

Dr. Fatih Nayebi

# Swift Functional Programming

**Second Edition**

Build clean, smart, and reliable applications with Swift Functional Programming



**Packt**

# Functional Programming In Swift

**Chuck Gaffney**



## Functional Programming In Swift:

*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 [Functional Programming in Swift](#) Chris Eidhof, Florian Kugler, Wouter Swierstra, 2014-11-01 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

[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 applicationsAbout 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 codeWho This Book Is ForThe book is for developers with a basic knowledge of Swift programming aiming to incorporate functional programming paradigms in their day to day application developmentWhat 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 paradigmsIn DetailThis 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 [Learning Functional Programming with Swift](#) Shaun Wassell,2018 [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

**Classic Computer Science Problems in Swift** David Kopec,2018-03-24 Summary Classic Computer Science Problems in Swift invites readers to invest their energy in some foundational techniques that have been proven to stand the test of time Along the way they ll learn intermediate and advanced features of the Swift programming language a worthwhile skill in its own right Purchase of the print book includes a free eBook in PDF Kindle and ePub formats from Manning Publications About the Technology Don t just learn another language Become a better programmer instead Today s awesome iOS apps stand on the shoulders of classic algorithms coding techniques and engineering principles Master these core skills in Swift and you ll be ready for AI data centric programming machine learning and the other development challenges that will define the next decade About the Book Classic Computer Science Problems in Swift deepens your Swift language skills by exploring foundational coding techniques and algorithms As you work through examples in search clustering graphs and more you ll remember important things you ve forgotten and discover classic solutions to your new problems You ll appreciate author David Kopec s amazing ability to connect the core disciplines of computer science to the real world concerns of apps data performance and even nailing your next job interview What s Inside Breadth first depth first and A search algorithms Constraint satisfaction problems Solving problems with graph algorithms Neural networks genetic algorithms and more All examples written in Swift 4 1 About the Reader For readers comfortable with the basics of Swift About the Author David Kopec is an assistant professor of computer science and innovation at Champlain College in Burlington Vermont He is an experienced iOS developer and the author of Dart for Absolute Beginners Table of Contents Small problems Search problems Constraint satisfaction problems Graph problems Genetic algorithms K means clustering Fairly simple neural networks Miscellaneous problems

**Ultimate SwiftUI Handbook for iOS Developers** Dương Đình Bảo (James) Thăng,2023-10-03 Build Intuitive Stunning and User Centric Apps with SwiftUI KEY FEATURES Gradual progression of topics with clear explanations and practical exercises Hands on guidance for creating stunning UIs Practical implementation of SwiftUI navigation features Benefit from industry best practices and tips throughout the book DESCRIPTION Ultimate SwiftUI Handbook for iOS Developers is your comprehensive introduction to SwiftUI Apple s powerful UI framework Designed for both aspiring app developers and seasoned programmers this book equips you with the knowledge and skills to build stunning user interfaces and robust app functionalities Starting from the basics you ll learn the core concepts of SwiftUI and its seamless integration with the Swift programming language With step by step tutorials and practical examples you ll gain hands on experience in creating interactive apps for iOS macOS watchOS and tvOS Not only does this book cover the fundamental principles of SwiftUI but it also goes beyond the basics Explore advanced topics such as networking with async await enabling smooth and responsive data fetching from remote servers Dive into local storage techniques using UserDefaults CoreData and File Manager to persist

and manage data within your apps With a focus on practical application you ll discover how to design responsive layouts handle user input and implement state management techniques in your SwiftUI apps Furthermore you ll leverage SwiftUI s powerful animation capabilities to create visually appealing and engaging user experiences Whether you re an independent developer a student or an aspiring professional Ultimate SwiftUI Handbook for iOS Developers empowers you to bring your app ideas to life By the end of this book you ll be equipped with the necessary skills to build exceptional apps that seamlessly blend beautiful interfaces with efficient networking and local data storage Embark on an exciting journey into the world of SwiftUI and unleash your creativity in building outstanding apps for Apple s platforms Get ready to transform your app development skills with SwiftUI Essentials

