

Swift Programming The Big Nerd Ranch Big Nerd Ranch S

Swift ProgrammingThe Big Nerd Ranch GuidePearson Technology Group

iOS Programming: The Big Nerd Ranch Guide leads you through the essential concepts, tools, and techniques for developing iOS applications. After completing this book, you will have the know-how and the confidence you need to tackle iOS projects of your own. Based on Big Nerd Ranch's popular iOS Bootcamp course and its well-tested materials and methodology, this bestselling guide teaches iOS concepts and coding in tandem. The result is instruction that is relevant and useful. Throughout the book, the authors explain what's important and share their insights into the larger context of the iOS platform. You get a real understanding of how iOS development works, the many features that are available, and when and where to apply what you've learned.

Offers twenty-four lessons teaching how to build next-generation OS X and iOS apps using Apple's new programming language, with step-by-step instructions for such common tasks as using operators, iterating code with loops, and introducing generics.

Have you ever wanted to learn how to build IOS apps but don't know where to start? Have you tried some of the IOS books and blogs but still you could not get to the end? Do you feel like you need some fundamentals skills in Swift for you to get started? Well, Swift is the new language for you. No need to struggle any more. Swift will help you create both IOS8 and OSX apps in an intriguing and interesting way. If you happen to have some experience working with Objective-C, you might be asking yourself why shift to Swift. After all, you have been creating better apps for OS X for some years. But, did you know that apple had something in store before they released Swift? Whether you are an experienced programmer or just starting out in iOS app design, this book takes you through all the steps of designing an iOS app. If you want to learn how to create outstanding apps that will beat your competitor, this book helps you discover the secret. From Xcode and Swift, the foundation of modern iOS development, you will learn the building blocks of designing a great app so that you can dig deep into the app development. The Swift programming language is innovative, safe and young. So, how do you stay updated with the latest information and avoid being left behind with the most recent developments? Inside you will find from Beginners, Intermediate and Advanced Principles of Swift Programming: Step by step instructions on building apps Sample XCode projects Basic Introduction to Swift Discover major design principles that define iOS user experience. Manage data and manipulate images using effects and filters Latest changes to Swift 5.0 The ABI stability And many more... Don't wait. Grab your copy today.

Mastering Swift 5.3, Sixth Edition will enable you to grasp the Swift basic concepts as well as explore the key features of

Swift 5.3 with easy explanations and complete sets of examples

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.

Presents an introduction to Objective-C, covering such topics as classes and objects, data types, program looping, inheritance, polymorphism, variables, memory management, and archiving.

Updated for Xcode 11, Swift 5, and iOS 13, iOS Programming: The Big Nerd Ranch Guide leads you through the essential concepts, tools, and techniques for developing iOS applications. After completing this book, you will have the know-how and the confidence you need to tackle iOS projects of your own. Based on Big Nerd Ranch's popular iOS training and its well-tested materials and methodology, this bestselling guide teaches iOS concepts and coding in tandem. The result is instruction that is relevant and useful. Throughout the book, the authors explain what's important and share their insights into the larger context of the iOS platform. You get a real understanding of how iOS development works, the many features that are available, and when and where to apply what you've learned.

Serving the Nation on the borders is not a cup of tea it's always been a work that requires great courageous heart, Quick Decision Making abilities and furious instincts. In order to get selected in National Defence Academy and Naval Academy, countless candidates from all across the country keep vigorous eye on its entrance exam notifications, released twice in a year by Union Public Service Commission. The 2020-21 edition of 'Pathfinder NDA/NA Entrance Examination' is complete self study guide that is designed for the absolute preparation of Combined Defence Services Examination. The book has been revised carefully and consciously providing the entire syllabus, divided into 4 major sections that are sub divided into chapters, which is prescribed by the UPSC guidelines. Solved Papers from [2019 to 2017], more than 800

MCQs and Chapterwise Division of the previous years' questions are provided in the book, giving deep insight to the candidates about the papers pattern, types of questions and their weightage in the exam. Packed with such comprehensive study resources, this is a perfect book to receive the best guidance for the upcoming NDA/NA Entrance Exam to strive towards success. TABLE OF CONTENT NDA/NA Solved Paper 2019 II, NDA/NA Solved Paper 2019 I, NDA/NA Solved Paper 2018 II, NDA/NA Solved Paper 2018 I, NDA/NA Solved Paper 2017 II, Mathematics, General English, General Science, General Studies.

