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# Functional Programming in Swift



Chris Eidhof, Florian Kugler, and Wouter Swierstra

# Functional Programming In Swift Ebook Chris Eidhof

**Fatih Nayebi**



## **Functional Programming In Swift Ebook Chris Eidhof :**

Functional Swift: Updated for Swift 4 Florian Kugler, Wouter Swierstra, Chris Eidhof, 2014-11 This book will teach you how to use Swift to apply functional programming techniques to your iOS or OS X projects These techniques complement object oriented programming that most Objective C developers will already be familiar with providing you with a valuable new tool in your developer s toolbox We will start by taking a look at Swift s new language features such as higher order functions generics optionals enumerations and pattern matching Mastering these new features will enable you to write functional code effectively After that we will provide several examples of how to use functional programming patterns to solve real world problems These examples include a compositional and type safe API around Core Image a library for diagrams built on Core Graphics and a small spreadsheet application built from scratch      **Functional Swift** Chris Eidhof, Florian Kugler (Software developer), Wouter Swierstra, 2019      **Reactive Programming with Swift 4** Navdeep Singh, 2018-02-27 Learn how to solve blocking user experience and build event based reactive applications with Swift Key Features Build fast and scalable apps with RxSwift Apply reactive programming to solve complex problems and build efficient programs with reactive user interfaces Take expressiveness scalability and maintainability of your Swift code to the next level with this practical guide Book Description RxSwift belongs to a large family of Rx implementations in different programming languages that share almost identical syntax and semantics Reactive approach will help you to write clean cohesive resilient scalable and maintainable code with highly configurable behavior This book will introduce you to the world of reactive programming primarily focusing on mobile platforms It will tell how you can benefit from using RxSwift in your projects existing or new Further on the book will demonstrate the unbelievable ease of configuring asynchronous behavior and other aspects of the app that are traditionally considered to be hard to implement and maintain It will explain what Rx is made of and how to switch to reactive way of thinking to get the most out of it Also test production code using RxTest and the red green approach Finally the book will dive into real world recipes and show you how to build a real world app by applying the reactive paradigm By the end of the book you ll be able to build a reactive swift application by leveraging all the concepts this book takes you through What you will learn Understand the practical benefits of Rx on a mobile platform Explore the building blocks of Rx and Rx data flows with marble diagrams Learn how to convert an existing code base into RxSwift code base Learn how to debug and test your Rx Code Work with Playgrounds to transform sequences by filtering them using map flatmap and other operators Learn how to combine different operators to work with Events in a more controlled manner Discover RxCocoa and convert your simple UI elements to Reactive components Build a complete RxSwift app using MVVM as design pattern Who this book is for This book is for the developers who are familiar with Swift and iOS application development and are looking out to reduce the complexity of their apps Prior experience of reactive programming is not necessary      Learning Swift Andrew J Wagner, 2016-03-23 Develop the skills required to create compelling maintainable and

robust iOS and OS X apps with Swift About This Book Write expressive understandable and maintainable Swift 2 code with this hands on tutorial Unveil the complex underpinnings of Swift to turn your app ideas into reality This book is packed with real life examples to help you implement concepts as you learn Who This Book Is For If you are looking to build iOS or OS X apps using the most modern technology this book is ideal for you You will find this book especially useful if you are new to programming or if you are yet to develop for iOS or OS X No prior programming exposure is required What You Will Learn Form a solid understanding of the Swift 2 language Get to know the practical aspects of how a computer program actually works Understand the paradigms used by Apple s frameworks so you are not intimidated by them Utilize the vast resources written in Objective C to better inform your Swift programming Develop a basic portfolio of Swift code by learning the critical concepts Experience both object oriented and functional programming Get to know the new coding techniques made available by Swift 2 Discover resources to ensure you never stop becoming a better developer In Detail Swift is Apple s new programming language and the future of iOS and OS X app development It is a high performance language that feels like a modern scripting language On the surface Swift is easy to jump into but it has complex underpinnings that are critical to becoming proficient at turning an idea into reality This book is an approachable step by step introduction into programming with Swift for everyone It begins by giving you an overview of the key features through practical examples and progresses to more advanced topics that help differentiate the proficient developers from the mediocre ones It covers important concepts such as Variables Optionals Closures Generics and Memory Management Mixed in with those concepts it also helps you learn the art of programming such as maintainability useful design patterns and resources to further your knowledge This all culminates in writing a basic iOS app that will get you well on your way to turning your own app ideas into reality Style and approach This is an approachable step by step guide to programming in Swift 2 Each topic is separated into compressible sections that are full of practical examples and easy to understand explanations Each section builds on the previous topics so you can develop a proficient and comprehensive understanding of app development in Swift 2

