

File Type PDF Scala Cookbook Recipes For Object Oriented And Functional Programming

Scala Cookbook Recipes For Object Oriented And Functional Programming

Navigate the world of data analysis, visualization, and machine learning with over 100 hands-on Scala recipes

About This Book Implement Scala in your data analysis using features from Spark, Breeze, and Zeppelin Scale up your data analytics infrastructure with practical recipes for Scala machine learning Recipes for every stage of the data analysis process, from reading and collecting data to distributed analytics Who This Book Is For This book shows data scientists and analysts how to leverage their existing knowledge of Scala for quality and scalable data analysis.

What You Will Learn Familiarize and set up the Breeze and Spark libraries and use data structures Import data from a host of possible sources and create dataframes from CSV Clean, validate and transform data using Scala to pre-process numerical and string data Integrate quintessential machine learning algorithms using Scala stack Bundle and scale up Spark jobs by deploying them into a variety of cluster managers Run streaming and graph analytics in Spark to visualize data, enabling exploratory analysis In Detail This book will introduce you to the most popular Scala tools, libraries, and frameworks through practical recipes around loading, manipulating, and preparing your data. It will also help you explore and make sense of your data using stunning and insightful visualizations, and machine learning toolkits. Starting with introductory recipes on utilizing the Breeze and Spark libraries, get to grips with how to import data from a host of possible sources and how to pre-process numerical, string, and date data. Next, you'll get an understanding of

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concepts that will help you visualize data using the Apache Zeppelin and Bokeh bindings in Scala, enabling exploratory data analysis. Discover how to program quintessential machine learning algorithms using Spark ML library. Work through steps to scale your machine learning models and deploy them into a standalone cluster, EC2, YARN, and Mesos. Finally dip into the powerful options presented by Spark Streaming, and machine learning for streaming data, as well as utilizing Spark GraphX. Style and approach This book contains a rich set of recipes that covers the full spectrum of interesting data analysis tasks and will help you revolutionize your data analysis skills using Scala and Spark.

The introduction of functional programming concepts in Java SE 8 was a drastic change for this venerable object-oriented language. Lambda expressions, method references, and streams fundamentally changed the idioms of the language, and many developers have been trying to catch up ever since. This cookbook will help. With more than 70 detailed recipes, author Ken Kousen shows you how to use the newest features of Java to solve a wide range of problems. For developers comfortable with previous Java versions, this guide covers nearly all of Java SE 8, and includes a chapter focused on changes coming in Java 9. Need to understand how functional idioms will change the way you write code? This cookbook—chock full of use cases—is for you. Recipes cover:

- The basics of lambda expressions and method references
- Interfaces in the `java.util.function` package
- Stream operations for transforming and filtering data
- Comparators and Collectors for sorting and converting streaming data
- Combining lambdas, method references, and streams
- Creating instances and extract values from Java's Optional type
- New I/O capabilities that support functional streams
- The Date-Time API that replaces the legacy `Date` and `Calendar` classes
- Mechanisms for experimenting with concurrency and

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parallelism

Over 70 recipes to help you use Apache Spark as your single big data computing platform and master its libraries About This Book This book contains recipes on how to use Apache Spark as a unified compute engine Cover how to connect various source systems to Apache Spark Covers various parts of machine learning including supervised/unsupervised learning & recommendation engines Who This Book Is For This book is for data engineers, data scientists, and those who want to implement Spark for real-time data processing. Anyone who is using Spark (or is planning to) will benefit from this book. The book assumes you have a basic knowledge of Scala as a programming language. What You Will Learn Install and configure Apache Spark with various cluster managers & on AWS Set up a development environment for Apache Spark including Databricks Cloud notebook Find out how to operate on data in Spark with schemas Get to grips with real-time streaming analytics using Spark Streaming & Structured Streaming Master supervised learning and unsupervised learning using MLlib Build a recommendation engine using MLlib Graph processing using GraphX and GraphFrames libraries Develop a set of common applications or project types, and solutions that solve complex big data problems In Detail While Apache Spark 1.x gained a lot of traction and adoption in the early years, Spark 2.x delivers notable improvements in the areas of API, schema awareness, Performance, Structured Streaming, and simplifying building blocks to build better, faster, smarter, and more accessible big data applications. This book uncovers all these features in the form of structured recipes to analyze and mature large and complex sets of data. Starting with installing and configuring Apache Spark with various cluster managers, you will learn to set up development environments. Further on, you will be introduced to working

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with RDDs, DataFrames and Datasets to operate on schema aware data, and real-time streaming with various sources such as Twitter Stream and Apache Kafka. You will also work through recipes on machine learning, including supervised learning, unsupervised learning & recommendation engines in Spark. Last but not least, the final few chapters delve deeper into the concepts of graph processing using GraphX, securing your implementations, cluster optimization, and troubleshooting. Style and approach This book is packed with intuitive recipes supported with line-by-line explanations to help you understand Spark 2.x's real-time processing capabilities and deploy scalable big data solutions. This is a valuable resource for data scientists and those working on large-scale data projects.