What will you learn from this book? Apple's new modern programming language, Swift, is slowly becoming the "go to" language for iOS and OS X development. The language will attract existing developers because of its modern features and prototyping tools, and it will attract new developers because of its less-steep learning curve. That said, Swift is deep, and contains many advanced concepts, constructs, and patterns. Developers need a way to learn these new features and understand them in context. Head First is an effective vehicle for this level of teaching, and Head First Swift is no exception. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Swift uses a visually rich format to engage your mind, rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multi-sensory learning experience is designed for the way your brain really works. 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.

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). Provides step-by-step instructions for learning Cocoa, discussing such topics as Objective-C, controls, helper objects, archiving, Nib files and NSWindowController, and creating interface builder palettes.

Features hands-on sample projects and exercises designed to help programmers create iOS applications.

Based on Big Nerd Ranch's popular iPhone Bootcamp class, iPhone Programming: The Big Nerd Ranch Guide leads you through the essential tools and techniques for developing applications for the iPhone, iPad, and iPod Touch. In each chapter, you will learn programming concepts and apply them immediately as you build an application or enhance one from a previous chapter. These applications have been carefully designed and tested to teach the associated concepts and to provide practice working with the standard development tools Xcode, Interface Builder, and Instruments. The guide's learn-while-doing approach delivers the practical knowledge and experience you need to design and build real-world applications. Here are some of the topics covered: Dynamic interfaces with animation Using the camera and photo library User location and mapping services Accessing accelerometer data Handling multi-touch gestures Navigation and tabbed applications Tables and creating custom rows Multiple ways of storing and loading data: archiving, Core Data, SQLite Communicating with

web services ALocalization/Internationalization "After many 'false starts' with other iPhone development books, these clear and concise tutorials made the concepts gel for me. This book is a definite must have for any budding iPhone developer." –Peter Watling, New Zealand, Developer of BubbleWrap

NOTE: This edition is now out of date, and does not conform with the current version of Swift. Please check out the newer edition instead, which is ISBN 9780134289779. LEARNING A NEW PROGRAMMING LANGUAGE can be daunting. With Swift, Apple has lowered the barrier of entry for developing iOS and OS X apps by giving developers an innovative new programming language for Cocoa and Cocoa Touch. If you are new to Swift, this book is for you. If you have never used C, C++, or Objective-C, this book is definitely for you. With this hands-on guide, you'll quickly be writing Swift code, using Playgrounds to instantly see the results of your work. Author Boisy G. Pitre gives you a solid grounding in key Swift language concepts—including variables, constants, types, arrays, and dictionaries—before he shows you how to use Swift's innovative Xcode integrated development environment to create apps for iOS and OS X. THIS BOOK INCLUDES: Detailed instruction, ample illustrations, and clear examples Real-world guidance and advice Best practices from an experienced Mac and iOS developer Emphasis on how to use Xcode, Playgrounds, and the REPL COMPANION WEBSITE: www.peachpit.com/swiftbeginners includes additional resources.

Move into iOS development by getting a firm grasp of its fundamentals, including the Xcode 10 IDE, Cocoa Touch, and the latest version of Apple's acclaimed programming language, Swift 5. With this thoroughly updated guide, you'll learn the Swift language, understand Apple's Xcode development tools, and discover the Cocoa framework. Explore Swift's object-oriented concepts Become familiar with built-in Swift types Dive deep into Swift objects, protocols, and generics Tour the lifecycle of an Xcode project Learn how nibs are loaded Understand Cocoa's event-driven design Communicate with C and Objective-C Once you master the fundamentals, you'll be ready to tackle the details of iOS app development with author Matt Neuburg's companion guide, Programming iOS 13.

