Swift 4 Programming Cookbook 50 Task Oriented Recipes To Make You Productive With Swift 4

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When you write software, you need to be at the top of your game. Great programmers practice to keep their skills sharp. Get sharp and stay sharp with more than fifty practice exercises rooted in real-world scenarios. If you're a new programmer, these challenges will help you learn what you need to break into the field, and if you're a seasoned pro, you can use these exercises to learn that hot new language for your next gig. One of the best ways to learn a programming language is to use it to solve problems. That's what this book is all about. Instead of questions rooted in theory, this book presents problems you'll encounter in everyday software development. These problems are designed for people learning their first programming language, and they also provide a learning path for experienced developers to learn a new language quickly. Start with simple input and output programs. Do some currency conversion and figure out how many months it takes to pay off a credit card. Calculate blood alcohol content and determine if it's safe to drive. Replace words in files and filter records, and use web services to display the weather, store data, and show how many people are in space right now. At the end you'll tackle a few larger programs that will help you bring everything together. Each problem includes constraints and challenges to push you further, but it's up to you to come up with the solutions. And next year, when you want to learn a new programming language or style of programming (perhaps OOP vs. functional), you can work through this book again, using new approaches to solve familiar problems. What You Need: You need access to a computer, a programming language reference, and the programming language you want to use.
Over 75 recipes to help you quickly and efficiently build applications with SwiftAbout This Book* Write robust and efficient code, and avoid common pitfalls using Swift* Get a comprehensive coverage of the tools and techniques needed to create high-performance apps* Packed with easy-to-follow recipes, this book will help you develop code using the latest version of SwiftWho This Book Is ForIf you are looking for a book to help you learn about the diverse features offered by Swift 3.0 along with tips and tricks to efficiently code and build applications, then this book is for you. Basic knowledge of Swift will be beneficial.What you will learn* Use protocol extensions to provide default behavior for your protocols* Use Swift with multiple programming styles and paradigms* Define flexible classes and structs using Generics* Use OperationQueues to execute and prioritize work* Create higher-order functions that take functions as parameters* Take your work mobile with Playgrounds on iOS* Import your own custom functionality into Swift Playgrounds* Use Swift Package Manager to package your Swift modules for others to useIn DetailSwift is an exciting, general purpose programming language. It's open sourcing and porting to Linux present many opportunities to use Swift outside of iOS and OSX app development. As a result, it's a great time to become a Swift developer!This book begins with Swift Constructs and moves on to Data Wrangling. You will then learn how to use Swift with other languages. Also look at how to perform object-oriented programming, Functional Reactive programming, and Protocol Oriented Programming with Swift. Finally, you will get to grips with server-side Swift, its performance, and responsiveness in Swift.With this recipe-based book, you will look at Swift's merits and benefits by covering the problem and solutions on it. This collection of concise, task-oriented recipes immediately makes you productive with Swift, with solutions ranging from core programming topics such as functions, protocol, error handling, and generics to advanced topics such as memory management and concurrency. Finally, you will learn how to improve code efficiency and enhance your application's performance.
Women were not allowed to attend academic institutions in the seventeenth and eighteenth centuries, but many were highly educated and contributed significantly to understanding laws of science and nature. Many are unfamiliar with the women who were instrumental to the Scientific Revolution: the naturalist Maria Sibylla Merian; Margaret Cavendish, author of scientific books; physicist ?ilie du Ch?elet; Maria Agnesi, a professor of mathematics and natural philosophy at the University of Bologna; and astronomer Caroline Herschel, among others. This book explores the context of womens involvement in the Scientific Revolution and their contributions to botany, astronomy, mathematics, physics, biology, and chemistry.
Provides readers with an in-depth understanding of Curl technologies and how to apply them to real world situations. Coverage includes: * Curl language syntax * Text formatting, scripting, OO programming and rich 3D graphics. * Support for emerging technologies, like SOAP, Web Services and Peer to Peer * Incorporating Curl technologies into existing Web infrastructure * Embedding Curl content within an HTML page * Accessing Databases on the server * Creating and packaging Curl applets for Web delivery ABOUT THE WEB SITE * Source code and examples * Links to Curl developer resources such as white papers and developer forums * Links to download the Surge Development Lab and Surge Plug-in
The professional programmer's Deitel® guide to Apple's new Swift programming language for the iOS® and OS X® platforms ¿ Written for programmers with a background in object-oriented programming in a C-based language like Objective-C, Java, C# or C++, this book applies the Deitel signature live-code approach with scores of complete, working, real-world programs to explore the new Swift language in depth. The code examples feature syntax shading, code highlighting, rich commenting, line-by-line code walkthroughs and live program outputs. The book features thousands of lines of proven Swift code, and tips that will help you build robust applications. ¿ Start with an introduction to Swift using an early classes and objects approach, then rapidly move on to more advanced topics. When you master the material, you'll be ready to build industrial-strength object-oriented Swift applications. About This Book ¿ The Swift™ programming language was arguably the most significant announcement at Apple's 2014 Worldwide Developers Conference. Although apps can still be developed in Objective-C®, Apple says that Swift is its applications programming and systems programming language of the future. ¿ Swift is a contemporary-C language™ with simpler syntax than Objective-C. Because Swift is new, its designers were able to include popular programming language features from languages such as Objective-C, Java™,

