The second method, runtime object, allows readers to design and build more sophisticated and practical Java database applications. Advanced and updated Java database programming techniques such as Java Enterprise Edition development kits, Enterprise Java Beans, JavaServer Pages, JavaServer Faces, Java RowSet Object, and JavaUpdatable ResultSet are also discussed and implemented with numerous example projects. Ideal for classroom and professional training use, this text also features: A detailed introduction to NetBeans Integrated Development Environment Java web-based database programming techniques (web applications and web services) More than thirty detailed, real-life sample projects analyzed via line-by-line illustrations Problems and solutions for each chapter A wealth of supplemental material available for download from the book's ftp site, including PowerPoint slides, solution manual, JSP pages, sample image files, and sample databases Coverage of two popular database systems: SQL Server 2008 and Oracle This book provides undergraduate and graduate students as well as database programmers and software engineers with the necessary tools to handle the database programming issues in the Java NetBeans environment. To obtain instructor materials please send an email to: pressbooks@ieee.org

A Concise and Practical Introduction to Programming Algorithms in Java has two main goals. The first is for novice programmers to learn progressively the basic concepts underlying most imperative programming languages using Java. The second goal is to introduce new programmers to the very basic principles of thinking the algorithmic way and turning the algorithms into programs using the programming concepts of Java. The book is divided into two parts and includes: The fundamental notions of variables, expressions and assignments with type checking - Conditional and loop statements - Explanation of the concepts of functions with pass-by-value arguments and recursion - Fundamental sequential and bisection search techniques - Basic iterative and recursive sorting algorithms. Each chapter of the book concludes with a set of exercises to enable students to practice concepts covered.

Practical Java Programming Language Guide Addison-Wesley Professional

The networking capabilities of the Java platform have been extended considerably since the first edition of the book. This new edition covers version 1.5-1.7, the most current iterations, as well as making the following improvements: The API (application programming interface) reference sections in each chapter, which describe the relevant parts of each class, have been replaced with (i) a summary section that lists the classes and methods used in the code, and (ii) a "gotchas" section that mentions nonobvious or poorly-documented aspects of the objects. In addition, the book covers several new classes and capabilities introduced in the last few revisions of the Java platform. New abstractions to be covered include NetworkInterface, InetAddress, Inet4/6Address, SocketAddress/InetSocketAddress, Executor, and others; extended access to low-level network information; support for IPv6; more complete access to socket options; and scalable I/O. The example code is also modified to take advantage of new language features such as annotations, enumerations, as well as generics and implicit iterators where appropriate. Most Internet applications use sockets to implement network communication protocols. This book's focused, tutorial-based approach helps the reader master the tasks and techniques essential to virtually all client-server projects using sockets in Java. Chapter 1 provides a general overview of networking concepts to allow readers to synchronize the concepts with terminology. Chapter 2 introduces the mechanics of simple clients and servers. Chapter 3 covers basic message construction and parsing. Chapter 4 then deals with techniques used to build more robust clients and servers. Chapter 5 (NEW) introduces the scalable interface facilities which were introduced in Java 1.5, including the buffer and channel abstractions. Chapter 6 discusses the relationship between the programming constructs and the underlying protocol implementations in more detail. Programming concepts are introduced through simple program examples accompanied by line-by-line code commentary that describes the purpose of every part of the program. No other resource presents so concisely or so effectively the material necessary to get up and running with Java sockets programming. Focused, tutorial-based instruction in key sockets programming techniques allows reader to quickly come up to speed on Java applications. Concise and up-to-date coverage of the most recent platform (1.7) for Java applications in networking technology.

Data Science is booming thanks to R and Python, but Java brings the robustness, convenience, and ability to scale critical to today's data science applications. With this practical book, Java software engineers looking to add data science skills will take a logical journey through the data science pipeline. Author Michael Brzustowicz explains the basic math theory behind each step of the data science process, as well as how to apply these concepts with Java. You'll learn the critical roles that data IO, linear algebra, statistics, data operations, learning and prediction, and Hadoop MapReduce play in the process. Throughout this book, you'll find code examples you can use in your applications. Examine methods for obtaining, cleaning, and arranging data into its purest form Understand the matrix structure that your data should take Learn basic concepts for testing the origin and validity of data Transform your data into stable and usable numerical values Understand supervised and unsupervised learning algorithms, and methods for evaluating their success Get up and running with MapReduce, using customized components suitable for data science algorithms