While there are several books on programming for Mac OS X, Advanced Mac OS X Programming: The Big Nerd Ranch Guide is the only one that contains explanations of how to leverage the powerful underlying technologies. This book gets down to the real nitty-gritty. The third edition is updated for Mac OS X 10.5 and 10.6 and covers new technologies like DTrace, Instruments, Grand Central Dispatch, blocks, and NSOperation.

THE #1 BESTSELLING BOOK ON OBJECTIVE-C 2.0 Programming in Objective-C 2.0 provides the new programmer a complete, step-by-step introduction to Objective-C, the primary language used to develop applications for the iPhone, iPad, and Mac OS X platforms. The book does not assume previous experience with either C or object-oriented programming languages, and it includes many detailed, practical examples of how to put Objective-C to use in your everyday iPhone/iPad or Mac OS X programming tasks. A powerful yet simple object-oriented programming language that's based on the C programming language, Objective-C is widely available not only on OS X and the iPhone/iPad platform but across many operating systems that support the gcc compiler, including Linux, Unix, and Windows systems. The second edition of this book thoroughly covers the latest version of the language, Objective-C 2.0. And it shows not only how to take advantage of the Foundation framework's rich built-in library of

classes but also how to use the iPhone SDK to develop programs designed for the iPhone/iPad platform. Table of Contents 1 Introduction Part I: The Objective-C 2.0 Language 2 Programming in Objective-C 3 Classes, Objects, and Methods 4 Data Types and Expressions 5 Program Looping 6 Making Decisions 7 More on Classes 8 Inheritance 9 Polymorphism, Dynamic Typing, and Dynamic Binding 10 More on Variables and Data Types 11 Categories and Protocols 12 The Preprocessor 13 Underlying C Language Features Part II: The Foundation Framework 14 Introduction to the Foundation Framework 15 Numbers, Strings, and Collections 16 Working with Files 17 Memory Management 18 Copying Objects 19 Archiving Part III: Cocoa and the iPhone SDK 20 Introduction to Cocoa 21 Writing iPhone Applications Part IV: Appendixes A Glossary B Objective-C 2.0 Language Summary C Address Book Source Code D Resources

Swift is the definitive language for Apple development today and it's a vital part of any iOS and macOS developer's skill set. The Mastering Swift book over the years has established itself as one of the popular choices for an in-depth and practical guide on Swift programming language amongst developers. The latest fifth edition is fully ...

Front-end development targets the browser, putting your applications in front of the widest range of users regardless of device or operating system. This guide will give you a solid foundation for creating rich web experiences across platforms. Focusing on JavaScript, CSS3, and HTML5, this book is for programmers with a background in other platforms and developers with previous web experience who need to get up to speed quickly on current tools and best practices. Each chapter of this book will guide you through essential concepts and APIs as you build a series of applications. You will implement responsive UIs, access remote web services, build applications with Ember.js, and more. You will also debug and test your code with cutting-edge development tools and harness the power of Node.js and the wealth of open-source modules in the npm registry. After working through the step-by-step example projects, you will understand how to build modern websites and web applications.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Through the authors' carefully constructed explanations and examples, you will develop an understanding of Swift grammar and the elements of effective Swift style. This book is written for Swift 3.0 and will also show you how to navigate Xcode 8 and get the most out of Apple's documentation. 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.

Android Programming: The Big Nerd Ranch Guide is an introductory Android book for programmers with Java experience. Based on Big Nerd Ranch's popular Android Bootcamp course, this guide will lead you through the wilderness using hands-on example apps combined with clear explanations of key concepts and APIs. This book focuses on practical techniques for developing apps compatible with Android 4.1 (Jelly Bean) and up, including coverage of Lollipop and material design. Write and run code every step of the way, creating apps that integrate with other Android apps, download and display pictures from the web, play sounds,

and more. Each chapter and app has been designed and tested to provide the knowledge and experience you need to get started in Android development. Big Nerd Ranch specializes in developing and designing innovative applications for clients around the world. Our experts teach others through our books, bootcamps, and onsite training. Whether it's Android, iOS, Ruby and Ruby on Rails, Cocoa, Mac OS X, JavaScript, HTML5 or UX/UI, we've got you covered. The Android team is constantly improving and updating Android Studio and other tools. As a result, some of the instructions we provide in the book are no longer correct. You can find an addendum addressing breaking changes at:

<https://github.com/bignerdranch/AndroidCourseResources/raw/master/2ndEdition/Errata/2eAddendum.pdf>.