C#, Ruby, Python® and many others. These features include automatic reference counting (ARC), type inference, optionals, String interpolation, tuples, closures (lambdas), extensions, generics, operator overloading, functions with multiple return values, switch statement enhancements and more. We've been able to develop apps more quickly in Swift than with Objective-C and the code is shorter, clearer and runs faster on today's multi-core architectures. ¿ Swift also eliminates the possibility of many errors common in other languages, making your code more robust and secure. Some of these error-prevention features include no implicit conversions, ARC, no pointers, required braces around every control statement's body, assignment operators that do not return values, requiring initialization of all variables and constants before they're used, array bounds checking, automatic checking for overflow of integer calculations, and more. You can combine Swift and Objective-C in the same app to enhance existing Objective-C apps without having to rewrite all the code. Your apps will easily be able to interact with the Cocoa®/Cocoa Touch® frameworks, which are largely written in Objective-C. ¿ You can also use the new Xcode playgrounds with Swift. A playground is an Xcode window in which you can enter Swift code that compiles and executes as you type it. This allows you to see and hear your code's results as you write it, quickly find and fix errors, and conveniently experiment with features of Swift and the Cocoa/Cocoa Touch frameworks. ¿ Practical, Example-Rich Coverage of: Classes, Objects, Methods, Properties Initializers, Deinitializers, Bridging Tuples, Array and Dictionary Collections Structures, Enumerations, Closures, ARC Inheritance, Polymorphism, Protocols Type Methods, Type Properties Generics; Strings and Characters Operator Overloading, Operator Functions, Custom Operators, Subscripts Access Control; Type Casting and Checking Nested Types, Nested Methods Optionals, Optional Chaining, Extensions Xcode, Playgrounds, Intro to Cocoa Touch® with a Fully Coded iOS® 8 Tip Calculator App Overflow Operators, Attributes, Patterns More topics online ¿ IMPORTANT NOTE ABOUT XCODE AND SWIFT: With Xcode 6.3 and Swift 1.2, Apple introduced several changes in Swift that affect the book's source code. Please visit www.deitel.com/books/iOS8FP1 for updated source code. The changes do not affect Xcode 6.2 users. You can download Xcode 6.2 from developer.apple.com/downloads/index.action (you'll have to log in with your Apple developer account to see the list of downloads). ¿ Visit www.deitel.com Download code examples For information on Deitel's Dive Into® Series programming training courses delivered at organizations worldwide visit www.deitel.com/training or to deitel@deitel.com Join the Deitel social networking communities on Facebook® at facebook.com/DeitelFan, Twitter® at @deitel, Google+™ at google.com/+DeitelFan, LinkedIn® at bit.ly/DeitelLinkedIn, YouTube™ at youtube.com/user/DeitelTV and subscribe to the Deitel® Buzz Online e-mail newsletter at www.deitel.com/newsletter/ subscribe.html ¿

Through the authors' carefully constructed explanations and examples, you will develop an understanding of Swift grammar and the elements of effective Swift style. Throughout the book, the authors share their insights into Swift to ensure that you understand the hows and whys of Swift and can put that understanding to use in different contexts. After working through the book, you will have the knowledge and confidence to develop your own solutions to a wide range of programming challenges using Swift.