The Best in Java Concepts DESCRIPTION It covers all the topics of Java with explanation like object and class, this, super, instance, static, final, package, interface, abstract exception handling, applet, swing, event handling, collections, GUI, AWT, Thread, Servlet, JSP, JDBC, Look and feel, RMI, Socket programming and many more keywords and topics. This book helps you to understand each and every topic of java practically. It will help you in developing software and websites because one should have sound practical knowledge. It covers all the topics which are important from the point of view of the interview, certification and examinations and no topic is left untouched. KEY FEATURES Well versed in C and OOPs Wants to learn Java Programming Not familiar with Java and has good knowledge of programming Wants to learn Android or other App development/ website development Wants to work as freelancer Wants to fight for certification/ interview/ examination. WHAT WILL YOU LEARN This book will help developers to easily develop attractive and efficient dynamic web applications using Java. It will be a great source of reference for developers for migrating applications to open source technologies

such as HTML5, and MySQL. WHO THIS BOOK IS FOR This book will prove to be a “must have” for beginners as well as experienced professionals as it is a stepping stone for learning Java technology. Table of Contents 1. History in Brief 2. Magic Code : Bytecode 3. Operators in java 4. Java Comment 5. Java Control Statement 6. Iteration / Looping 7. Array 8. Object and classes 9. Constructor 10. Static 11. This Keyword 12. Final Keyword 13. Java Regular Expressions (RegeX) 14. String 15. Instanceof 16. Inner Class 17. Inheritance 18. Abstraction 19. Exception 20. Package 21. Collection and Generics 22. Applets 23. Adapter Class 24. Multithreading 25. Networking 26. File Handling (IO package) 27. Serialization 28. Java Advance 29. Extra efforts Índice abreviado: General techniques -- Objects and equality -- Exception handling -- Performance -- Multithreading -- Classes and interfaces -- Appendix: learning Java.

This practical text contains fairly "traditional" coverage of data structures with a clear and complete use of algorithm analysis, and some emphasis on file processing techniques as relevant to modern programmers. It fully integrates OO programming with these topics, as part of the detailed presentation of OO programming itself. Chapter topics include lists, stacks, and queues; binary and general trees; graphs; file processing and external sorting; searching; indexing; and limits to computation. For programmers who need a good reference on data structures.

Visual information retrieval (VIR) is an active and vibrant research area, which attempts at providing means for organizing, indexing, annotating, and retrieving visual information (images and videos) from large, unstructured repositories. The goal of VIR is to retrieve matches ranked by their relevance to a given query, which is often expressed as an example image and/or a series of keywords. During its early years (1995-2000), the research efforts were dominated by content-based approaches contributed primarily by the image and video processing community. During the past decade, it was widely recognized that the challenges imposed by the lack of coincidence between an image's visual contents and its semantic interpretation, also known as semantic gap, required a clever use of textual metadata (in addition to information extracted from the image's pixel contents) to make image and video retrieval solutions efficient and effective. The need to bridge (or at least narrow) the semantic gap has been one of the driving forces behind current VIR research. Additionally, other related research problems and market opportunities have started to emerge, offering a broad range of exciting problems for computer scientists and engineers to work on. In this introductory book, we focus on a subset of VIR problems where the media consists of images, and the indexing and retrieval methods are based on the pixel contents of those images -- an approach known as content-based image retrieval (CBIR). We present an implementation-oriented overview of CBIR concepts, techniques, algorithms, and figures of merit. Most chapters are supported by examples written in Java, using Lucene (an open-source Java-based indexing and search implementation) and LIRE (Lucene Image REtrieval), an open-source Java-based library for CBIR. Although traditional texts present isolated algorithms and data structures, they do not provide a unifying structure and offer little guidance on how to appropriately select among them. Furthermore, these texts furnish little, if any, source code and leave many of the more difficult aspects of the implementation as exercises. A fresh alternative to

You might think more than enough design books exist in the programming world already. In fact, there are so many that it makes sense to ask why you would read yet another. Is there really a need for yet another design book? In fact, there is a greater need than ever before, and Practical API Design: Confessions of a Java Framework Architect fills that need! Teaches you how to write an API that will stand the test of time Written by the designer of the NetBeans API at Sun Technologies Based on best practices, scalability, and API design patterns