Get started fast with Swift 2 programming for iOS and OS X Learning Swift 2 Programming is a fast-paced, hands-on introduction to writing production-quality iOS and OS X apps with Apple's programming language. Written for developers with experience in any modern language, this book explains Swift simply and clearly, using relevant examples that solve realistic problems. Author Jacob Schatz's popular YouTube video tutorials have already helped thousands of Apple developers get started with Swift. Now, he helps you take full advantage of Swift's advanced design, remarkable performance, and streamlined development techniques. Step by step, you'll move from basic syntax through advanced features such as closures and generics—discovering helpful tips and tricks along the way. After you've mastered Swift's building blocks and learned about its key innovations, a full section of case studies walks you through building complete apps from scratch. Learn how to: Compare Swift with Objective-C, JavaScript, Python, Ruby, and C Collect data with arrays and dictionaries, and store it with variables and constants Group commonly used code into functions for easy reuse Structure your code with enums, structs, and classes Use generics to get more done with less code Write closures to share small blocks of functionality Use optionals to write more robust, crash-resistant, and cleaner code Integrate existing Objective-C code into new Swift apps Program on the bit and byte levels with advanced operators Implement efficient design patterns with protocols and delegates Create animated 2D games with SpriteKit, and apps with UIKit

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.

Summary Now updated for Swift 5! Swift is more than just a fun language to build iOS applications with. It features a host of powerful tools that, if effectively used, can help you create even better apps with clean, crystal-clear code and awesome features. Swift in Depth is designed to help you unlock these tools and quirks and get developing next-gen apps, web services, and more! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from

Manning Publications. About the Technology It's fun to create your first toy iOS or Mac app in Swift. Writing secure, reliable, professional-grade software is a different animal altogether. The Swift language includes an amazing set of high-powered features, and it supports a wide range of programming styles and techniques. You just have to roll up your sleeves and learn Swift in depth. About the Book Swift in Depth guides you concept by concept through the skills you need to build professional software for Apple platforms, such as iOS and Mac; also on the server with Linux. By following the numerous concrete examples, enlightening explanations, and engaging exercises, you'll finally grok powerful techniques like generics, efficient error handling, protocol-oriented programming, and advanced Swift patterns. Author Tjeerd in 't Veen reveals the high-value, difficult-to-discover Swift techniques he's learned through his own hard-won experience. What's inside Covers Swift 5 Writing reusable code with generics Iterators, sequences, and collections Protocol-oriented programming Understanding map, flatMap, and compactMap Asynchronous error handling with ResultBest practices in Swift About the Reader Written for advanced-beginner and intermediate-level Swift programmers. About the Author Tjeerd in 't Veen is a senior software engineer and architect in the mobile division of a large international banking firm. Table of Contents Introducing Swift in depth Modeling data with enums Writing cleaner properties Making optionals second nature Demystifying initializers Effortless error handling Generics Putting the pro in protocol-oriented programming Iterators, sequences, and collections Understanding map, flatMap, and compactMap Asynchronous error handling with Result Protocol extensions Swift patterns Delivering quality Swift code Where to Swift from here

The Django framework makes it easier than ever for Python programmers to create dynamic, database-driven websites. This text covers everything developers need to know to plan, write, deploy, secure, and administer world-class Django web sites.

Provides information on how to build a successful iPhone game and includes instructions for creating a 2D tile map game.