Scala is a modern programming language for the Java Virtual Machine (JVM) that combines the best features of object-oriented and functional programming languages. Using Scala, you can write programs more concisely than in Java, as well as leverage the full power of concurrency. Since Scala runs on the JVM, it can access any Java library and is interoperable with Java frameworks. Scala for the Impatient concisely shows developers what Scala can do and how to do it. In this book, Cay Horstmann, the principal author of the international best-selling Core Java™, offers a rapid, code-based introduction that's completely practical. Horstmann introduces Scala concepts and techniques in "blog-sized" chunks that you can quickly master and apply. Hands-on activities guide you through well-defined stages of competency, from basic to expert. Coverage includes Getting started quickly with Scala's interpreter, syntax, tools, and unique idioms Mastering core language features: functions, arrays, maps, tuples, packages, imports, exception handling, and more Becoming familiar with object-oriented programming in Scala: classes, inheritance, and traits Using

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Scala for real-world programming tasks: working with files, regular expressions, and XML Working with higher-order functions and the powerful Scala collections library Leveraging Scala's powerful pattern matching and case classes Creating concurrent programs with Scala actors Implementing domain-specific languages Understanding the Scala type system Applying advanced "power tools" such as annotations, implicits, and delimited continuations Scala is rapidly reaching a tipping point that will reshape the experience of programming. This book will help object-oriented programmers build on their existing skills, allowing them to immediately construct useful applications as they gradually master advanced programming techniques. Summary Scala in Depth is a unique new book designed to help you integrate Scala effectively into your development process. By presenting the emerging best practices and designs from the Scala community, it guides you through dozens of powerful techniques example by example. About the Book Scala is a powerful JVM language that blends the functional and OO programming models. You'll have no trouble getting introductions to Scala in books or online, but it's hard to find great examples and insights from experienced practitioners. You'll find them in Scala in Depth. There's little heavy-handed theory here—just dozens of crisp, practical techniques for coding in Scala. Written for readers who know Java, Scala, or another OO language. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside Concise, expressive, and readable code style How to integrate Scala into your existing Java projects Scala's 2.8.0 collections API How to use actors for concurrent programming Mastering the Scala type system Scala's OO features—type member inheritance, multiple inheritance, and composition Functional concepts and patterns—immutability,

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applicative functors, and monads =====
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Table of Contents
Scala—a blended language The core rules Modicum of style—coding conventions Utilizing object orientation Using implicits to write expressive code The type system Using implicits and types together Using the right collection Actors Integrating Scala with Java Patterns in functional programming

Save time and trouble building object-oriented, functional, and concurrent applications with Scala 3. The latest edition of this comprehensive cookbook is packed with more than 250 ready-to-use recipes and 700 code examples to help you solve the most common problems when working with Scala and its popular libraries. Whether you're working on web, big data, or distributed applications, this cookbook provides recipes based on real-world scenarios for experienced Scala developers and for programmers just learning to use this JVM language. Author Alvin Alexander includes practical solutions from his experience using Scala for highly scalable applications that support concurrency and distribution.

Recipes cover: Strings, numbers, and control structures
Classes, methods, objects, traits, packaging, and imports
Functional programming in a variety of situations Building Scala applications with sbt Collections covering Scala's wealth of classes and methods Actors and concurrency List, array, map, set, and more Files, processes, and command-line tasks Web services and interacting with Java Databases and persistence, data types and idioms.

Leverage Scala and Machine Learning to study and construct systems that can learn from data About This Book Explore a broad variety of data processing, machine learning, and genetic algorithms through diagrams, mathematical formulation, and updated source code in Scala Take your expertise in Scala programming to the next level by creating

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and customizing AI applications Experiment with different techniques and evaluate their benefits and limitations using real-world applications in a tutorial style Who This Book Is For If you're a data scientist or a data analyst with a fundamental knowledge of Scala who wants to learn and implement various Machine learning techniques, this book is for you. All you need is a good understanding of the Scala programming language, a basic knowledge of statistics, a keen interest in Big Data processing, and this book! What You Will Learn Build dynamic workflows for scientific computing Leverage open source libraries to extract patterns from time series Write your own classification, clustering, or evolutionary algorithm Perform relative performance tuning and evaluation of Spark Master probabilistic models for sequential data Experiment with advanced techniques such as regularization and kernelization Dive into neural networks and some deep learning architecture Apply some basic multiarm-bandit algorithms Solve big data problems with Scala parallel collections, Akka actors, and Apache Spark clusters Apply key learning strategies to a technical analysis of financial markets In Detail The discovery of information through data clustering and classification is becoming a key differentiator for competitive organizations. Machine learning applications are everywhere, from self-driving cars, engineering design, logistics, manufacturing, and trading strategies, to detection of genetic anomalies. The book is your one stop guide that introduces you to the functional capabilities of the Scala programming language that are critical to the creation of machine learning algorithms such as dependency injection and implicits. You start by learning data preprocessing and filtering techniques. Following this, you'll move on to unsupervised learning techniques such as clustering and dimension reduction, followed by probabilistic graphical models such as Naive Bayes, hidden Markov models and

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Monte Carlo inference. Further, it covers the discriminative algorithms such as linear, logistic regression with regularization, kernelization, support vector machines, neural networks, and deep learning. You'll move on to evolutionary computing, multibandit algorithms, and reinforcement learning. Finally, the book includes a comprehensive overview of parallel computing in Scala and Akka followed by a description of Apache Spark and its ML library. With updated codes based on the latest version of Scala and comprehensive examples, this book will ensure that you have more than just a solid fundamental knowledge in machine learning with Scala. Style and approach This book is designed as a tutorial with hands-on exercises using technical analysis of financial markets and corporate data. The approach of each chapter is such that it allows you to understand key concepts easily.