**Swift Functional Programming** Fatih Nayebi, 2017-04-26 Bring the power of functional programming to Swift to develop clean smart scalable and reliable applications About This Book Written for the latest version of Swift this is a comprehensive guide that introduces iOS Web and macOS developers to the all new world of functional programming that has so far been alien to them Get familiar with using functional programming alongside existing OOP techniques so you can get the best of both worlds and develop clean robust and scalable code Develop a case study on example backend API with Swift and Vapor Framework and an iOS application with Functional Programming Protocol Oriented Programming Functional Reactive Programming and Object Oriented Programming techniques Who This Book Is For Meant for a reader who knows object oriented programming has some experience with Objective C Swift programming languages and wants to further enhance his skills with functional programming techniques with Swift 3 x What You Will Learn Understand what functional programming is and why it matters

Understand custom operators function composition currying recursion and memoization Explore algebraic data types pattern matching generics associated type protocols and type erasure Get acquainted with higher kinded types and higher order functions using practical examples Get familiar with functional and non functional ways to deal with optionals Make use of functional data structures such as semigroup monoid binary search tree linked list stack and lazy list Understand the importance of immutability copy constructors and lenses Develop a backend API with Vapor Create an iOS app by combining FP OOP FRP and POP paradigms In Detail Swift is a multi paradigm programming language enabling you to tackle different problems in various ways Understanding each paradigm and knowing when and how to utilize and combine them can lead to a better code base Functional programming FP is an important paradigm that empowers us with declarative development and makes applications more suitable for testing as well as performant and elegant This book aims to simplify the FP paradigms making them easily understandable and usable by showing you how to solve many of your day to day development problems using Swift FP It starts with the basics of FP and you will go through all the core concepts of Swift and the building blocks of FP You will also go through important aspects such as function composition and currying custom operator definition monads functors applicative functors memoization lenses algebraic data types type erasure functional data structures functional reactive programming FRP and protocol oriented programming POP You will then learn to combine those techniques to develop a fully functional iOS application from scratch Style and approach An easy to follow guide that is full of hands on coding examples of real world applications Each topic is explained sequentially and placed in context and for the more inquisitive there are more details of the concepts used It introduces the Swift language basics and functional programming techniques in simple non mathematical vocabulary with examples in Swift

**Learning Functional Programming with Swift**, 2018 Learn how to write more robust and maintainable Swift code by making the switch to functional programming *Swift Functional Programming* Dr. Fatih Nayebi, 2017-04-26 Bring the power of functional programming to Swift to develop clean smart scalable and reliable applications About This Book Written for the latest version of Swift this is a comprehensive guide that introduces iOS Web and macOS developers to the all new world of functional programming that has so far been alien to them Get familiar with using functional programming alongside existing OOP techniques so you can get the best of both worlds and develop clean robust and scalable code Develop a case study on example backend API with Swift and Vapor Framework and an iOS application with Functional Programming Protocol Oriented Programming Functional Reactive Programming and Object Oriented Programming techniques Who This Book Is For Meant for a reader who knows object oriented programming has some experience with Objective C Swift programming languages and wants to further enhance his skills with functional programming techniques with Swift 3 x What You Will Learn Understand what functional programming is and why it matters Understand custom operators function composition currying recursion and memoization Explore algebraic data types pattern matching generics associated type protocols and