Learn How to Program with Swift 5.5! Swift is the easiest way to get started developing on Apple's platforms: iOS, iPadOS, macOS, watchOS and tvOS. In this book, you'll learn the basics of Swift from getting started with playgrounds to simple operations to building your own types. Everything you'll learn is platform-neutral; you'll have a firm understanding of Swift by the end of this book, and you'll be ready to move on to whichever app platform you're interested in. Who This Book Is For: This book is for complete beginners to Swift. No prior programming experience is necessary! Topics Covered in The Swift Apprentice Playground basics: Learn about the coding environment where you can quickly and easily try out your code as you learn. Basic types: Numbers and strings are the basic kinds of data in any app - learn how to use them

in Swift. Flow control: Your code doesn't always run straight through - learn how to use conditions and decide what to do. Functions: Group your code together into reusable chunks to run and pass around. Collection types: Discover the many ways Swift offers to store and organize data into collections. Protocols & protocol-oriented programming: Define protocols to make your code more interface-based and compositional. Advanced topics: Learn how to create custom operators, organize your code, write tests, manage memory, serialize your types, concurrency and so much more. After reading this book and completing your Swift apprenticeship by working through the included exercises and challenges, you'll be ready to take on app development on the platform of your choice!

Includes Xcode 6 text commands and visual reference guide on perforated page.

The perfect beginner's guide to Objective-C 2.0, the essential language for over 1,000,000 Mac OS X, iPhone, and iPod touch developers!

- Concise, readable, and friendly: designed to get new Objective-C programmers up and running fast!
- Covers everything readers need to know, from basic Object-Oriented Programming to general C concepts.
- Walks through code examples one line at a time, and also offers high-level explanations what's happening 'behind the scenes' of Objective-C programs.

Long-time OS X and iPhone developer Robert Clair begins with a concise review of the object-oriented and C concepts that all Objective-C developers need to know. Next, he introduces the basics of the Objective-C language, walking through code examples one line at a time, and offering high-level explanations of what's happening 'behind the scenes.' Clair concludes with advanced topics carefully chosen for their real-world value - including detailed coverage of memory management and the differences between 32-bit and 64-bit programs. Throughout, Learning Objective-C 2.0 focuses consistently on the features, concepts, and techniques that matter most in day-to-day programming - not complex 'edge cases' or abstract theory. The result: an outstanding first book for every beginner who wants to program for Apple's fast-growing iPhone and Mac OS X platforms. Note: This will be the entry-level book for Objective-C newcomers. Readers who complete it can move on to Stephen Kochan's highly-regarded Programming in Objective-C 2.0 and then to our more specialized Apple development titles, such as David Chisnall's Cocoa Developer's Handbook, Fritz Anderson Xcode 3.x Unleashed, and Aaron Hillegass's Cocoa Programming for Mac OS X Third Ed. Move into iOS development by getting a firm grasp of its fundamentals, including the Xcode 12 IDE, Cocoa Touch, and the latest version of Apple's acclaimed programming language, Swift 5.3. With this thoroughly updated guide, you'll learn the Swift language, understand Apple's Xcode development tools, and discover the Cocoa framework. Become familiar with built-in Swift types Dive deep into Swift objects, protocols, and generics Tour the life cycle of an Xcode project Learn how nibs are loaded Understand Cocoa's event-driven design Communicate with C and Objective-C In this edition, catch up on the latest iOS programming features: Multiple trailing closures Code editor document tabs New

Simulator features Resources in Swift packages Logging and testing improvements And more! Once you master the fundamentals, you'll be ready to tackle the details of iOS app development with author Matt Neuburg's companion guide, *Programming iOS 14*.

Want to write iOS apps or desktop Mac applications? This introduction to programming and the Objective-C language is your first step on the journey from someone who uses apps to someone who writes them. Based on Big Nerd Ranch's popular Objective-C Bootcamp, *Objective-C Programming: The Big Nerd Ranch Guide* covers C, Objective-C, and the common programming idioms that enable developers to make the most of Apple technologies. Compatible with Xcode 5, iOS 7, and OS X Mavericks (10.9), this guide features short chapters and an engaging style to keep you motivated and moving forward. At the same time, it encourages you to think critically as a programmer. Here are some of the topics covered: Using Xcode, Apple's documentation, and other tools Programming basics: variables, loops, functions, etc. Objects, classes, methods, and messages Pointers, addresses, and memory management with ARC Properties and Key-Value Coding (KVC) Class extensions Categories Classes from the Foundation framework Blocks Delegation, target-action, and notification design patterns Key-Value Observing (KVO) Runtime basics