Packed with examples and exercises, *Get Programming with Scala* is perfect starting point for developers with some OO knowledge who want to learn this multi-style programming language for the JVM, and pick up a few FP skills along the way. Master Scala, and you'll be well-equipped to match your programming approach to the type of problem you're dealing with. Packed with examples and exercises, *Get Programming with Scala* is perfect starting point for developers with some OO knowledge who want to learn this multi-style programming language for the JVM, and pick up a few FP skills along the way. Master Scala, and you'll be well-equipped to match your programming approach to the type of problem you're dealing with. *Get Programming with Scala* teaches you the core skills you'll need to code with Scala. You'll start by reviewing OOP concepts in the Scala language. Then, you'll gradually open up the world of functional programming. You'll explore functions and types and learn how to combine them to create powerful, flexible

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abstractions. Scala can be daunting at first, especially if you're seeing FP ideas for the first time. Fortunately, with the examples and exercises in this book, you'll get over the initial learning hump quickly and start doing interesting projects before you know it! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Summary Play for Scala shows you how to build Scala-based web applications using the Play 2 framework. This book starts by introducing Play through a comprehensive overview example. Then, you'll look at each facet of a typical Play application both by exploring simple code snippets and by adding to a larger running example. Along the way, you'll deepen your knowledge of Scala as a programming language and work with tools like Akka. About this Book Play is a Scala web framework with built-in advantages: Scala's strong type system helps deliver bug-free code, and the Akka framework helps achieve hassle-free concurrency and peak performance. Play builds on the web's stateless nature for excellent scalability, and because it is event-based and nonblocking, you'll find it to be great for near real-time applications. Play for Scala teaches you to build Scala-based web applications using Play 2. It gets you going with a comprehensive overview example. It then explores each facet of a typical Play application by walking through sample code snippets and adding features to a running example. Along the way, you'll deepen your knowledge of Scala and learn to work with tools like Akka. Written for readers familiar with Scala and web-based application architectures. No knowledge of Play is assumed. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside Intro to Play 2 Play's MVC structure Mastering Scala templates and forms Persisting data and using web services Using Play's advanced features

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About the Authors Peter Hiltonv, Erik Bakker, and Francisco Canedo, are engineers at Lunatech, a consultancy with Scala and Play expertise. They are contributors to the Play framework. Table of Contents PART 1: GETTING STARTED Introduction to Play Your first Play application PART 2: CORE FUNCTIONALITY Deconstructing Play application architecture Defining the application's HTTP interface Storing data—the persistence layer Building a user interface with view templates Validating and processing input with the forms API PART 3: ADVANCED CONCEPTS Building a single-page JavaScript application with JSON Play and more Web services, iteratees, and WebSockets

This new, expanded, fully updated and revised, edition of 'Secrets of Professional Tournament Poker' is a landmark in poker publishing. Originally published in two volumes in 2011 and 2012 this was both a critical and commercial success. Over the last decade, the understanding of poker has changed dramatically and this new edition fully reflects current thinking on the game. This book will give readers a thorough understanding of everything they need to know about playing tournaments and Jonathan Little is undoubtedly the person best qualified to impart this information. The book is split into seven sections: 1) How Tournaments Work –This explains why tournaments are a highly profitable form of poker and examines the basic concepts that need to be mastered. 2) Playing Deep Stacked –This deals with situations where (most) players have stacks of 50 big blinds or more. All situations are dealt with including pre-flop and all three post-flop streets. There is further information on general topics at this stack depth. 3) Playing Mid Stacked –This deals with situations where the basic stack depth is between 27 and 50 big blinds. These situations are tricky because with the shorter stack, players are often going all-in. This means that very clear adjustments are required compared to the deeper

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stack strategies. 4) Playing Short Stacked –This section focuses on play below 27 big blinds. Now play is almost exclusively focused on the possibility of players going all-in. Knowing the correct ranges and plays here is vital to maximise your chances for tournament survival. 5) The Late Stages –As the prospect of serious prize money looms, huge adjustments need to be made. How to play on the bubble and concepts such as risk premium and the Independent Chip Model are fundamental to maximising your chance of landing a major prize and they are all thoroughly explained. 6) Hand Examples –This will test your understanding of everything you have learnt so far. 7) Other Considerations –You can improve your tournament results by also working on your general attitude and approach. This section encompasses all the non-technical aspects of playing, including learning, the mental approach, tells and practical tips. Jonathan Little has dedicated himself to educating players who are keen to improve their poker strategy, and in 2020, he was awarded the prestigious title of Global Poker Index “Poker Personality of the Year” – voted for by the poker-playing public. As well as being an immensely successful professional player with over \$7,000,000 in live tournament cashes, Jonathan runs the highly respected coaching site pokercoaching.com. By interacting regularly with his students, he has developed a clear understanding of how to explain important concepts in a language that can be easily understood by players of all skill levels. The result is *Secrets of Professional Tournament Poker* – the definitive guide to modern tournament play. Learn how to use the Akka framework to build effective applications in Scala About This Book Covers a discussion on Lagom—the newest launched Akka framework that is built to create complex microservices easily The recipe approach of the book allows the reader to know important and independent concepts of Scala and Akka in a seamless

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manner Provides a comprehensive understanding of the Akka actor model and implementing it to create reactive web applications Who This Book Is For If you are a Scala developer who wants to build scalable and concurrent applications, then this book is for you. Basic knowledge of Akka will help you take advantage of this book. What You Will Learn Control an actor using the ContolAware mailbox Test a fault-tolerant application using the Akka test kit Create a parallel application using futures and agents Package and deploy Akka application inside Docker Deploy remote actors programmatically on different nodes Integrate Streams with Akka actors Install Lagom and create a Lagom project In Detail Akka is an open source toolkit that simplifies the construction of distributed and concurrent applications on the JVM. This book will teach you how to develop reactive applications in Scala using the Akka framework. This book will show you how to build concurrent, scalable, and reactive applications in Akka. You will see how to create high performance applications, extend applications, build microservices with Lagom, and more. We will explore Akka's actor model and show you how to incorporate concurrency into your applications. The book puts a special emphasis on performance improvement and how to make an application available for users. We also make a special mention of message routing and construction. By the end of this book, you will be able to create a high-performing Scala application using the Akka framework. Style and approach This highly practical recipe-based approach will allow you to build scalable, robust, and reactive applications using the Akka framework.