type erasure Get acquainted with higher kinded types and higher order functions using practical examples Get familiar with functional and non functional ways to deal with optionals Make use of functional data structures such as semigroup monoid binary search tree linked list stack and lazy list Understand the importance of immutability copy constructors and lenses Develop a backend API with Vapor Create an iOS app by combining FP OOP FRP and POP paradigms In Detail Swift is a multi paradigm programming language enabling you to tackle different problems in various ways Understanding each paradigm and knowing when and how to utilize and combine them can lead to a better code base Functional programming FP is an important paradigm that empowers us with declarative development and makes applications more suitable for testing as well as performant and elegant This book aims to simplify the FP paradigms making them easily understandable and usable by showing you how to solve many of your day to day development problems using Swift FP It starts with the basics of FP and you will go through all the core concepts of Swift and the building blocks of FP You will also go through important aspects such as function composition and currying custom operator definition monads functors applicative functors memoization lenses algebraic data types type erasure functional data structures functional reactive programming FRP and protocol oriented programming POP You will then learn to combine those techniques to develop a fully functional iOS application from scratch Style and approach An easy to follow guide that is full of hands on coding examples of real world applications Each topic is explained sequentially and placed in context and for the more inquisitive there are more details of the concepts used It introduces the Swift language basics and functional programming techniques in simple non mathematical vocabulary with examples in Swift

*Swift 2 Functional Programming* Fatih Nayebi, 2016-06-30 Bring the power of Swift functional programming to iOS Web macOS watchOS and tvOS application development and build clean smart scalable and reliable applications About This Book Written for Swift 3 Developers Preview version this is a comprehensive guide that introduces iOS and OS X developers to the all new world of functional programming that has so far been alien to them Learn about first class functions and how imperative style patterns can be converted into functional code using some simple techniques The book will get you familiar with using functional programming alongside existing OOP techniques so you can get the best of both worlds and develop clean robust code Who This Book Is For The book is for developers with a basic knowledge of Swift programming aiming to incorporate functional programming paradigms in their day to day application development What You Will Learn First class higher order and pure functions Closures and capturing values Custom operators recursion and memoization Value and reference types in Swift Enumerations algebraic data types patterns and pattern matching Generics and associated type protocols Higher order functions such as map flatMap filter and reduce Dealing with optionals fmap and apply for multiple functional mapping Functional data structures such as Semigroup Monoid Binary Search Tree Linked List Stack and Lazy List Immutability copy constructors and lenses Combining FP paradigms with OOP FRP and POP in your day to day development activities Developing a backend application with Swift Developing an iOS

application with FP OOP FRP and POP paradigms In Detail This book is based on Swift 3 Developer preview version and aims at simplifying the functional programming FP paradigms making it easily usable by showing you how to solve many of your day to day development problems Whether you are new to functional programming and Swift or experienced this book will strengthen the skills you need to design and develop high quality scalable and efficient applications The book starts with functional programming concepts the basics of Swift 3 and essential concepts such as functions closures optionals enumerations immutability and generics in detail with coding examples Furthermore this book introduces more advanced topics such as function composition monads functors applicative functors memoization lenses algebraic data types functional data structures functional reactive programming FRP protocol oriented programming POP and mixing object oriented programming OOP with functional programming FP paradigms Finally this book provides a working code example of a front end application developed with these techniques and its corresponding back end application developed with Swift Style and approach This is an easy to follow guide full of hands on coding examples of real world applications Each topic is explained sequentially and placed in context and for the more inquisitive there are more details of the concepts used It introduces the Swift language basics and functional programming techniques in simple non mathematical vocabulary with examples in Swift