Get quick answers for developing and debugging applications with Swift, Apple's multi-paradigm programming language. This pocket reference is the perfect on-the-job tool for learning Swift's modern language features, including type safety, generics, type inference, closures, tuples, automatic memory management, and support for Unicode. Designed to work with Cocoa and Cocoa Touch, Swift can be used in tandem with Objective-C, and either of these languages can call APIs implemented in the other. Swift is still evolving, but it's clear that Apple sees it as the future language of choice for iOS and OS X software development. Topics include: Swift's Run-Eval-Print-Loop (REPL) and interactive playgrounds Supported data types, such as strings, arrays, and dictionaries Variables and constants Program flow: loops and conditional execution Classes, structures, enumerations, functions, and protocols Closures: similar to blocks in Objective-C and lambdas in C# Optionals: values that can explicitly have no value Operators, operator overloading, and custom operators Access control: restricting access to types, methods, and properties Built-in global functions and their parameter requirements

Kotlin is a statically typed programming language designed to interoperate with Java and fully supported by Google on the Android operating system. Based on Big Nerd Ranch's popular Kotlin Essentials course, this guide shows you how to work effectively with the Kotlin programming language through hands-on examples and clear explanations of key Kotlin concepts and foundational APIs. Written for Kotlin 1.2, this book will also introduce you to JetBrains' IntelliJ IDEA development environment. Whether you are an experienced Android developer looking for modern features beyond what Java offers or a new developer ready to learn your first programming language, the authors will guide you from first principles to advanced usage of Kotlin. By the end of this book, you will be empowered to create reliable, concise applications in Kotlin.

On December 8, 2013, US President Barack Obama "asked every American to give it a shot to learn to code" (watch it here),

kicking off the Hour of Code campaign for Computer Science Education Week 2013. "Learning these skills isn't just important for your future, it's important for our country's future," President Obama said. The message is clear: coding (aka. programming) is an important skill for this Information Age, and many will agree. Some might wonder: there are many "how to program" books, why another one? A typical how-to-program book will go through the programming concepts, syntax and followed by demonstrations with simple examples. I have read dozens of them (for different programming languages) and taught this way at universities. It was not an effective approach. It is more like a teacher dumping knowledge upon students. I believe a better way is to engage students in doing carefully selected programming exercises and guiding them solving interesting and useful computer programs. New programming concepts are introduced gradually. I put this into practices by teaching my 13-year old daughter Courtney. This book is the outcome of the journey.

Covering the bulk of what you need to know to develop full-featured applications for OS X, this edition is updated for OS X Yosemite (10.10), Xcode 6, and Swift. Written in an engaging tutorial style and class-tested for clarity and accuracy, it is an invaluable resource for any Mac programmer. The authors introduce the two most commonly used Mac developer tools: Xcode and Instruments. They also cover the Swift language, basic application architecture, and the major design patterns of Cocoa. Examples are illustrated with exemplary code, written in the idioms of the Cocoa community, to show you how Mac programs should be written. After reading this book, you will know enough to understand and utilize Apple's online documentation for your own unique needs. And you will know enough to write your own stylish code. This edition was written for Xcode 6.3 and Swift 1.2. At WWDC 2015, Apple announced Xcode 7 and Swift 2, both of which introduce significant updates that (along with some changes to Cocoa for OS X 10.11) affect some of the exercises in this book. We have prepared a companion guide listing the changes needed to use Xcode 7 to work through the exercises in the book; it is available at <https://github.com/bignerdranch/cocoa-programming-for-osx-5e/blob/master/Swift2.md>.

Swift 5.3 is a powerful and accessible programming language that offers a variety of features to build robust mobile, desktop, and server-side applications and machine learning models. This book will help you gain a solid understanding of Swift programming using focused recipes for building Swift apps efficiently.

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