Stay motivated and overcome obstacles while learning to use Swift Playgrounds to be a great iOS developer. This book is perfect for those with no programming background, those with some programming experience but no object-oriented experience, or those that have a great idea for an app but haven't programmed since school, and it is now updated for Swift 4. Many people have a difficult time believing they can learn to write iOS apps. Swift 4 for Absolute Beginners will show you how to do so. You'll learn Object Oriented Programming and be introduced to HealthKit before moving on to write your own iPhone and Watch apps from scratch. Gary Bennett and Brad Lees are full-time professional iOS developers and have developed a broad spectrum of apps for Fortune 500 companies. The authors have taken their combined 14 years of writing apps, teaching online iOS courses, the experience from their first three iOS books, along with their online instruction and free online forum at XcelMe.com to create an excellent training book. And the material in this book is supplemented by with the free, live online training sessions. What You'll Learn Work with Swift classes, properties, and functions Examine proper user interface and user experience design Understand Swift data types: integers, floats, strings, and Booleans Use Swift data collections: arrays and dictionaries Review Boolean logic, comparing data, and flow control Who This Book Is For Anyone who wants to learn to develop apps for the Mac, iPhone, and iPad, and Watch using the Swift programming language. No previous programming experience is necessary.

Swift a safe, fast, and interactive programming language that combines the best in modern language thinking with wisdom from the wider Apple engineering culture and the diverse contributions from its open-source community. The compiler is optimized for performance and the language is optimized for development, without compromising on either.

Over 50 exciting and powerful recipes to help you unearth the promise of iOS programming About This Book Create high performance iOS apps with a focus on application development APIs and techniques Enrich your UI skills with UIStoryboard, Autolayout, Size classes, and Container view Produce enhanced results with iOS 10 as a result of learning and implementing pro-level practices, techniques, and solutions Who This Book Is For If you are an iOS developer on a quest to develop your perfect iOS app, then this book is for you. It would also prove to be a valuable resource for those who want to get up and running with iOS development through a clear, practical approach. In order to unleash the full potential of this book, basic Swift programming knowledge is necessary. What You Will Learn Build your own custom UIViews through code or the interface builder Implement a dynamic and interactive interface in an iOS app Work on various graphics related elements and the process of using them together to make meaningful shapes. Use the side over and split view to interact with multiple apps concurrently Encrypt JSON calls to make the app more secure Work on web markup feature to enhance search optimization In Detail Do you want to understand all the facets of iOS programming and build complex iOS apps? Then you have come to the right place. This problem-solution guide will help you to eliminate expensive learning curves and focus on specific issues to make you proficient at tasks and the speed-up time involved. Beginning with some advanced UI components such as Stack Views and UICollectionView, you will gradually move on to building an interface efficiently. You will work through adding gesture recognizer and touch elements on table cells for custom actions. You will work with the Photos framework to access and manipulate photos. You will then prepare your app for multitasking and write responsive and highly efficient apps. Next, you will integrate maps and core location services while making your app more secure through various encryption methods. Finally, you will dive deep into the advanced techniques of implementing notifications while working with memory management and optimizing the performance of your apps. By the end of the book, you will master most of the latest iOS 10 frameworks. Style and approach This is the best practical resource on iOS 10 development. This book, with its no nonsense approach and a clear practical focus, will be your best friend on your quest to develop your perfect iOS app. The best thing about this book is that in addition to recipes on iOS programming techniques and app development essentials, it will take you on a complete guided tour of all the new app development APIs that are shipped with iOS 10.

Understanding the Machine, the first volume in the landmark Write Great Code series by Randall Hyde, explains the underlying mechanics of how a computer works. This, the first volume in Randall Hyde's Write Great Code series, dives into machine organization without the extra overhead of learning assembly language programming. Written for high-level language programmers, Understanding the Machine fills in the low-level details of machine organization that are often left out of computer science and engineering courses. Learn: • How the machine represents numbers, strings, and high-level data structures, so you'll know the inherent cost of using them. • How to organize your data, so the machine can access it efficiently. • How the CPU operates, so you can write code that works the way the machine does. • How I/O devices operate, so you can maximize your

application's performance when accessing those devices. • How to best use the memory hierarchy to produce the fastest possible programs. Great code is efficient code. But before you can write truly efficient code, you must understand how computer systems execute programs and how abstractions in programming languages map to the machine's low-level hardware. After all, compilers don't write the best machine code; programmers do. This book gives you the foundation upon which all great software is built. NEW IN THIS EDITION, COVERAGE OF: • Programming languages like Swift and Java • Code generation on modern 64-bit CPUs • ARM processors on mobile phones and tablets • Newer peripheral devices • Larger memory systems and large-scale SSDs