SwiftUI Cookbook Giordano Scalzo, Edgar Nzokwe, 2020-10-19 Unleash the power of declarative programming in SwiftUI with practical recipes for building cross platform Apple applications for iOS 14 macOS and watchOS using Swift 5.3 Xcode 12 and SwiftUI 2.0 Key Features Apply the declarative programming paradigm for building cross platform UIs for Apple devices Learn to integrate UIKit Core Data Sign in with Apple and Firebase with SwiftUI Adopt the new SwiftUI 2.0 features to build visually appealing UIs at speed Book Description SwiftUI is an innovative and simple way to build beautiful user interfaces UIs for all Apple platforms right from iOS and macOS through to watchOS and tvOS using the Swift programming language In this recipe based book you ll work with SwiftUI and explore a range of essential techniques and concepts that will help you through the development process The recipes cover the foundations of SwiftUI as well as the new SwiftUI 2.0 features introduced in iOS 14 Other recipes will help you to make some of the new SwiftUI 2.0 components backward compatible with iOS 13 such as the Map View or the Sign in with Apple View The cookbook begins by explaining how to use basic SwiftUI components Then you ll learn the core concepts of UI development such as Views Controls Lists and ScrollViews using practical implementation in Swift By learning drawings built in shapes and adding animations and transitions you ll discover how to add useful features to the SwiftUI When you re ready you ll understand how to integrate SwiftUI with exciting new components in the Apple development ecosystem such as Combine for managing events and Core Data for managing app data Finally you ll write iOS macOS and watchOS apps while sharing the same SwiftUI codebase By the end of this SwiftUI book you ll have discovered a range of simple direct solutions to common problems found in building SwiftUI apps What you will learn Explore various layout presentations in SwiftUI such as HStack VStack LazyHStack and

LazyVGridCreate a cross platform app for iOS macOS and watchOSGet up to speed with drawings in SwiftUI using built in shapes custom paths and polygonsDiscover modern animation and transition techniques in SwiftUIAdd user authentication using Firebase and Sign in with AppleHandle data requests in your app using Core DataSolve the most common SwiftUI problems such as integrating a MapKit map unit testing snapshot testing and previewing layoutsWho this book is for This book is for mobile developers who want to learn SwiftUI as well as experienced iOS developers transitioning from UIKit to SwiftUI The book assumes knowledge of the Swift programming language Knowledge of object oriented design and data structures is useful but not necessary

**SwiftUI Cookbook** Giordano Scalzo,Edgar Nzokwe,2021-11-01 Unleash the power of declarative programming in SwiftUI by building cross platform Apple apps for iOS 15 macOS and watchOS using Swift 5.5 Xcode 13 and SwiftUI 3 Key FeaturesApply the declarative programming paradigm to build cross platform UIs for Apple devicesLearn to integrate UIKit Core Data Firebase and Sign in with Apple with SwiftUIAdopt the new SwiftUI 3.0 features to build visually appealing UIs speedilyBook Description SwiftUI provides an innovative and simple way to build beautiful user interfaces UIs for all Apple platforms from iOS and macOS through to watchOS and tvOS using the Swift programming language In this recipe based cookbook you ll cover the foundations of SwiftUI as well as the new SwiftUI 3 features introduced in iOS 15 and explore a range of essential techniques and concepts that will help you through the development process The cookbook begins by explaining how to use basic SwiftUI components Once you ve learned the core concepts of UI development such as Views Controls Lists and ScrollViews using practical implementations in Swift you ll advance to adding useful features to SwiftUI using drawings built in shapes animations and transitions You ll understand how to integrate SwiftUI with exciting new components in the Apple development ecosystem such as Combine for managing events and Core Data for managing app data Finally you ll write iOS macOS and watchOS apps by sharing the same SwiftUI codebase By the end of this SwiftUI book you ll have discovered a range of simple direct solutions to common problems encountered when building SwiftUI apps What you will learnExplore various layout presentations in SwiftUI such as HStack VStack LazyHStack and LazyVGridCreate widgets to quickly display relevant content at glanceGet up to speed with drawings in SwiftUI using built in shapes custom paths and polygonsDiscover modern animation and transition techniques in SwiftUIAdd user authentication using Firebase and Sign in with AppleManage concurrency with Combine and async await in SwiftUI Solve the most common SwiftUI problems such as integrating a MapKit map unit testing snapshot testing and previewing layoutsWho this book is for This book is for mobile developers who want to learn SwiftUI as well as experienced iOS developers transitioning from UIKit to SwiftUI The book assumes knowledge of the Swift programming language Knowledge of object oriented design and data structures will be useful but not necessary You ll also find this book to be a helpful resource if you re looking for reference material regarding the implementation of various features in SwiftUI