Are you are worried you are missing out on the latest version of Java? When you hear a term such as lambda expressions - do you wonder what you are neglecting? If so, Java 8 New Features will squash your concerns and deliver a quick and easy-to-understand guide to what's new in Java 8. The latest version of Java offers numerous improvements and new features to better utilize Java. Streams, for example, supports a fluent approach to problem solving and lets the developer take advantage of concurrency with minimal effort, whilst Lambda Expressions offer new ways of expressing a solution that brings efficiency and succinct programming. Get up-to-speed here with this color book! - Learn how interface enhancements - such as default methods - affect new additions to Java 8 and their impact on multiple inheritance between interfaces - Use lambda expressions to simplify solutions to development problems - Discover how the new Stream interface supports query type problems - Explore the new support for concurrent processing including that supported by Streams - Find out why the new date and time enhancements make working with time so much easier than it used to be - Includes information on the Nashorn JavaScript Engine, File IO Enhancements, and Project Jigsaw

Implement a High-Performance Enterprise Java Application Modernization Strategy Learn cutting-edge techniques and processes to systematically and strategically modernize legacy Java applications with predictability, consistency, and confidence. This Oracle Press guide offers an innovative blueprint that empowers corporate management teams to better understand necessary technical requirements and enables Java architects and developers to better align with agile business needs. Rapid Modernization of Java Applications: Practical Business and Technical Solutions for Upgrading Your Enterprise Portfolio contains modernization approaches that offer end-to-end Java application portfolio visibility so that application modernization projects can stay on-schedule and within budget.

This practical book tells readers how to actually build object-oriented models using UML notation, and how to implement these models using Java. The authors introduce all of the basic fundamentals necessary to start applying and understanding the object-oriented paradigm without having to be an expert in computer science or advanced mathematics. It can help the reader to make the right decisions to meet their individual business needs. Using cases, recommended approach scenarios, and examples, this clearly-written book covers a multitude of topics: managing complexity, principles of Object-Oriented, specification models, current techniques, behaviors, relationships, rules, design, Java background and fundamentals, multi-tasking, JAR files, security, Swing Applets, class and interface, internationalization, and implementing generalization and specialization. For professional software analysts and developers who work on large systems, and others in the field of computer science.

Learn practical uses for some of the hottest tech applications trending among technology professionals We are living in an era of digital revolution. On the horizon, many emerging digital technologies are being developed at a breathtaking speed. Whether we like it or not, whether we are ready or not, digital technologies are going to penetrate more and more, deeper and deeper, into every aspect of our lives. This is going to fundamentally change how we live, how we work, and how we socialize. Java, as a modern high-level programming language, is an excellent tool for helping us to learn these digital technologies, as well as to develop digital applications, such as IoT, AI, Cybersecurity, Blockchain and more. Practical Java Programming uses Java as a tool to help you learn these new digital technologies and to be better prepared for the future changes. Gives you a brief overview for getting started with Java Programming Dives into how you can apply your new knowledge to some of the biggest trending applications today Helps you understand how to program Java to interact with operating systems, networking, and mobile applications Shows you how Java can be used in trending tech applications such as IoT (Internet of Things), AI (Artificial Intelligence), Cybersecurity, and Blockchain Get ready to find out firsthand how Java can be used for connected home devices, healthcare, the cloud, and all the hottest tech applications.

Master the Java EE 8 and JSF (JavaServer Faces) APIs and web framework with this practical, projects-driven guide to web development. This book combines theoretical background with a practical approach by building four real-world applications. By developing these JSF web applications, you'll take a tour through the other Java EE technologies such as JPA, CDI, Security, WebSockets, and more. In Practical JSF in Java EE 8, you will learn to use the JavaServer Faces web framework in Java EE 8 to easily construct a web-based user interface from a set of reusable components. Next, you add JSF event handling and then link to a database, persist data, and add security and the other bells and whistles that the Java EE 8 platform has to offer. After reading this book you will have a good foundation in

Java-based web development and will have increased your proficiency in sophisticated Java EE 8 web development using the JSF framework. What You Will Learn Use the Java EE 8 and the JavaServer Faces APIs to build Java-based web applications through four practical real-world case studies Process user input with JSF and the expression language by building a calculator application Persist data using JSF templating and Java Persistence to manage an inventory of books Create and manage an alumni database using JSF, Ajax, web services and Java EE 8's security features. Who This Book Is For Those new to Java EE 8 and JSF. Some prior experience with Java is recommended.