If you need help writing programs in Python 3, or want to update older Python 2 code, this book is just the ticket. Packed with practical recipes written and tested with Python 3.3, this unique cookbook is for experienced Python

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programmers who want to focus on modern tools and idioms. Inside, you'll find complete recipes for more than a dozen topics, covering the core Python language as well as tasks common to a wide variety of application domains. Each recipe contains code samples you can use in your projects right away, along with a discussion about how and why the solution works. Topics include: Data Structures and Algorithms Strings and Text Numbers, Dates, and Times Iterators and Generators Files and I/O Data Encoding and Processing Functions Classes and Objects Metaprogramming Modules and Packages Network and Web Programming Concurrency Utility Scripting and System Administration Testing, Debugging, and Exceptions C Extensions Presents an introduction to the new programming language for the Java Platform.

Summary Lift in Action is a step-by-step exploration of the Lift framework. It moves through the subject quickly using carefully crafted, well-explained examples that make you comfortable from the start. This book is written for developers who are new to both Scala and Lift. About the Technology Lift is a Scala-based web framework designed for extremely interactive and engaging web applications. It's highly scalable, production-ready, and will run in any servlet container. And Lift's convention-over-configuration approach lets you avoid needless work. About this Book Lift in Action is a step-by-step exploration of the Lift framework. It moves through the subject quickly using carefully crafted, well-explained examples that make you comfortable from the start. You'll follow an entertaining Travel Auction application that covers the core concepts and shows up architectural and development strategies. Handy appendixes offer a Scala crash course and guidance for setting up a good coding environment. This book is written for developers who are new to both Scala and Lift and covers just enough Scala to get

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you started. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside Complete coverage of the Lift framework Security, maintainability, and performance Integration and scaling Covers Lift 2.x Table of Contents PART 1 GETTING STARTED Introducing Lift Hello Lift PART 2 APPLICATION TUTORIAL The auction application Customers, auctions, and bidding Shopping basket and checkout PART 3 LIFT IN DETAIL Common tasks with Lift WebKit SiteMap and access control HTTP in Lift AJAX, wiring, and Comet Persistence with Mapper Persistence with Record

From lambda expressions and JavaFX 8 to new support for network programming and mobile development, Java 8 brings a wealth of changes. This cookbook helps you get up to speed right away with hundreds of hands-on recipes across a broad range of Java topics. You'll learn useful techniques for everything from debugging and data structures to GUI development and functional programming. Each recipe includes self-contained code solutions that you can freely use, along with a discussion of how and why they work. If you are familiar with Java basics, this cookbook will bolster your knowledge of the language in general and Java 8's main APIs in particular. Recipes include: Methods for compiling, running, and debugging Manipulating, comparing, and rearranging text Regular expressions for string- and pattern-matching Handling numbers, dates, and times Structuring data with collections, arrays, and other types Object-oriented and functional programming techniques Directory and filesystem operations Working with graphics, audio, and video GUI development, including JavaFX and handlers Network programming on both client and server Database access, using JPA, Hibernate, and JDBC Processing JSON and XML for data storage Multithreading and concurrency

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jQuery simplifies building rich, interactive web frontends. Getting started with this JavaScript library is easy, but it can take years to fully realize its breadth and depth; this cookbook shortens the learning curve considerably. With these recipes, you'll learn patterns and practices from 19 leading developers who use jQuery for everything from integrating simple components into websites and applications to developing complex, high-performance user interfaces. Ideal for newcomers and JavaScript veterans alike, jQuery Cookbook starts with the basics and then moves to practical use cases with tested solutions to common web development hurdles. You also get recipes on advanced topics, such as methods for applying jQuery to large projects. Solve problems involving events, effects, dimensions, forms, themes, and user interface elements Learn how to enhance your forms, and how to position and reposition elements on a page Make the most of jQuery's event management system, including custom events and custom event data Create UI elements—such as tabs, accordions, and modals—from scratch Optimize your code to eliminate bottlenecks and ensure peak performance Learn how to test your jQuery applications The book's contributors include: Cody Lindley James Padolsey Ralph Whitbeck Jonathan Sharp Michael Geary and Scott González Rebecca Murphey Remy Sharp Ariel Flesler Brian Cherne Jörn Zaefferer Mike Hostetler Nathan Smith Richard D. Worth Maggie Wachs, Scott Jehl, Todd Parker, and Patty Toland Rob Burns

Why learn Scala? You don't need to be a data scientist or distributed computing expert to appreciate this object-oriented functional programming language. This practical book provides a comprehensive yet approachable introduction to the language, complete with syntax diagrams, examples, and exercises. You'll start with Scala's core types and syntax before diving into higher-order functions and immutable data

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structures. Author Jason Swartz demonstrates why Scala's concise and expressive syntax make it an ideal language for Ruby or Python developers who want to improve their craft, while its type safety and performance ensures that it's stable and fast enough for any application. Learn about the core data types, literals, values, and variables Discover how to think and write in expressions, the foundation for Scala's syntax Write higher-order functions that accept or return other functions Become familiar with immutable data structures and easily transform them with type-safe and declarative operations Create custom infix operators to simplify existing operations or even to start your own domain-specific language Build classes that compose one or more traits for full reusability, or create new functionality by mixing them in at instantiation