*Swift for the Really Impatient* Matt Henderson,Dave Wood,2014-12-12 Swift for the Really Impatient is the perfect



jumpstart to the Swift language for every experienced Objective C developer Leading iOS and OS X developers Matt Henderson and Dave Wood help you take full advantage of Swift s powerful innovations without wasting time on basics you already know Through expert code examples and crystal clear explanations Henderson and Wood reveal how Swift features improve on Objective C and show how to make the most of them You ll quickly master Swift er techniques for using objects classes optionals generics functions closures and more Each chapter includes hands on exercises designed to reinforce and deepen your skills You ll learn how to re implement common Objective C programming solutions in Swift improving code clarity power and performance on both desktop and mobile devices And because you probably won t or can t abandon Objective C anytime soon you ll discover how to use both languages together smoothly integrate Swift into existing projects and workflows and gradually move your current code base into the future Coverage includes Using Swift s new patterns and concise expressive syntax to produce safer more reliable code Leveraging the surprising power of Swift s data structures Utilizing Swift s type system to help prevent errors common in other languages Using optionals to correctly handle invalid missing or unknown values Implementing generics to reduce duplication improve power and simplify maintenance Interacting with C and Objective C APIs Abstracting functionality for reusable code while maintaining type safety Isolating code in clean flexible low overhead closures Combining Swift with Objective C in the same project Avoiding gotchas when importing Objective C classes in Swift projects Nesting types to improve code clarity Creating shared objects with singletons Managing threading and concurrency with Swift s advanced Grand Central Dispatch GCD patterns

**Swift by Tutorials**  
Colin Eberhardt, Matt Galloway, 2014 Learn Apple s brand new programming language Swift the quick and easy way via hands on tutorials Through a series of real world practical examples you will bring your Swift knowledge from beginner to master Swift by Tutorials covers the following topics Language Basics Variables constants types equality strings optionals collections and more get off the ground with the language essentials Classes in Swift it s called generics Generic programming allows you to write an algorithm once and reuse it for multiple types Functions you ll also see how bridging headers work so you can continue to use Objective C code and libraries in Swift Swift vs Objective C Existing Objective C developers will be wondering what s different with Swift or how to do their favorite things using Swift In this chapter you ll re implement an Objective C app in Swift to compare and contrast the two languages Language Quick Reference As you re coding your own Swift applications you can refer back to this reference to remind yourself how something works The iOS Tutorial Team takes pride in making sure each tutorial we write holds to the highest standards of quality We want our tutorials to be well written easy to follow and fun And we don t want to just skim the surface of a subject we want to really dig into it so you can truly understand how it works and apply the knowledge directly in your own apps