**WHAT WILL YOU LEARN** Learn native iOS app building from foundations to pro level Master state management in SwiftUI to build dynamic feature rich and responsive iOS apps Unlock the ability to create stunning charts and graphs using the Swift Charts library Build and ship an app to the App Store

**WHO IS THIS BOOK FOR** This book targets anyone who loves app development with iOS and wants to bring their idea to life This book is designed for aspiring iOS app developers or intermediate developers who are new to SwiftUI No prior experience with SwiftUI or app development is required Basic familiarity with Swift programming language and macOS iOS environment will be beneficial but not mandatory

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**iOS 9 Game Development Essentials** Chuck Gaffney,2015-11-06 Design build and publish an iOS game from scratch using the stunning features of iOS 9 About This Book Create storyboards in Xcode from concept to code and design Chalk out your game s overall navigation and structure Work with 2D and 3D game development tools Who This Book Is For This book is intended for game developers who wish to develop 2D and 3D games for iPhone and iPad If you are a developer from another platform or game engine such as Android or Unity a current iOS developer wishing to learn more about Swift and the latest features of iOS 9 or even if you are new to game development then this book is for you Some prior programming knowledge is recommended but not required What You Will Learn Familiarise yourself with both basic and advanced Swift game development code Understand the structure and flow of a typical iOS app Work with the SpriteKit framework to make 2D games sprites and overlays Discover 3D game development with SceneKit Visually design levels and game assets with XCode 7 s latest features Explore the concept of component based structuring with iOS 9 s Gameplaykit Beta test and publish your game with iTunes Connect In Detail Game development has always been a combination of programming and art and mobile game development is no exception to this rule The iOS platform has been both a staple in the ever growing mobile game market as well as a launching point for many

game developers hobby and career wise The features and frameworks available in iOS 9 continue to cater to the synergy of design and computer engineering using tools that allow developers to take a game idea from concept to application in record time Whether you are new to iOS and game development as a whole or are an experienced programmer wanting to learn the latest features of the platform iOS 9 Game Development Essentials will provide you with crucial insight into this widely used platform Starting with the Swift programming language this book gets the ball rolling with code concepts and game centric code samples right from the get go giving you get a solid understanding of Apple s cutting edge programming language The book takes you through iOS game development concepts and introduces the various frameworks that allow you to develop robust reusable and intelligent game components in both 2D and 3D game environments Style and approach This book is a step by step guide into the code and concepts of iOS apps Each chapter contains diagrams that showcase the features of the platform along with code samples from Apple and code samples exclusive to this book

*iOS Developer Interview Handbook*  
Anand Gaur,2025-09-06 is your ultimate companion to prepare practice and succeed in iOS developer interviews Whether you are a fresher aiming for your first iOS role or an experienced engineer looking to switch to this handbook covers everything you need from core concepts to advanced topics explained in a simple and structured way Build a strong foundation to tackle entry level and tricky fundamental questions Master essential syntax advanced features and real world coding scenarios Learn how Apple blends both paradigms and how interviewers test them Covering both traditional and modern UI frameworks with practical Q A Core Data SQLite UserDefaults and more explained with clarity URLSession REST APIs JSON parsing and error handling Grand Central Dispatch GCD Operation Queues and Swift Concurrency async await MVC MVVM VIPER and the Composable Architecture TCA CocoaPods Swift Package Manager and Carthage ARC retain cycles and optimization strategies Unit integration and UI testing with XCTest Push notifications background tasks app lifecycle and more Keychain secure coding and best practices WatchOS tvOS macOS integration and App Store submission process CI CD pipelines Fastlane and automation Real world challenges that prepare you to think like a problem solver Unlike generic guides this handbook doesn t just give you answers it explains concepts in simple language highlights interviewer expectations and builds your confidence step by step By the end you ll not only feel prepared for interviews but also become a stronger well rounded iOS developer Students freshers aiming for their first iOS role Mid level engineers preparing for career growth Experienced developers targeting top product companies