If you've had trouble trying to learn Functional Programming (FP), you're not alone. In this book, Alvin Alexander -- author of the Scala Cookbook and former teacher of Java and Object-Oriented Programming (OOP) classes -- writes about his own problems in trying to understand FP, and how he finally conquered it. What he originally learned is that experienced FP developers are driven by two goals: to use only immutable values, and write only pure functions. What he later learned is that they have these goals as the result of another larger goal: they want all of their code to look and work just like algebra. While that sounds simple, it turns out that these goals require them to use many advanced Scala features -- which they often use all at the same time. As a result, their code can look completely foreign to novice FP developers. As Mr. Alexander writes, "When you first see their code it's easy to ask, 'Why would anyone write code like this?'" Mr. Alexander answers that "Why?" question by explaining the benefits of writing pure functional code. Once you understand those benefits -- your motivation for learning

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FP -- he shares five rules for programming in the book: All fields must be immutable ('val' fields). All functions must be pure functions. Null values are not allowed. Whenever you use an 'if' you must also use an 'else'. You won't create OOP classes that encapsulate data and behavior; instead you'll design data structures using Scala 'case' classes, and write pure functions that operate on those data structures. In the book you'll see how those five, simple rules naturally lead you to write pure, functional code that reads like algebra. He also shares one more Golden Rule for learning: Always ask "Why"? Lessons in the book include: How and why to write only pure functions Why pure function signatures are much more important than OOP method signatures Why recursion is a natural tool for functional programming, and how to write recursive algorithms Because the Scala 'for' expression is so important to FP, dozens of pages explain the details of how it works In the end you'll see that monads aren't that difficult because they're a natural extension of the Five Rules The book finishes with lessons on FP data modeling, and two main approaches for organizing your pure functions As Mr. Alexander writes, "In this book I take the time to explain all of the concepts that are used to write FP code in Scala. As I learned from my own experience, once you understand the Five Rules and the small concepts, you can understand Scala/FP." Please note that because of the limits on how large a printed book can be, the paperback version does not include all of the chapters that are in the Kindle eBook. The following lessons are not in the paperback version: Grandma's Cookies (a story about pure functions) The ScalaCheck lessons The Type Classes lessons The appendices Because those lessons didn't fit in the print version, they have been made freely available online. (Alvin Alexander (alvinalexander.com) wrote the popular Scala Cookbook for O'Reilly, and also self-published two other

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books, How I Sold My Business: A Personal Diary, and A Survival Guide for New Consultants.)

Get up to speed on Scala, the JVM language that offers all the benefits of a modern object model, functional programming, and an advanced type system. Packed with code examples, this comprehensive book shows you how to be productive with the language and ecosystem right away, and explains why Scala is ideal for today's highly scalable, data-centric applications that support concurrency and distribution. This second edition covers recent language features, with new chapters on pattern matching, comprehensions, and advanced functional programming. You'll also learn about Scala's command-line tools, third-party tools, libraries, and language-aware plugins for editors and IDEs. This book is ideal for beginning and advanced Scala developers alike. Program faster with Scala's succinct and flexible syntax Dive into basic and advanced functional programming (FP) techniques Build killer big-data apps, using Scala's functional combinators Use traits for mixin composition and pattern matching for data extraction Learn the sophisticated type system that combines FP and object-oriented programming concepts Explore Scala-specific concurrency tools, including Akka Understand how to develop rich domain-specific languages Learn good design techniques for building scalable and robust Scala applications

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Why spend time on coding problems that others have already solved when you could be making real progress on your Ruby project? This updated cookbook provides more than 350 recipes for solving common problems, on topics ranging from basic data structures, classes, and objects, to web development, distributed programming, and multithreading. Revised for Ruby 2.1, each recipe includes a discussion on why and how the solution works. You'll find recipes suitable for all skill levels, from Ruby newbies to experts who need an occasional reference. With Ruby Cookbook, you'll not only save time, but keep your brain percolating with new ideas as well. Recipes cover: Data structures including strings, numbers, date and time, arrays, hashes, files and directories Using Ruby's code blocks, also known as closures OOP features such as classes, methods, objects, and modules XML and HTML, databases and persistence, and graphics and other formats Web development with Rails and Sinatra Internet services, web services, and distributed programming Software testing, debugging, packaging, and distributing Multitasking, multithreading, and extending Ruby with other languages

Scala Cookbook"O'Reilly Media, Inc."

This book is ideal for anyone who already knows JavaScript and would like to get a broad understanding of Three.js quickly, or for those of you

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who have a basic grasp of using Three.js but want to really make an impact with your 3D visualizations by learning its advanced features. To apply the recipes in this book you don't need to know anything about WebGL; all you need is some general knowledge about JavaScript and HTML.

If you need help building web applications with the Lift framework, this cookbook provides scores of concise, ready-to-use code solutions. You'll find recipes for everything from setting up a coding environment to creating REST web services and deploying your application to production. Built on top of the Scala JVM programming language, Lift takes a different—yet ultimately easier—approach to development than MVC frameworks such as Rails. Each recipe in this book includes a discussion of how and why each solution works, not only to help you complete the task at hand, but also to illustrate how Lift works. Set up an environment and run your first Lift application Generate HTML, using Lift's View First approach Submit forms and work with form elements Build REST web services with the framework's RestHelper trait Take advantage of Lift's support for Ajax and Comet Get examples for modifying Lift's request pipeline Convert Scala classes into tables, rows, and columns in a relational database Send email, call URLs, and schedule tasks from your application Package and deploy your application to various hosted services

