

Kotlin Programming The Big Nerd Ranch Guide

Summary Maintaining poor legacy code, interpreting cryptic comments, and writing the same boilerplate over and over can suck the joy out of your life as a Java developer. Fear not! There's hope! Kotlin is an elegant JVM language with modern features and easy integration with Java. The Joy of Kotlin teaches you practical techniques to improve abstraction and design, to write comprehensible code, and to build maintainable bug-free applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Your programming language should be expressive, safe, flexible, and intuitive, and Kotlin checks all the boxes! This elegant JVM language integrates seamlessly with Java, and makes it a breeze to switch between OO and functional styles of programming. It's also fully supported by Google as a first-class Android language. Master the powerful techniques in this unique book, and you'll be able to take on new challenges with increased confidence and skill. About the Book The Joy of Kotlin teaches you to write comprehensible, easy-to-maintain, safe programs with Kotlin. In this expert guide, seasoned engineer Pierre-Yves Saumont teaches you to approach common programming challenges with a fresh, FP-inspired perspective. As you work through the many examples, you'll dive deep into handling errors and data properly, managing state, and taking advantage of laziness. The author's down-to-earth examples and experience-driven insights will make you a better—and more joyful—developer! What's inside Programming with functions Dealing with optional data Safe handling of errors and exceptions Handling and sharing state mutation About the Reader Written for intermediate Java or Kotlin developers. About the Author Pierre-Yves Saumont is a senior software engineer at Alcatel-Submarine Networks. He's the author of Functional Programming in Java (Manning, 2017). Table of Contents Making programs safer Functional programming in Kotlin: An overview Programming with functions Recursion, corecursion, and memoization Data handling with lists Dealing with optional data Handling errors and exceptions Advanced list handling Working with laziness More data handling with trees Solving problems with advanced trees Functional input/output Sharing mutable states with actors Solving common problems functionally

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.

There are many Android programming guides that give you the basics. This book goes beyond simple apps into many areas of Android development that you simply will not find in competing books. Whether you want to add home screen app widgets to your arsenal, or create more complex maps, integrate multimedia features like the camera, integrate tightly with other applications, or integrate scripting languages, this book has you covered. Moreover, this book has over 50 pages of Honeycomb-specific material, from dynamic fragments, to integrating navigation into the action bar, to creating list-based app widgets. It also has a chapter on using NFC, the wireless technology behind Google Wallet and related services. This book is one in CommonsWare's growing series of Android related titles, including "The Busy Coder's Guide to Android Development," "Android Programming Tutorials," and the upcoming "Tuning Android Applications." Table of Contents WebView,

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Inside and Out Crafting Your Own Views More Fun With ListViews Creating Drawables Home Screen App Widgets Interactive Maps Creating Custom Dialogs and Preferences Advanced Fragments and the Action Bar Animating Widgets Using the Camera Playing Media Handling System Events Advanced Service Patterns Using System Settings and Services Content Provider Theory Content Provider Implementation Patterns The Contacts ContentProvider Searching with SearchManager Introspection and Integration Tapjacking Working with SMS More on the Manifest Device Configuration Push Notifications with C2DM NFC The Role of Scripting Languages The Scripting Layer for Android JVM Scripting Languages Reusable Components Testing Production

Want to get started building applications for Android, the world's hottest, fast-growing mobile platform? Already building Android applications and want to get better at it? This book brings together all the expert guidance—and code—you'll need! Completely up-to-date to reflect the newest and most widely used Android SDKs, *The Android Developer's Cookbook* is the essential resource for developers building apps for any Android device, from phones to tablets. Proven, modular recipes take you from the absolute basics to advanced location-based services, security techniques, and performance optimization. You'll learn how to write apps from scratch, ensure interoperability, choose the best solutions for common problems, and avoid development pitfalls. Coverage includes: Implementing threads, services, receivers, and other background tasks Providing user alerts Organizing user interface layouts and views Managing user-initiated events such as touches and gestures Recording and playing audio and video Using hardware APIs available on Android devices Interacting with other devices via SMS, web browsing, and social networking Storing data efficiently with SQLite and its alternatives Accessing location data via GPS Using location-related services such as the Google Maps API Building faster applications with native code Providing backup and restore with the Android Backup Manager Testing and debugging apps throughout the development cycle Turn to *The Android Developer's Cookbook* for proven, expert answers—and the code you need to implement them. It's all you need to jumpstart any Android project, and create high-value, feature-rich apps that sell!