*The Swift Developer's Cookbook (includes Content Update Program)* Erica Sadun, 2015-12-15 In The Swift Developer s Cookbook renowned author Erica Sadun joins powerful strategies with ready to use Swift code for solving everyday development

challenges As in all of Sadun's programming best sellers *The Swift Developer's Cookbook* translates modern best practices into dozens of well tested easy to apply solutions This book's code examples were created in response to real world questions from working developers to reflect Swift's newest capabilities and best practices Each chapter groups related tasks together You can jump straight to your solution without having to identify the right class or framework first Sadun covers key Swift development concepts shows you how to write robust and efficient code and helps you avoid common pitfalls other developers struggle with She offers expert strategies for working with this immensely powerful language taking into account Swift's rapid evolution and its migration tools Whether you're moving to modern Swift from Objective C from older versions of the Swift language or from the world of non Apple languages this guide will help you master both the how and why of effective Swift development Industry recruiters are scrambling to find Swift developers who can solve real problems and produce effective working code Get this book and you'll be ready Coverage includes Writing effective Swift code that communicates clearly and coherently to the compiler your team and to future you who will be maintaining this code Using Xcode to handle changes in Swift's language constructs as the language evolves Building feedback documentation and output to meet your development and debugging needs Making the most of optionals and their supporting constructs Using closures to encapsulate state and functionality and treat actions as variables for later execution Leveraging control flow with innovative Swift specific statements Working with all Swift types classes enumerations and structures Using generics and protocols to build robust code that expands functionality beyond single types Making the most of the powerful Swift error system Working with innovative features such as array indexing general subscripting statement labels custom operators and more This book is part of the Pearson Content Update Program CUP As the technology changes sections of this book will be updated or new sections will be added The updates will be delivered to you via a free Web Edition of this book which can be accessed with any Internet connection

*App Architecture* Chris Eidhof, Matt Gallagher, Florian Kugler, 2018-05-13 This book explains a range of application design patterns and their implementation techniques using a single example app fully implemented in five design patterns Instead of advocating for any particular pattern we lay out the problems all architectures are trying to address constructing the app's components communicating between the view and the model and handling non model state We show high level solutions to these problems and break them down to the level of implementation for five different design patterns two commonly used and three more experimental The common architectures are Model View Controller and Model View ViewModel Coordinator In addition to explaining these patterns conceptually and on the implementation level we discuss solutions to commonly encountered problems like massive view controllers On the experimental side we explain View State Driven Model View Controller ModelAdapter ViewBinder and The Elm Architecture By examining these experimental patterns we extract valuable lessons that can be applied to other patterns and to existing code bases

*Beginning Swift* Rob Kerr, Kåre Morstøl, 2018-05-31 Swift greatly simplifies the process of developing

applications for Apple devices This book provides you with the essential skills to help you get started with developing applications using Swift Key Features Teaches you how to correctly structure and architect software using Swift Uses real world examples to connect the theory to a professional setting Imparts expertise in the core Swift standard library Book Description Take your first foray into programming for Apple devices with Swift Swift is fundamentally different from Objective C as it is a protocol oriented language While you can still write normal object oriented code in Swift it requires a new way of thinking to take advantage of its powerful features and a solid understanding of the basics to become productive What you will learn Explore the fundamental Swift programming concepts language structure and the Swift programming syntax Learn how Swift compares to other computer languages and how to transform your thinking to leverage new concepts such as optionals and protocols Master how to use key language elements such as strings and collections Grasp how Swift supports modern application development using advanced features such as built in Unicode support and higher order functions Who this book is for If you are seeking fundamental Swift programming skills in preparation for learning to develop native applications for iOS or macOS this book is the best for you You don t need to have any prior Swift knowledge however object oriented programming experience is desired     Advanced Swift Chris Eidhof,Ole Begemann,Florian Kugler (Software developer),Ben Cohen,2019 Learn about advanced concepts in Swift programming     **Beginning Swift Programming** Wei-Meng Lee,2014-12-04 Enter the Swift future of iOS and OS X programming Beginning Swift Programming is your ideal starting point for creating Mac iPhone and iPad apps using Apple s new Swift programming language Written by an experienced Apple developer and trainer this comprehensive guide explains everything you need to know to jumpstart the creation of your app idea Coverage includes data types strings and characters operators and functions arrays and dictionaries control flow and looping with expert guidance on classes objects class inheritance closures protocols and generics This succinct yet complete overview provides a detailed introduction to the core features of Swift Apple developed Swift to address the limitations of Objective C and add features found in more complex languages like Python The results is simpler cleaner more expressive code with automatic memory management functional programming patterns and more including built in features that make Swift apps faster scalable and more secure This book explains it all helping developers master Apple s new language Become fluent with syntax that s easier to read and maintain Understand inferred types for cleaner less mistake prone code Learn the key features that make Swift more expressive than Objective C Learn the new optional types in Swift that make your code more resilient Understand the key design patterns in iOS and Mac OS programming using protocols and delegates Learn how to use generics to create highly reusable code Learn the new access controls mechanism in Swift Get up to speed quickly to remain relevant and ahead of the curve     Advanced Swift Chris Eidhof,Ole Begemann,Airspeed Velocity,2016-09-29 Advanced Swift takes you through Swift s features from low level programming to high level abstractions In this book we ll write about advanced concepts in Swift programming If you have