Boyer/Verma's breakthrough text meets today's student and instructor's needs and redefines the marketplace. Their text is briefer than most, taking all of the vital core concepts and building upon them with current and fresh examples. The authors understand the importance of striking a balance by creating a book that does an even better job at covering the core concepts while also providing customers with a new product that fully addresses and approaches this course area from today's teaching and learning perspectives and actual business practices. The three unifying themes throughout the book are Strategy, Global Supply Chain, and Service Operations. Strategy will serve as an overarching framework and will be used in each chapter to present students with an alternative approach to specific challenges. The authors uses examples from non-US companies and/or organizations in each chapter to incorporate Service Operations in the book. They also show that even some of the largest manufacturing companies today have extensive service activities such as customer support and product development. The Global Supply Chain theme will allow students to see how products move through different companies and countries with Boyer/Verma's use of real world examples throughout his text. In addition the robust Cnow course allows instructors and students to go beyond the printed text to get the most from this exciting operations management program. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Computational Intelligence for Engineering Systems provides an overview and original analysis of new developments and advances in several areas of computational intelligence. Computational Intelligence have become the road-map for engineers to develop and analyze novel techniques to solve problems in basic sciences (such as physics, chemistry and biology) and engineering, environmental, life and social sciences. The contributions are written by international experts, who provide up-to-date aspects of the topics discussed and present recent, original insights into their own experience in these fields. The authors also include methods that apply to diverse fields such as manufacturing, tourism, power systems, computer science, robotics, chemistry, and biology. Topics include: Simulation and evolution of real and artificial life forms; Self-organization; Models of communication and social behaviors; Emergent collective behaviors and swarm intelligence; Adaptive, complex and biologically inspired systems; Power Systems ; Web-based Applications; Knowledge discovery; Intelligent Tutoring Systems ; Decision support Systems; Intelligent Tutoring Systems.

Combining GIS concepts and fundamental spatial thinking methodology with real programming examples, this book introduces popular Python-based tools and their application to solving real-world problems. It elucidates the programming constructs of Python with its high-level toolkits and demonstrates its integration with ArcGIS Theory. Filled with hands-on computer exercises in a logical learning workflow this book promotes increased interactivity between instructors and students while also benefiting professionals in the field with vital knowledge to sharpen their programming skills. Readers receive expert guidance on modules, package management, and handling shapefile formats needed to build their own mini-GIS. Comprehensive and engaging commentary, robust contents, accompanying datasets, and classroom-tested exercises are all housed here to permit users to become competitive in the GIS/IT job market and industry.

Over 50 recipes to help you quickly and efficiently build applications with Swift 4 and Xcode 9 About This Book Write robust and efficient code and avoid common pitfalls using Swift 4 Get a comprehensive coverage of the tools and techniques needed to create multi-platform apps with Swift 4 Packed with easy-to-follow recipes, this book will help you develop code using the latest version of Swift Who This Book Is For If you are looking for a book to help you learn about the diverse features offered by Swift 4 along with tips and tricks to efficiently code and build applications, then this book is for you. Basic knowledge of Swift or general programming concepts will be beneficial. What You Will Learn Explore basic to advanced concepts in Swift 4 Programming Unleash advanced features of Apple's Xcode 9 IDE and Swift Playgrounds Learn about the conditional statements, loops, and how to handle errors in Swift Define flexible classes and structs using Generics, and learn about the advanced operators, and create custom operators Explore functionalities outside of the standard libraries of Swift Import your own custom functionality into Swift Playgrounds Run Swift on Linux and investigate server-side programming with the server side framework Vapor In Detail Swift 4 is an exciting, multi-platform, general-purpose programming language. Being open source, modern and easy to use has made Swift one of the fastest growing programming languages. If you interested in exploring it, then this book is what you need. The book begins with an introduction to the basic building blocks of Swift 4, its syntax and the functionalities of Swift constructs. Then, introduces you to Apple's Xcode 9 IDE and Swift Playgrounds, which provide an ideal platform to write, execute, and debug the codes thus initiating your development process. Next, you'll learn to bundle variables into tuples, set order to your data with an array, store key-value pairs with dictionaries and you'll learn how to use the property observers. Later, explore the decision-making and control structures in Swift and learn how to handle errors in Swift 4. Then you'll, examine the advanced features of Swift, generics and operators, and then explore the functionalities outside of the standard library, provided by frameworks such as Foundation and UIKit. Also, you'll explore advanced features of Swift Playgrounds. At the end of the book, you'll learn server-side programming aspect of Swift 4 and see how to run Swift on Linux and then investigate Vapor, one of the most popular server-side frameworks for Swift. Style and approach Each recipe addresses a

specific problem, with a detailed discussion that explains the solution and offers insight into how it works.