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GLUTEN FREE & GRAIN FREE Chia is perhaps best known as the seed used in the popular Chia Pets, which grow chia sprouts from ceramic containers shaped like animals or other objects. But chia has a long history as a food for the Aztec and Maya cultures, who also appreciated its health benefits. We have collected 50 of the most delicious and best selling recipes. Enjoy! Did You Know Chia seeds have 500% more calcium than milk. Chia seeds contains three times more iron than spinach Chia seeds contains twice the potassium content of banana Chia seeds are gluten-free and very low-sodium. Chia seeds are high in fiber, protein and minerals including iron, magnesium, zinc and copper. Take a peek at a few of the recipes you can find inside Chocolate Chia Seed Pudding Chia Seed Margarita Chia Soy Glazed Salmon Chia Miso Soup Chia Seed Pancakes Introduce Chia Seeds into your diet today! Scroll Up & Grab Your Copy NOW! Save time and trouble building object-oriented, functional, and concurrent applications with Scala. The latest edition of this comprehensive cookbook is packed with more than 250 ready-to-use recipes and 1,000 code examples to help you solve the most common problems when working with Scala 3 and its popular libraries. Scala changes the way you think about programming--and that's a good thing. Whether you're working on web, big data, or distributed applications, this cookbook provides

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recipes based on real-world scenarios for both experienced Scala developers and programmers just learning to use this JVM language. Author Alvin Alexander includes practical solutions from his experience using Scala for component-based, highly scalable applications that support concurrency and distribution. Recipes cover: Strings, numbers, and control structures Classes, methods, objects, traits, packaging, and imports Functional programming techniques Scala's wealth of collections classes and methods Building and publishing Scala applications with sbt Actors and concurrency with Scala Future and Akka Typed Popular libraries, including Spark, Scala.js, Play Framework, and GraalVM Types, such as variance, givens, intersections, and unions Best practices, including pattern matching, modules, and functional error handling

When Michael Herne is asked to play a king in a medieval play he reluctantly agrees. After the play is over, other actors find it impossible to return to their real character. Set in the early 20th Century, this is the intriguing story of the rise of a new Don Quixote who introduces a medieval government into the world of big business.

If you want to learn how to build efficient user interfaces with React, this is your book. Authors Alex Banks and Eve Porcello show you how to create UIs with this small JavaScript library that can deftly display data changes on large-scale, data-driven

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websites without page reloads. Along the way, you'll learn how to work with functional programming and the latest ECMAScript features. Developed by Facebook, and used by companies including Netflix, Walmart, and The New York Times for large parts of their web interfaces, React is quickly growing in use. By learning how to build React components with this hands-on guide, you'll fully understand how useful React can be in your organization. Learn key functional programming concepts with JavaScript Peek under the hood to understand how React runs in the browser Create application presentation layers by mounting and composing React components Use component trees to manage data and reduce the time you spend debugging applications Explore React's component lifecycle and use it to load data and improve UI performance Use a routing solution for browser history, bookmarks, and other features of single-page applications Learn how to structure React applications with servers in mind

Hands-on Scala teaches you how to use the Scala programming language in a practical, project-based fashion. This book is designed to quickly teach an existing programmer everything needed to go from "hello world" to building production applications like interactive websites, parallel web crawlers, and distributed systems in Scala. In the process you will learn how to use the Scala language to solve challenging problems in an elegant and intuitive

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manner.

Summary Functional Programming in Scala is a serious tutorial for programmers looking to learn FP and apply it to the everyday business of coding. The book guides readers from basic techniques to advanced topics in a logical, concise, and clear progression. In it, you'll find concrete examples and exercises that open up the world of functional programming. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Functional programming (FP) is a style of software development emphasizing functions that don't depend on program state. Functional code is easier to test and reuse, simpler to parallelize, and less prone to bugs than other code. Scala is an emerging JVM language that offers strong support for FP. Its familiar syntax and transparent interoperability with Java make Scala a great place to start learning FP. About the Book Functional Programming in Scala is a serious tutorial for programmers looking to learn FP and apply it to their everyday work. The book guides readers from basic techniques to advanced topics in a logical, concise, and clear progression. In it, you'll find concrete examples and exercises that open up the world of functional programming. This book assumes no prior experience with functional programming. Some prior exposure to Scala or Java is helpful. What's Inside Functional programming

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concepts The whys and hows of FP How to write multicore programs Exercises and checks for understanding About the Authors Paul Chiusano and Rúnar Bjarnason are recognized experts in functional programming with Scala and are core contributors to the Scalaz library. Table of Contents PART 1 INTRODUCTION TO FUNCTIONAL PROGRAMMING What is functional programming? Getting started with functional programming in Scala Functional data structures Handling errors without exceptions Strictness and laziness Purely functional state PART 2 FUNCTIONAL DESIGN AND COMBINATOR LIBRARIES Purely functional parallelism Property-based testing Parser combinators PART 3 COMMON STRUCTURES IN FUNCTIONAL DESIGN Monoids Monads Applicative and traversable functors PART 4 EFFECTS AND I/O External effects and I/O Local effects and mutable state Stream processing and incremental I/O

By introducing in-memory persistent storage, Apache Spark eliminates the need to store intermediate data in filesystems, thereby increasing processing speed by up to 100 times. This book will focus on how to analyze large and complex sets of data. Starting with installing and configuring Apache Spark with various cluster managers, you will cover setting up development environments. You will then cover various recipes to perform interactive queries

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using Spark SQL and real-time streaming with various sources such as Twitter Stream and Apache Kafka. You will then focus on machine learning, including supervised learning, unsupervised learning, and recommendation engine algorithms. After mastering graph processing using GraphX, you will cover various recipes for cluster optimization and troubleshooting.