Data Mining: Practical Machine Learning Tools and Techniques, Third Edition, offers a thorough grounding in machine learning concepts as well as practical advice on applying machine learning tools and techniques in real-world data mining situations. This highly anticipated third edition of the most acclaimed work on data mining and machine learning will teach you everything you need to know about preparing inputs, interpreting outputs, evaluating results, and the algorithmic methods at the heart of successful data mining. Thorough updates reflect the technical changes and modernizations that have taken place in the field since the last edition, including new material on Data Transformations, Ensemble Learning, Massive Data Sets, Multi-instance Learning, plus a new version of the popular Weka machine learning software developed by the authors. Witten, Frank, and Hall include both tried-and-true techniques of today as well as methods at the leading edge of contemporary research. The book is targeted at information systems practitioners, programmers, consultants, developers, information technology managers, specification writers, data analysts, data modelers, database R&D professionals, data warehouse engineers, data mining professionals. The book will also be useful for professors and students of upper-level undergraduate and graduate-level data mining and machine learning courses who want to incorporate data mining as part of their data management knowledge base and expertise. Provides a thorough grounding in machine learning concepts as well as practical advice on applying the tools and techniques to your data mining projects Offers concrete tips and techniques for performance improvement that work by transforming the input or output in machine learning methods Includes downloadable Weka software toolkit, a collection of machine learning algorithms for data mining tasks—in an updated, interactive interface. Algorithms in toolkit cover: data pre-processing, classification, regression, clustering, association rules, visualization

For a long time, there has been a need for a practical, down-to-earth developers book for the Java Cryptography Extension. I am very happy to see there is now a book that can answer many of the technical questions that developers, managers, and researchers have about such a critical topic. I am sure that this book will contribute greatly to the success of securing Java applications and deployments for e-business. --Anthony Nadalin, Java Security Lead Architect, IBM For many Java developers and software engineers, cryptography is an "on-demand" programming exercise, where cryptographic concepts are shelved until the next project requires renewed focus. But considerations for cryptography must be made early on in the design process and it's imperative that developers know what kinds of solutions exist. One of Java's solutions to help bridge the gap between academic research and real-world problem solving comes in the form of a well-defined architecture for implementing cryptographic solutions. However, to use the architecture and its extensions, it is important to recognize the pros and cons of different cryptographic algorithms and to know how to implement various devices like key agreements, digital signatures, and message digests, to name a few. In Java Cryptography Extensions (JCE), cryptography is discussed at the level that developers need to know to work with the JCE and with their own applications but that doesn't overwhelm by packing in details unimportant to the busy professional. The JCE is explored using numerous code examples and instructional detail, with clearly presented sections on each aspect of the Java library. An online open-source cryptography toolkit and the code for all of the examples further reinforces the concepts covered within the book. No other resource presents so concisely or effectively the exact material needed to begin utilizing the JCE. Written by a seasoned veteran of both cryptography and server-side programming Covers the architecture of the JCE, symmetric ciphers, asymmetric ciphers, message digests, message authentication codes, digital signatures, and managing keys and certificates

The previous three editions have established Fluid Mechanics as the key textbook in its field. This fourth edition continues to offer the reader an excellent and comprehensive treatment of the essentials of what is a truly cross-disciplinary subject, while also providing in-depth treatment of selected areas. This book is suitable for all students of civil, mechanical, chemical, environmental and building services engineering. The fourth edition retains the underlying philosophy of the previous editions - guiding the reader from the general to the particular, from fundamentals to specialist applications - for a range of flow conditions from bounded to free surface and steady to time dependent. The basic 'building block' equations are identified and their development and application to problems of considerable engineering concern are demonstrated and discussed. The fourth edition of Fluid Mechanics includes: end of chapter summaries outlining all essential concepts, an entirely new chapter on the simulation of unsteady flow conditions, from free surface to air distribution networks, enhanced treatment of dimensional analysis and similarity and an introduction to the fundamentals of CFD