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

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

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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

Programmers don't just use Kotlin, they love it. Even Google has adopted it as a first-class language for Android development. With Kotlin, you can intermix imperative, functional, and object-oriented styles of programming and benefit from the approach that's most suitable for the problem at hand. Learn to use the many features of this highly concise, fluent, elegant, and expressive statically typed language with easy-to-understand examples. Learn to write easy-to-maintain, high-performing JVM and Android applications, create DSLs, program asynchrony, and much more. Kotlin is a highly concise, elegant, fluent, and expressive statically typed multi-paradigm language. It is one of the few languages that compiles down to both Java bytecode and JavaScript. You can use it to build server-side, front-end, and Android applications. With Kotlin, you need less code to accomplish your tasks, while keeping the code type-safe and less prone to error. If you want to learn the essentials of Kotlin, from the fundamentals to more advanced concepts, you've picked the right book. Fire up your favorite IDE and practice hundreds of examples and exercises to sharpen your Kotlin skills. Learn to build standalone small programs to run as scripts, create type safe code, and then carry that knowledge forward to create fully object-oriented and functional style code that's easier to extend. Learn how to program with elegance but without compromising efficiency or performance, and how to use metaprogramming to build highly expressive code and create internal DSLs that exploit the fluency of the language. Explore coroutines, program asynchrony, run automated tests, and intermix Kotlin with Java in your enterprise applications. This book will help you master one of the few languages that you can use for the entire full stack - from the server to mobile devices - to create performant, concise, and easy to maintain applications. What You Need: To try out the examples in the book you'll need a computer with Kotlin SDK, JDK, and a text editor or a Kotlin IDE installed in it.

Teach yourself programming starting with the basics and progressing to a series of exciting projects using Kotlin, one of today's hottest programming languages. This book starts with the absolute basics and then introduces just enough syntax to get into some fascinating projects. These include text processing: a statistical analysis of Jane Austen's novels, solving anagrams, and working with palindromes; image processing: cropping and resizing images, and pixel transformation; and computer vision: finding digits, parsing images, and reading speed signs. The projects are developed in tiny steps and complete solutions are provided. Some of these projects include core data science concepts, giving you skills in one of the most important areas of modern programming. Along the way you'll cover functional programming, object-oriented programming (OOP), refactoring, and writing unit tests. After reading Learn to Program with Kotlin, you'll come away with practical insights and code to get you started right away with programming using Kotlin for your own projects. What You Will Learn Gain the basics of Kotlin using the IntelliJ Java IDE Implement OOP with Kotlin along with unit testing and code refactoring using a series of text-related projects Harness functional programming with Kotlin by building an image-processing library Write software to locate and read speed signs in photos Who Is This Book For Anyone who wants to learn how to program or code from scratch. Also great for experienced programmers who want to know more about Kotlin.

Summary Kotlin in Action guides experienced Java developers from the language basics of Kotlin all the way through

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building applications to run on the JVM and Android devices. Foreword by Andrey Breslav, Lead Designer of Kotlin. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Developers want to get work done - and the less hassle, the better. Coding with Kotlin means less hassle. The Kotlin programming language offers an expressive syntax, a strong intuitive type system, and great tooling support along with seamless interoperability with existing Java code, libraries, and frameworks. Kotlin can be compiled to Java bytecode, so you can use it everywhere Java is used, including Android. And with an efficient compiler and a small standard library, Kotlin imposes virtually no runtime overhead. About the Book Kotlin in Action teaches you to use the Kotlin language for production-quality applications. Written for experienced Java developers, this example-rich book goes further than most language books, covering interesting topics like building DSLs with natural language syntax. The authors are core Kotlin developers, so you can trust that even the gnarly details are dead accurate. What's Inside Functional programming on the JVM Writing clean and idiomatic code Combining Kotlin and Java Domain-specific languages About the Reader This book is for experienced Java developers. About the Author Dmitry Jemerov and Svetlana Isakova are core Kotlin developers at JetBrains. Table of Contents PART 1 - INTRODUCING KOTLIN Kotlin: what and why Kotlin basics Defining and calling functions Classes, objects, and interfaces Programming with lambdas The Kotlin type system PART 2 - EMBRACING KOTLIN Operator overloading and other conventions Higher-order functions: lambdas as parameters and return values Generics Annotations and reflection DSL construction In this book, we take you on a fun, hands-on and pragmatic journey to learning Android application development using Kotlin. You'll start building your first Android app from scratch within minutes. Every section is written in a bite-sized manner and straight to the point as I don't want to waste your time (and most certainly mine) on the content you don't need. In the end, you will have the skills to create an app and submit it to the app store. In the course of this book, we will cover: Chapter 1: Introduction & BMI Calculator App Chapter 2: Quotes App Using RecyclerView Chapter 3: To Do List App Using RecyclerView & Shared Preferences Chapter 4: To Do List with Realm Chapter 5: Connecting to an API: Cryptocurrency Price Tracker Chapter 6: Connecting to GitHub API - Search GitHub Users App Chapter 7: Face Detection, Text Recognition with ML Kit Chapter 8: Publishing Our App on AppStore The goal of this book is to teach you Android development in a manageable way without overwhelming you. We focus only on the essentials and cover the material in a hands-on practice manner for you to code along. Requirements No previous knowledge of Android development or Kotlin required, but you should have basic programming knowledge. We will learn how to make Android apps while at the same time learning the Kotlin programming language.