**Simplifying Application Development with Kotlin Multiplatform Mobile** Robert Nagy,2022-03-04 Explore the new Kotlin Multiplatform to build native apps for Android and iOS while sharing business logic between apps Key FeaturesImprove app development speed dramatically by writing the business logic in KotlinImplement a native user interface and work with platform specific APIsLeverage Kotlin Multiplatform Mobile s code sharing capabilities for your projectsBook Description Sharing code between platforms can help developers gain a competitive edge and Kotlin Multiplatform Mobile KMM offers a sensible way

to do it KMM helps mobile teams share code between Android and iOS in a flexible way leaving room for native development The book begins by helping you to gain a clear understanding of the Kotlin Multiplatform approach how it works and how it is different from cross platform technologies such as React Native and Flutter and code sharing options such as C You ll then see how your team can use this software development kit SDK to build native applications more effectively by learning timeless concepts and working through practical examples As you advance you ll get to grips with the core concepts understand why UI sharing fails and get hands on with developing a small KMM application Finally you ll discover expert tips and best practices along with production and adoption related questions that will help you take the next step in your project and career By the end of this Kotlin book you ll have gained a solid understanding of the capabilities of KMM and be able to share code between Android and iOS flexibly What you will learn Get acquainted with the multiplatform approach and KMM s competitive edge Understand how Kotlin Multiplatform works under the hood Get up and running with the Kotlin language quickly in the context of Swift Find out how to share code between Android and iOS Explore tips and best practices in KMM to increase app development efficiency Discover adoption tips to integrate KMM into existing or new production apps Who this book is for This book is for native Android and iOS developers who want to build high quality apps using an efficient development process Knowledge of the framework and the languages used is necessary that is Android with Java or Kotlin and iOS with Objective C or Swift For Swift developers the book assumes no knowledge of Kotlin as this will be covered in the context of Swift

*Cocoa Development Essentials* Richard Johnson, 2025-06-14 *Cocoa Development Essentials* Cocoa Development Essentials is a comprehensive guide for macOS developers seeking mastery of Apple s Cocoa ecosystem The book begins with a rigorous exploration of the platform s evolution covering foundational frameworks Foundation and AppKit while illuminating key concepts such as the Objective C runtime Swift interoperability and sophisticated memory management techniques Readers are expertly guided through the nuances of app lifecycles event handling and building robust responsive interfaces using Interface Builder custom views and data binding patterns that ensure accessibility and global reach Delving deeper the book addresses the complexities of advanced data persistence with Core Data equipping developers to model migrate and optimize persistent stores for efficient scalable applications Essential concurrency techniques are dissected through Grand Central Dispatch NSOperation and thread safety pairing core architectural guidance with practical strategies for maintaining UI responsiveness and profiling application performance Networking is thoroughly covered from secure data transfer with NSURLSession to integrating modern web services and background resource management alongside vital practices for security sandboxing and interprocess communication Rounding out its exhaustive coverage *Cocoa Development Essentials* empowers developers with sophisticated graphics animation and media integration using Core Animation AVFoundation and optimized rendering pipelines System integration topics span event monitoring background services App Store compliance and seamless adoption of macOS features such as extensions and system

notifications Thoughtful chapters on testing debugging dependency management and scalable software design patterns including MVC MVVM and protocol oriented paradigms offer a modern professional toolkit for delivering resilient maintainable and innovative macOS applications *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 *Building Apple Watch Projects* Stuart Grimshaw, 2016-02-29 Discover exciting and fun projects by building brilliant applications for the Apple Watch About This Book Explore the opportunities opened up to developers by Apple s latest device the Apple Watch Be a crackerjack at developing software across a broad range of watch app categories From an eminent author master all stages of development from the first stage through to a completed project Who This Book Is For If you have some basic knowledge of programming in Swift and are looking for the best way to get started with Apple Watch development this book is just the right one for you What You Will Learn Understand the concept of the Apple Watch as an autonomous device as well as it being paired with the iPhone Get your app up and running Design exciting inspiring and attractive layouts for your apps Make your user interface more engaging using images and animation Enable your Watch and iPhone apps to transport and share data Leverage the feature rich set of WatchKit technologies provided by Apple Connect your apps to the Internet Submit your app to the App Store In Detail With Apple s eagerly anticipated entry into the wearable arena the field is wide open for a new era of app development The Apple Watch is one of the most important technologies of our time This easy to understand book takes beginners on a delightful journey of discovering the features available to the developer right up to the completion of medium level projects ready for App Store submission It provides the fastest way to develop real world apps for the Apple Watch by teaching you the concepts of Watch UI visual haptic and audio message and data exchange between watch and phone Web