Learn how to build scalable, resilient, and effective applications in Java that suit your software requirements. Key Features Explore advanced technologies that Java 11 delivers such as web programming and parallel computing Discover modern programming paradigms such as microservices, cloud computing and enterprise structures Build highly responsive applications with this practical introduction to Reactive programming Book Description Java is one of the most commonly used software languages by programmers and developers. In this book, you'll learn the new features of Java 11 quickly and experience a simple and powerful approach to software development. You'll see how to use the Java runtime tools, understand the Java environment, and create a simple namesorting Java application. Further on, you'll learn about advanced technologies that Java delivers, such as web programming and parallel computing, and will develop a mastermind game. Moving on, we provide more simple examples, to build a foundation before diving into some complex data structure problems that will solidify your Java 11 skills. With a special focus on the features of new projects: Project Valhalla, Project Panama, Project Amber, and Project Loom, this book will help you get employed as a top-notch Java developer. By the end of the book, you'll have a firm foundation to continue your journey toward becoming a professional Java developer. What you will learn Compile, package, and run a program using a build management tool Get to know the principles of test-driven development Separate the wiring of multiple modules from application logic Use Java annotations for configuration Master the scripting API built into the Java language Understand static versus dynamic implementation of code Who this book is for This book is for anyone who wants to learn the Java programming language. No programming experience required. If you have prior experience, it will help you through the book more easily.

This introductory programming textbook integrates BlueJ with Java. It provides a thorough treatment of object-oriented principles.

Master the fundamentals of Scala and understand its emphasis on functional programming that sets it apart from Java. This book will help you translate what you already know in Java to Scala to start your functional programming journey. Learn Scala is split into four parts: a tour of Scala, a comparison between Java and Scala, Scala-specific features and functional programming idioms, and finally a discussion about adopting Scala in existing Java teams and legacy projects. After reading and using this tutorial, you'll come away with the skills in Scala to kick-start your productivity with this growing popular language. What You'll Learn Tour Scala and learn the basic syntax, constructs, and how to use the REPL Translate Java syntax that you already know into Scala Learn what Scala offers over and above Java Become familiar with functional programming concepts and idioms Gain tips and advice useful when transitioning existing Java projects to Scala Who This Book Is For Java developers looking to transition to Scala. No prior experience necessary

in Scala.

Performance tuning is an experimental science, but that doesn't mean engineers should resort to guesswork and folklore to get the job done. Yet that's often the case. With this practical book, intermediate to advanced Java technologists working with complex technology stacks will learn how to tune Java applications for performance using a quantitative, verifiable approach. Most resources on performance tend to discuss the theory and internals of Java virtual machines, but this book focuses on the practicalities of performance tuning by examining a wide range of aspects. There are no simple recipes, tips and tricks, or algorithms to learn. Performance tuning is a process of defining and determining desired outcomes. And it requires diligence. Learn how Java principles and technology make the best use of modern hardware and operating systems Explore several performance tests and common anti-patterns that can vex your team Understand the pitfalls of measuring Java performance numbers and the drawbacks of microbenchmarking Dive into JVM garbage collection logging, monitoring, tuning, and tools Explore JIT compilation and Java language performance techniques Learn performance aspects of the Java Collections API and get an overview of Java concurrency

A Comprehensive Guide with 70+ Examples Get the Kindle version FREE when purchasing the Paperback! The second book in the Step-By-Step Java Series delves further into practical Java programming. We believe the best way to learn programming is through practise and practical application. For this reason, this book is crammed full of examples and code descriptions. This book serves as a teaching guide and also a reference manual to accompany you through this wonderful world of programming. Author Nathan Clark shares his nearly 20 years' experience in this clear, concise and easy to follow guide. What This Book Offers Detailed Descriptions Each topic is broken down into small manageable sections where each concept is explained in detail. We look at the different variations and types available, what the various return values mean and even how to avoid common errors. 79 Practical Examples With each concept, we provide one or more example to illustrate the topic in a way that makes it easy to understand. We break examples down into their basic workings, and provide the output for you to compare to your own results. Proper Syntax We focus on the specific syntax in each topic, as well as alternative variations and how each functions. Key Topics Methods Working with Arrays Working with Numbers Working with Strings Classes and Objects Inheritance Polymorphism Inner Classes Anonymous Classes Interfaces File I/O Operations Exception Handling Logging in Java Get Your Copy Today!