"Concepts of game programming are explained well, and no prior knowledge of Swift language programming is required. ... The images and audio provided are professional and clean." William Fahle, Computing Review, May 31, 2016 Swift Game Programming for Absolute Beginners teaches Apple's Swift language in the context of four, fun and colorful games. Learn the Swift 2.0 language, and learn to create game apps for iOS at the same time – a double win! The four games you'll develop while reading this book are: Painter Tut's Tomb Penguin Pairs Tick Tick These four games are casual, arcade-style games representing the aim-and-shoot, casual, puzzle, and platform styles of game play. Professionally developed game assets form part of the book download. You'll get professionally drawn sprites and imagery that'll have you proud to show your learning to friends and family. The approach in Swift Game Programming for Absolute Beginners follows the structure of a game rather than the syntax of a language. You'll learn to create game worlds, manage game objects and game states, define levels for players to pass through, implement animations based upon realistic physics, and much more. Along the way you'll learn the language, but always in the context of fun and games. Swift is Apple's new programming language introduced in 2014 to replace Objective-C as the main programming language for iOS devices and Mac OS X. Swift is a must learn language for anyone targeting Apple devices, and Swift Game Programming for Absolute Beginners provides the most fun you'll ever have in stepping over the threshold toward eventual mastery of the language.

In its 114th year, Billboard remains the world's premier weekly music publication and a diverse digital, events, brand, content and data licensing platform. Billboard publishes the most trusted charts and offers unrivaled reporting about the latest music, video, gaming, media, digital and mobile entertainment issues and trends.

Entirely rewritten for Apple's Swift programming language, this updated cookbook helps you overcome the vexing issues you're likely to face when creating apps for iOS devices. You'll find hundreds of new and revised recipes for using the iOS 8 SDK, including techniques for working with Health data and HomeKit accessories, enhancing and animating graphics, storing and protecting data, sending and receiving notifications, and managing files and folders among them. Each recipe includes sample code on GitHub that you can use right away. Use CloudKit APIs to store information in the cloud with ease Create custom keyboards and extensions Access users' health-related information with HealthKit Interact with accessories inside the user's home with HomeKit Create vibrant and lifelike user interfaces with UIKit Dynamics Use the Keychain to protect your app's data Develop location-aware and multitasking-aware apps Work with iOS 8's audio and video APIs Use Event Kit UI to manage calendars, dates, and events Take advantage of the accelerometer and the gyroscope Get working examples for implementing gesture recognizers Retrieve and manipulate contacts and groups from the Address Book Determine a camera's availability and access the Photo Library

For more than a decade, Gianakos' comprehensive chronicles of American television dramatic programming have been considered classic references. Following a descriptive and critical review for each period, an exhaustive Days and Times section includes detailed listings for all dramatic specials. Program sections for all seasons provide writer and director credits. This is the first volume of the 6-volume series.

In this book, we take you on a fun, hands-on and pragmatic journey to learning iOS13 application development using Swift. You'll start building your first iOS app within minutes. Every section is written in a bite-sized manner and straight to the point as I don't want to waste your time (and most certainly mine) on the content you don't need. In the end, you will have the skills to create an app and submit it to the app store. In the course of this book, we will cover: Chapter 1 - Working with Xcode and Swift to build a BMI calculator app. Chapter 2 - Build a Quotes app using Table View Chapter 3 - Create a To Do List app where we create, read, update and delete to-do items Chapter 4 - Implement data persistency to our To Do List app using Core Data Chapter 5 - Improve our To Do List app by adding images and implementing swipe deletion Chapter 6 - Build a cryptocurrency price tracker app which retrieves prices via an API Chapter 7 - Build a image detection app using machine learning with Core ML 2 and Create ML 2 Chapter 8 - Create an Augmented Reality app with ARKit Chapter 9 - Publish our app on to the App store Chapter 10 - SwiftUI Chapter 11 - Dark Mode Chapter 12 - Porting your iOS App to the Mac with Project Catalyst Chapter 13 - In-App Purchases The goal of this book is to teach you iOS development in a manageable way without overwhelming you. We focus only on the essentials and cover the material in a hands-on practice manner for you to code along. About the Reader No previous knowledge on iOS development required, but you should have basic programming knowledge. About the Author Greg Lim is a technologist and author of several programming books. Greg has many years in teaching programming in tertiary institutions and he places special emphasis on learning by doing.