Simplify machine learning model implementations with Spark About This Book Solve the day-to-day problems of data science with Spark This unique cookbook consists of exciting and intuitive numerical recipes Optimize your work by acquiring, cleaning, analyzing, predicting, and visualizing your data Who This Book Is For This book is for Scala developers with a fairly good exposure to and understanding of machine learning techniques, but lack practical implementations with Spark. A solid knowledge of machine learning algorithms is assumed, as well as hands-on experience of implementing ML algorithms with Scala. However, you do not need to be acquainted with the Spark ML libraries and ecosystem. What You Will Learn Get to know how Scala and Spark go hand-in-hand for developers when developing ML systems with Spark Build a recommendation engine that scales with Spark Find out how to build unsupervised clustering systems to classify data in Spark Build machine learning systems with the Decision Tree and Ensemble

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models in Spark Deal with the curse of high-dimensionality in big data using Spark Implement Text analytics for Search Engines in Spark Streaming Machine Learning System implementation using Spark In Detail Machine learning aims to extract knowledge from data, relying on fundamental concepts in computer science, statistics, probability, and optimization. Learning about algorithms enables a wide range of applications, from everyday tasks such as product recommendations and spam filtering to cutting edge applications such as self-driving cars and personalized medicine. You will gain hands-on experience of applying these principles using Apache Spark, a resilient cluster computing system well suited for large-scale machine learning tasks. This book begins with a quick overview of setting up the necessary IDEs to facilitate the execution of code examples that will be covered in various chapters. It also highlights some key issues developers face while working with machine learning algorithms on the Spark platform. We progress by uncovering the various Spark APIs and the implementation of ML algorithms with developing classification systems, recommendation engines, text analytics, clustering, and learning systems. Toward the final chapters, we'll focus on building high-end applications and explain various unsupervised methodologies and challenges to tackle when implementing with big data ML systems.

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Style and approach This book is packed with intuitive recipes supported with line-by-line explanations to help you understand how to optimize your work flow and resolve problems when working with complex data modeling tasks and predictive algorithms. This is a valuable resource for data scientists and those working on large scale data projects.

Apache Spark is amazing when everything clicks. But if you haven't seen the performance improvements you expected, or still don't feel confident enough to use Spark in production, this practical book is for you. Authors Holden Karau and Rachel Warren demonstrate performance optimizations to help your Spark queries run faster and handle larger data sizes, while using fewer resources. Ideal for software engineers, data engineers, developers, and system administrators working with large-scale data applications, this book describes techniques that can reduce data infrastructure costs and developer hours. Not only will you gain a more comprehensive understanding of Spark, you'll also learn how to make it sing. With this book, you'll explore: How Spark SQL's new interfaces improve performance over SQL's RDD data structure The choice between data joins in Core Spark and Spark SQL Techniques for getting the most out of standard RDD transformations How to work around performance issues in Spark's key/value pair paradigm Writing high-performance

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Spark code without Scala or the JVM How to test for functionality and performance when applying suggested improvements Using Spark MLlib and Spark ML machine learning libraries Spark's Streaming components and external community packages

This book is in Packt's Cookbook series. A Packt Cookbook contains recipes for solutions to the most important problems you face when working with a topic. Inside the Cookbook you will find: A straightforward and easy to follow format, A selection of the most important tasks and problems, Carefully organized instructions for solving the problem efficiently, Clear explanations of what you did, Details for applying the solution to other situations. This is the ideal book for people who have already written a first application with the Play Framework or have just finished reading through the documentation. In other words - anyone who is ready to get to grips with Play! Having a basic knowledge of Java is good, as well as some web developer skills – HTML and JavaScript Part of Packt's cookbook series, this book is packed with easy to follow recipes containing step-by-step instructions. The book is designed in such a way that you can read it chapter by chapter, or refer to the tasks in no particular order. This book is for Droids developers who want to improve their current working methods and discover new features to apply

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to their projects. Readers are expected to be familiar with the basics of the Drools platform as well as Java.

If you are ready to dive into the MapReduce framework for processing large datasets, this practical book takes you step by step through the algorithms and tools you need to build distributed MapReduce applications with Apache Hadoop or Apache Spark. Each chapter provides a recipe for solving a massive computational problem, such as building a recommendation system. You'll learn how to implement the appropriate MapReduce solution with code that you can use in your projects. Dr. Mahmoud Parsian covers basic design patterns, optimization techniques, and data mining and machine learning solutions for problems in bioinformatics, genomics, statistics, and social network analysis. This book also includes an overview of MapReduce, Hadoop, and Spark. Topics include: Market basket analysis for a large set of transactions Data mining algorithms (K-means, KNN, and Naive Bayes) Using huge genomic data to sequence DNA and RNA Naive Bayes theorem and Markov chains for data and market prediction Recommendation algorithms and pairwise document similarity Linear regression, Cox regression, and Pearson correlation Allelic frequency and mining DNA Social network analysis (recommendation systems, counting triangles, sentiment analysis)

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Take the guesswork out of using regular expressions. With more than 140 practical recipes, this cookbook provides everything you need to solve a wide range of real-world problems. Novices will learn basic skills and tools, and programmers and experienced users will find a wealth of detail. Each recipe provides samples you can use right away. This revised edition covers the regular expression flavors used by C#, Java, JavaScript, Perl, PHP, Python, Ruby, and VB.NET. You'll learn powerful new tricks, avoid flavor-specific gotchas, and save valuable time with this huge library of practical solutions. Learn regular expressions basics through a detailed tutorial Use code listings to implement regular expressions with your language of choice Understand how regular expressions differ from language to language Handle common user input with recipes for validation and formatting Find and manipulate words, special characters, and lines of text Detect integers, floating-point numbers, and other numerical formats Parse source code and process log files Use regular expressions in URLs, paths, and IP addresses Manipulate HTML, XML, and data exchange formats Discover little-known regular expression tricks and techniques Practical solutions to overcome challenges in creating console and web applications and working with systems-level and embedded code, network programming, deep neural networks, and much more. Key Features Work through