CD-ROM contains Java classes for use in developing image processing software as well as completed image processing software.

The proposed book is a special practical guide to all who want to learn the Java Programming from basic without having the deep knowledge of theoretical concept. It covers on extensive syllabus designed by Rajasthan technical University and various private universities of Rajasthan. The each topic is demonstrative with more than 200 solved programming examples that are covered in the book. It has a comprehensive coverage of complicated topics like Packages, Interfaces, Collections, Applets, AWTs, Derby Database, Swing and Calendar class with detailed description of real life problems solution. The objective questions and programming exercises of each chapter are given at the end. More than 300 questions to solve including programming exercises with 100% Practical Implementation of all the topics on Core Java Programming are covered in it. Book also has the challenging JAVA practical Questions and commonly asked interview Questions.

* Treats LISP as a language for commercial applications, not a language for academic AI concerns. This could be considered to be a secondary text for the Lisp course that most schools teach . This would appeal to students who sat through a LISP course in college without quite getting it – so a "nostalgia" approach, as in "wow-lisp can be practical..." * Discusses the Lisp programming model and environment. Contains an introduction to the language and gives a thorough overview of all of Common Lisp's main features. * Designed for experienced programmers no matter what languages they may be coming from and written for a modern audience—programmers who are familiar with languages like Java, Python, and Perl. * Includes several examples of working code that actually does something useful like Web programming and database access.

Using Continuous Delivery, you can bring software into production more rapidly, with greater reliability. A Practical Guide to Continuous Delivery is a 100% practical guide to building Continuous Delivery pipelines that automate rollouts, improve reproducibility, and dramatically reduce risk. Eberhard Wolff introduces a proven Continuous Delivery technology stack, including Docker, Chef, Vagrant, Jenkins, Graphite, the ELK stack, JBehave, and Gatling. He guides you through applying these technologies throughout build, continuous integration, load testing, acceptance testing, and monitoring. Wolff's start-to-finish example projects offer the basis for your own experimentation, pilot programs, and full-fledged deployments. A Practical Guide to Continuous Delivery is for everyone who wants to introduce Continuous Delivery, with or without DevOps. For managers, it introduces core processes, requirements, benefits, and technical consequences. Developers, administrators, and architects will gain essential skills for implementing and managing pipelines, and for integrating Continuous Delivery smoothly into software architectures and IT organizations. Understand the problems that Continuous Delivery solves, and how it solves them Establish an infrastructure for maximum software automation Leverage virtualization and Platform as a Service (PAAS) cloud solutions Implement build automation and continuous integration with Gradle, Maven, and Jenkins Perform static code reviews with SonarQube and repositories to store build artifacts Establish automated GUI and textual acceptance testing with behavior-driven design Ensure appropriate performance via capacity testing Check new features and problems with exploratory testing Minimize risk throughout automated production software rollouts Gather and analyze metrics and logs with Elasticsearch, Logstash, Kibana (ELK), and Graphite Manage the introduction of Continuous Delivery into your enterprise Architect software to facilitate Continuous Delivery of new capabilities

Threads are a fundamental part of the Java platform. As multicore processors become the norm, using concurrency effectively becomes essential for building high-performance applications. Java SE 5 and 6 are a huge step forward for the development of concurrent applications, with improvements to the Java Virtual Machine to support high-performance, highly scalable concurrent classes and a rich set of new concurrency building blocks. In Java Concurrency in Practice , the creators of these new facilities explain not only how they work and how to use them, but also the motivation and design patterns behind them. However, developing, testing, and debugging multithreaded programs can still be very difficult; it is all too easy to create concurrent programs that appear to work, but fail when it matters most: in production, under heavy load. Java Concurrency in Practice arms readers with both the theoretical underpinnings and concrete techniques for building reliable, scalable, maintainable concurrent applications.