This book leads you through the essential concepts and new iOS 10 SDK and Swift 3 programming language APIs to build iPhone and iPad database driven applications using the defacto standard for data storage for mobile apps, SQLite. Readers will learn about SQL operations like selecting, inserting, updating and deleting data using various data types like text, numerical types, images and even audio/video data. After working through this book, you will gain an expert view of developing iOS apps using SQlite as a data storage using Objective-C and Swift. With Build iOS Database Apps with Swift and SQLite you will also gain expert knowledge on how to create databases at runtime, including creating or modifying indexes, triggers, tables, columns, and views. The examples use time-tested code from working applications. What You'll Learn: How to create database and database applications using iOS and Swift How to insert, select, edit, and delete records How to extend SQLite How to work with multi-database apps How to use SQLite with Swift How to backup online SQLite Databases and more Who This Book Is For: Experienced Apple iOS, Swift programmers and developers.

Unleash your child's developer potential through fun projects and help them learn how to create iOS apps in Swift About This Book Children can express their creativity while learning through interactive Swift Playgrounds Empower children to think critically about problems Learning programming basics can help children gain confidence in problem solving Help children put their imagination into action building their first iOS app Who This Book Is For Children who are curious about the technology we use in our daily lives and want to know how it works can use this book to learn about programming and building their first iOS app. No prior programming experience is necessary. What You Will Learn Basic programming and coding fundamentals Write code using the fun and interactive Swift Playgrounds app Make animations, including creating your own starry night Utilise functions by making pizza in code Create an interactive toy bin Learn how to use control flow statements to further enhance your toy bin Build a simple movie night app working with tableviews and arrays In Detail This book starts at the beginning by introducing programming through easy to use examples with the Swift Playgrounds app. Kids are regularly encouraged to explore and play with new concepts to support knowledge acquisition and retention – these newly learned skills can then be used to express their own unique ideas. Children will be shown how to create their first iOS application and build their very own movie night application. Style and approach This is a project-based guide with an engaging tone that uses a visually rich format. It explains the concepts in clear language and uses lots of pictures, cartoons, and examples. There is a set of practical exercises to be completed.

Harness the power of the latest edition with this in-depth and comprehensive guide to the Swift language Key Features Fifth edition of this bestselling book, improved and updated to cover the latest version of the Swift 5 programming language Get to grips with popular and modern design techniques to write easy-to-manage Swift code Learn how to use core Swift features such as concurrency, generics, and copy-on-write in your code Book Description Over the years, the Mastering Swift book has established itself amongst developers as a popular choice as an in-depth and practical guide to the Swift programming language. The latest edition is fully updated and revised to cover the new version: Swift 5. Inside this book, you'll find the key features of Swift 5 easily explained with complete sets of examples. From the basics of the language to popular features such as concurrency, generics, and memory management, this definitive guide will help you develop your expertise and mastery of the Swift language. Mastering Swift 5, Fifth Edition will give you an in-depth knowledge of some of the most sophisticated elements in Swift development, including protocol extensions, error handling, and closures. It will guide you on how to use and apply them in your own projects. Later, you'll see how to leverage the power of protocol-oriented programming to write flexible and easier-to-manage code. You will also see how to add the copy-on-write feature to your custom value types and how to avoid memory management issues caused by strong reference cycles. What you will learn Understand core Swift components, including operators, collections, control flows, and functions Learn how and when to use classes, structures, and enumerations Understand how to use protocol-oriented design with extensions to write easier-to-manage code Use design patterns with Swift, to solve commonly occurring design problems Implement copy-on-write for you custom value types to improve performance Add concurrency to your applications using Grand Central Dispatch and Operation Queues Implement generics to write flexible and reusable code Who this book is for This book is for developers who want to delve into the newest version of Swift. If you are a developer and learn best by looking at and working with code, then this book is for you. A basic understanding of Apple's tools would be beneficial but not mandatory. All examples should work on the Linux platform as well.

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