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recipes featuring advanced concepts such as concurrency, unsafe code, and macros to migrate your codebase to the Rust programming language Learn how to run machine learning models with Rust Explore error handling, macros, and modularization to write maintainable code Book Description Rust 2018, Rust's first major milestone since version 1.0, brings more advancement in the Rust language. The Rust Programming Cookbook is a practical guide to help you overcome challenges when writing Rust code. This Rust book covers recipes for configuring Rust for different environments and architectural designs, and provides solutions to practical problems. It will also take you through Rust's core concepts, enabling you to create efficient, high-performance applications that use features such as zero-cost abstractions and improved memory management. As you progress, you'll delve into more advanced topics, including channels and actors, for building scalable, production-grade applications, and even get to grips with error handling, macros, and modularization to write maintainable code. You will then learn how to overcome common roadblocks when using Rust for systems programming, IoT, web development, and network programming. Finally, you'll discover what Rust 2018 has to offer for embedded programmers. By the end of the book, you'll have learned how to build fast and safe applications and services using Rust. What you will learn Understand how Rust provides unique solutions to solve system programming language problems Grasp the core concepts of Rust to develop fast and safe applications Explore the possibility of integrating Rust units into existing applications for improved efficiency Discover how to achieve better parallelism and security with Rust Write Python extensions in Rust Compile external assembly files and use the Foreign Function Interface (FFI) Build web applications and services using Rust for high performance Who this book

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is for The Rust cookbook is for software developers looking to enhance their knowledge of Rust and leverage its features using modern programming practices. Familiarity with Rust language is expected to get the most out of this book.

Alvin Alexander founded a computer consulting business in the basement of his home in the 1990s, grew it into a very successful twenty-person business, and then sold it ten years later. During the process of trying to sell his small business, he wrote many small notes before and after meetings, and those notes eventually became a diary of everything he went through. After the sale was completed, he published a portion of that diary on his website, HowISoldMyBusiness.com. The website quickly grew popular, with many comments like, "Thank you!", "You helped me make money", and "Please share more information." After all that encouragement the book is finally here, including (a) an all-new "Lessons Learned" chapter, and (b) additional chapters on the five years that have passed since he sold his company. If you're thinking, "Should I sell my small business?", or "How can I sell my company?", this book is for you. It shares the "behind the scenes" secrets of the process of selling a business that you won't find anywhere else. Because of everything that happened during the sales process, the book will probably also be very helpful for people interested in buying a business, and people who are partners in a business, such as LLC business partners. In the end, this book is an investment. Think of it this way: How much money would you be willing to spend to make thousands of additional dollars when you sell your business? If just one tip from this book makes you just a thousand dollars, it will still be one of the best investments you ever made.

"Eloise is content with her solitary life as a successful private chef. She has her clients, her corgi, and a recipe for the world's most perfect chocolate cream pie ... But when her

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favorite teacher dies and her long lost trio of high school friends reunites at the wake, Eloise is confronted by how lonely she really is. In honor of Mrs. O'Connor, Eloise, Lynne, and Teresa revamp their senior class assignment and dare each other to create a bucket list of things to accomplish by the time they each turn forty in May"--

Summary Scala in Action is a comprehensive tutorial that introduces Scala through clear explanations and numerous hands-on examples. Because Scala is a rich and deep language, it can be daunting to absorb all the new concepts at once. This book takes a "how-to" approach, explaining language concepts as you explore familiar programming challenges that you face in your day-to-day work. About the Technology Scala runs on the JVM and combines object-orientation with functional programming. It's designed to produce succinct, type-safe code, which is crucial for enterprise applications. Scala implements Actor-based concurrency through the amazing Akka framework, so you can avoid Java's messy threading while interacting seamlessly with Java. About this Book Scala in Action is a comprehensive tutorial that introduces the language through clear explanations and numerous hands-on examples. It takes a "how to" approach, explaining language concepts as you explore familiar programming tasks. You'll tackle concurrent programming in Akka, learn to work with Scala and Spring, and learn how to build DSLs and other productivity tools. You'll learn both the language and how to use it. Experience with Java is helpful but not required. Ruby and Python programmers will also find this book accessible. What's Inside A Scala tutorial How to use Java and Scala open source libraries How to use SBT Test-driven development Debugging Updated for Scala 2.10 Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Author

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Nilanjan Raychaudhuri is a skilled developer, speaker, and an avid polyglot programmer who works with Scala on production systems. Table of Contents PART 1 SCALA: THE BASICS Why Scala? Getting started OOP in Scala Having fun with functional data structures Functional programming PART 2 WORKING WITH SCALA Building web applications in functional style Connecting to a database Building scalable and extensible components Concurrency programming in Scala Building confidence with testing PART 3 ADVANCED STEPS Interoperability between Scala and Java Scalable and distributed applications using Akka

Save time and trouble when using Scala to build object-oriented, functional, and concurrent applications. With more than 250 ready-to-use recipes and 700 code examples, this comprehensive cookbook covers the most common problems you'll encounter when using the Scala language, libraries, and tools. It's ideal not only for experienced Scala developers, but also for programmers learning to use this JVM language. Author Alvin Alexander (creator of DevDaily.com) provides solutions based on his experience using Scala for highly scalable, component-based applications that support concurrency and distribution.

Packed with real-world scenarios, this book provides recipes for: Strings, numeric types, and control structures Classes, methods, objects, traits, and packaging Functional programming in a variety of situations Collections covering Scala's wealth of classes and methods Concurrency, using the Akka Actors library Using the Scala REPL and the Simple Build Tool (SBT) Web services on both the client and server sides Interacting with SQL and NoSQL databases Best practices in Scala development

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