Rather than simply offering an inventory of concurrency APIs and mechanisms, it provides design rules, patterns, and mental models that make it easier to build concurrent programs that are both correct and performant. This book covers: Basic concepts of concurrency and thread safety Techniques for building and composing thread-safe classes Using the concurrency building blocks in java.util.concurrent Performance optimization dos and don'ts Testing concurrent programs Advanced topics such as atomic variables, nonblocking algorithms, and the Java Memory Model

The first book focusing on one of the hottest new topics in Internet of Things systems research and development Studies estimate that by 2020 we will have a vast Internet of Things (IoT) network comprising 26 billion connected devices, including everything from light bulbs to refrigerators, coffee makers to cars. From the beginning, the concept of cyber-physical systems (CPS), or the sensing and control of physical phenomena through networks of devices that work together to achieve common goals, has been implicit in the IoT enterprise. This book focuses on the increasingly hot topic of Human-in-the-loop Cyber-Physical Systems (HiTLCPS)—CPSs that incorporate human responses in IoT equation. Why have we not yet integrated the human component into CPSs? What are the major challenges to achieving HiTLCPS? How can we take advantage of ubiquitous sensing platforms, such as smartphones and personal devices to achieve that goal? While mature HiTLCPS designs have yet to be achieved, or a general consensus reached on underlying HiTLCPS requirements, principles, and theory, researchers and developers worldwide are on the cusp of realizing them. With contributions from researchers at the cutting edge of HiTLCPS R&D, this book addresses many of these questions from the theoretical and practical points of view. An essential primer on a rapidly emerging Internet-of-Things concept, focusing on human-centric applications Discusses new topics which, until now, have only been available in research papers scattered throughout the world literature Addressed fundamental concepts in depth while providing practical insights into the development of complete HiTLCPS systems Includes a companion website containing full source-code for all of the applications described This book is an indispensable resource for researchers and app developers eager to explore HiTL concepts and include them into their designs. It is also an excellent primer for advanced undergraduates and graduate students studying IoT, CPS, and HiTLCPS.

You need recursion to work with complex data structures. But perhaps you've studied recursion and decided it's too complicated. You just can't think that way. That limits the kind of programming you can do. Good news! Recursion is actually easy. It's just badly taught. See, almost everybody talks about how the computer does it. They go on and on about what happens at each level of the recursion, and how each level relates to other levels. The problem is that you can't think in multiple levels. Nobody can. And you don't have to. This book will show you how you can write recursive programs. Once you understand a few simple rules, you will wonder why you ever thought recursion was complicated. You'll be able to write recursive programs quickly and easily. Well, as quick and easy as programming ever is, anyway.

Best practices to adapt and bottlenecks to avoid About This Book Tackle all kinds of performance-related issues and streamline your development Master the new features and new APIs of Java 9 to implement highly efficient and reliable codes Gain an in-depth knowledge of Java application performance and obtain best results from performance testing Who This Book Is For This book is for Java developers who would like to build reliable and high-performance applications. Prior Java programming knowledge is assumed. What You Will Learn Work with JIT compilers Understand the usage of profiling tools Generate JSON with code examples Leverage the command-line tools to speed up application development Build microservices in Java 9 Explore the use of APIs to improve application code Speed up your application with reactive programming and concurrency In Detail Finally, a book that focuses on the practicalities rather than theory of Java application performance tuning. This book will be your one-stop guide to optimize the performance of your Java applications. We will begin by understanding the new features and APIs of Java 9. You will then be taught the practicalities of Java application performance tuning, how to make the best use of garbage collector, and find out how to optimize code with microbenchmarking. Moving ahead, you will be introduced to multithreading and learning about concurrent programming with Java 9 to build highly concurrent and efficient applications. You will learn how to fine tune your Java code for best results. You will discover techniques on how to benchmark performance and reduce various bottlenecks in your applications. We'll also cover best practices of Java programming that will help you improve the quality of your codebase. By the end of the book, you will be armed with the knowledge to build and deploy efficient, scalable, and concurrent applications in Java. Style and approach This step-by-step guide provides real-world examples to give you a hands-on experience.

PAAMS, the International Conference on Practical Applications of Agents and Multi-Agent Systems is an evolution of the International Workshop on Practical Applications of Agents and Multi-Agent Systems. PAAMS is an international yearly tribune to present, to discuss, and to disseminate the latest developments and the most important outcomes related to real-world applications. It provides a unique opportunity to bring multi-disciplinary experts, academics and practitioners together to exchange their experience in the development of Agents and Multi-Agent Systems. This volume presents the papers that have been accepted for the 2011 in the workshops: Workshop on Agents for Ambient Assisted Living, Workshop on Agent-Based Solutions for Manufacturing and Supply Chain, Workshop on Agents and Multi-agent systems for Enterprise Integration.

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