communication and finally Visual haptic as well as audio feedback for users By the end of this book you will have developed at least four fully functioning apps for deployment on watchOS 2 Style and approach This is a step by step guide to developing apps for the Apple Watch with the help of screenshots and fully coded working examples [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

**Computing and Software Science** Bernhard Steffen, Gerhard Woeginger,2019-10-04 The papers of this volume focus on the foundational aspects of computer science the thematic origin and stronghold of LNCS under the title Computing and Software Science State of the Art and Perspectives They are organized in two parts The first part Computation and Complexity presents a collection of expository papers on fashionable themes in algorithmics optimization and complexity The second part Methods Languages and Tools for Future System Development aims at sketching the methodological evolution that helps guaranteeing that future systems meet their increasingly critical requirements Chapter 3 is available open access under a Creative Commons Attribution 4 0 International License via link [springer.com](http://springer.com) *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 Programming Matthew Mathias,John Gallagher,Mikey Ward,2020-10-21 Through this guide s carefully constructed explanations and examples you will develop an understanding of Swift grammar and the elements of effective Swift style all thoroughly revised for Swift 5.3 and Xcode 12 Based on Big Nerd Ranch s popular Swift training and its well tested materials and methodology this guide teaches concepts and coding through hands on exercises You will explore Swift features in Xcode playgrounds and you will end by building sample apps for the command line and for macOS and iOS After working through the book you will have the skills to confidently dive into learning app development for Apple platforms like iOS and macOS

Functional Programming: A PragPub Anthology Michael Swaine,2017-07-20 Explore functional programming and discover new ways of thinking about code You know you need to master functional programming but learning one functional language is only the start In this book through articles drawn from PragPub magazine and articles written specifically for this book you ll explore functional thinking and functional style and idioms across languages Led by expert guides you ll discover the distinct strengths and approaches of Clojure Elixir Haskell Scala and Swift and learn which best suits your needs Contributing authors Rich Hickey Stuart Halloway Aaron Bedra Michael Bevilacqua Linn Venkat Subramaniam Paul Callaghan Jose Valim Dave Thomas Natasha Murashev Tony Hillerson Josh Chisholm and Bruce Tate Functional programming is on the rise because it lets you write simpler cleaner code and its emphasis on immutability makes it ideal for maximizing the benefits of multiple cores and distributed solutions So far

nobody's invented the perfect functional language each has its unique strengths In Functional Programming A PragPub Anthology you'll investigate the philosophies tools and idioms of five different functional programming languages See how Swift the development language for iOS encourages you to build highly scalable apps using functional techniques like map and reduce Discover how Scala allows you to transition gently but deeply into functional programming without losing the benefits of the JVM while with Lisp based Clojure you can plunge fully into the functional style Learn about advanced functional concepts in Haskell a pure functional language making powerful use of the type system with type inference and type classes And see how functional programming is becoming more elegant and friendly with Elixir a new functional language built on the powerful Erlang base The industry has been embracing functional programming more and more driven by the need for concurrency and parallelism This collection of articles will lead you to mastering the functional approach to problem solving So put on your explorer's hat and prepare to be surprised The goal of exploration is always discovery What You Need Familiarity with one or more programming languages [Swift iOS Programming for Kids](#) Steffen D. Sommer, Jim Campagno, 2017-03-22 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

Fuel your quest for knowledge with Authored by is thought-provoking masterpiece, **Functional Programming In Swift** . This educational ebook, conveniently sized in PDF ( \*), is a gateway to personal growth and intellectual stimulation. Immerse yourself in the enriching content curated to cater to every eager mind. Download now and embark on a learning journey that promises to expand your horizons. .

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## **Functional Programming In Swift Introduction**

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