read the Swift Programming Guide and want to explore more this book is for you Swift is a great language for systems programming but also lends itself for very high level programming We ll explore both high level topics for example programming with generics and protocols as well as low level topics for example wrapping a C library and string internals

Swift High Performance Kostiantyn Koval,2015-11-06 Leverage Swift and enhance your code to take your applications to the next level About This Book Build solid high performance applications in Swift Increase your efficiency by getting to grips with concurrency and parallel programming Use Swift to design performance oriented solutions Who This Book Is For This book is aimed at experienced Swift developers wanting to optimize their programs on Apple platforms to optimize application performance What You Will Learn Build solid stable and reliable applications using Swift Use REPL and Pl to manage and configure relational databases Explore Swift s features including its static type system value objects and functional programming Design reusable code for high performance in Swift Use to Xcode LLBD and REPL to debug commands Avoid sharing resources by using concurrency and parallel programming Understand the lazy loading pattern lazy sequences and lazy evolution In Detail Swift is one of the most popular and powerful programming languages for building iOS and Mac OS applications and continues to evolve with new features and capabilities Swift is considered a replacement to Objective C and has performance advantages over Objective C and Python Swift adopts safe programming patterns and adds modern features to make programming easier more flexible and more fun Develop Swift and discover best practices that allow you to build solid applications and optimize their performance First a few of performance characteristics of Swift will be explained You will implement new tools available in Swift including Playgrounds and REPL These will improve your code efficiency enable you to analyse Swift code and enhance performance Next the importance of building solid applications using multithreading concurrency and multi core device architecture is covered before moving on to best practices and techniques that you should utilize when building high performance applications such as concurrency and lazy loading Finally you will explore the underlying structure of Swift further and learn how to disassemble and compile Swift code Style and approach This is a comprehensive guide to enhancing Swift programming techniques and methodology to enable faster application development

**Swift Programming** Nln Lnc,Alexander Aronowitz,2021-04-29 You ll begin with Swift programming basics including guidelines for making your code Swiftly and learn how to work with Xcode and its built in Interface Builder Then you ll dive step by step into building and customizing a basic app for taking editing and deleting selfies You ll also tune and test the app for performance and manage the app s presence in the App Store Swift is a general purpose multi paradigm object oriented functional imperative and block structured language It is the result of the latest research on programming languages and is built using a modern approach to safety software design patterns by Apple Inc It is the brand new programming language for iOS application macOS application watchOS application tvOS application Soon it became one of top 5 programming language and gained popularity among Apple developer community over the few years of time replacing the old school Objective C

What you will learn Understand core Swift components such as 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 Apply copy on write for your 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 latest version of Swift If you are a developer looking to learn in a practical way by working with code then this book is for you A basic understanding of Apple s tools will be beneficial but not mandatory All examples should work on the Linux platform as well Want To Know More Scroll to the top and select buy

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