Choose the best approach for your app and implement your solution quickly by leveraging complete projects. This book

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is a collection of practical projects that use advanced Android techniques and approaches, written by Android instructor Mark Wickham. Mark has taught a series of popular classes at Android development conferences since 2013 and Practical Android covers content from his most popular classes. Each chapter covers an important concept and provides you with a deep dive into the implementation. The book is an ideal resource for developers who have some development experience, but may not be Android or mobile development experts. Each chapter includes at least one complete project to show the reader how to implement the concepts. What You'll Learn Apply JSON in Android Work with connectivity, which covers all aspects of HTTP in Android Determine if your server is reachable Use lazy loading, a common pattern for most apps and which is not trivial to implement Take advantage of remote crashlogs to implement a solution for your apps so you know when they crash and can provide timely fixes Implement push messaging to take your app to the next level Develop with Android Audio, which provides complete coverage of all the Android audio APIs and synthesis engines Who This Book Is For Those with prior experience with using Android and have a strong Java background.

Build Android apps and learn the essentials of the popular Kotlin programming language and APIs. This book will teach you the key Kotlin skills and techniques important for creating your very own Android apps. Apart from introducing Kotlin programming, Learn Kotlin for Android Development stresses clean code principles and introduces object-oriented and functional programming as a starting point for developing Android apps. After reading and using this book, you'll have a foundation to take away and apply to your own Kotlin-based Android app development. You'll be able to write useful and efficient Kotlin-based apps for Android, using most of the features Kotlin as a language has to offer. What You Will Learn Build your first Kotlin app that runs on Android Work with Kotlin classes and objects for Android Use constructs, loops, decisions, and scopes Carry out operations on data Master data containers, arrays, and collections Handle exceptions and access external libraries Who This Book Is For Very little programming experience is required: no prior knowledge of Kotlin needed.

Presents a guide to the concepts and coding of iOS to create a variety of applications, covering such topics as debugger, core location, reference counting, blocks and categories in Objective-C, and push notifications.

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

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principles to advanced usage of Kotlin. By the end of this book, you will be empowered to create reliable, concise applications in Kotlin.

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.

What will you learn from this book? Head First Kotlin is a complete introduction to coding in Kotlin. This hands-on book helps you learn the Kotlin language with a unique method that goes beyond syntax and how-to manuals and teaches you how to think like a great Kotlin developer. You'll learn everything from language fundamentals to collections, generics, lambdas, and higher-order functions. Along the way, you'll get to play with both object-oriented and functional programming. If you want to really understand Kotlin, this is the book for you. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Kotlin 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 multisensory learning experience is designed for the way your brain really works.

Build smart looking Kotlin apps with UI and functionality for the Android platform Key Features Start your Android programming career, or just have fun publishing apps on Google Play marketplace The first-principle introduction to Kotlin through Android, to start building easy-to-use apps Learn by example and build four real-world apps and dozens of mini-apps Book Description Android is the most popular mobile operating system in the world and Kotlin has been declared by Google as a first-class programming language to build Android apps. With the imminent arrival of the most anticipated Android update, Android 10 (Q), this book gets you started building apps compatible with the latest version of Android. It adopts a project-style approach, where we focus on teaching the fundamentals of Android app development and the essentials of Kotlin by building three real-world apps and more than a dozen mini-apps. The book begins by giving you a strong grasp of how Kotlin and Android work together before gradually moving onto exploring the various Android APIs for building stunning apps for Android with ease. You will learn to make your apps more presentable using different layouts. You will dive deep into Kotlin programming concepts such as variables, functions, data structures, Object-Oriented code, and how to connect your Kotlin code to the UI. You will learn to add multilingual text so that your app is accessible to millions of more potential users. You will learn how animation, graphics, and sound effects work and are implemented in your Android app. By the end of the book, you will have sound knowledge about significant Kotlin programming concepts and start building your own fully featured Android apps. What you will learn Learn how Kotlin and Android work together Build a graphical drawing app using Object-Oriented Programming (OOP) principles Build

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beautiful, practical layouts using ScrollView, RecyclerView, NavigationView, ViewPager and CardView Write Kotlin code to manage an apps' data using different strategies including JSON and the built-in Android SQLite database Add user interaction, data captures, sound, and animation to your apps Implement dialog boxes to capture input from the user Build a simple database app that sorts and stores the user's data Who this book is for This book is for people who are new to Kotlin, Android and want to develop Android apps.It also acts as a refresher for those who have some experience in programming with Android and Kotlin.

Use Kotlin to build Android apps, web applications, and more—while you learn the nuances of this popular language. With this unique cookbook, developers will learn how to apply thisJava-based language to their own projects. Both experienced programmers and those new to Kotlin will benefit from the practical recipes in this book. Author Ken Kousen (Modern Java Recipes) shows you how to solve problems with Kotlin by concentrating on your own use cases rather than on basic syntax. You provide the contextand this book supplies the answers. Already big in Android development, Kotlin can be used anywhere Java is applied, as well as for iOS development, native applications, JavaScriptgeneration, and more. Jump in and build meaningful projects with Kotlin today. Apply functional programming concepts, including lambdas, sequences, and concurrency See how to use delegates, late initialization, and scope functions Explore Java interoperability and access Java libraries using Kotlin Add your own extension functions Use helpful libraries such as JUnit 5 Get practical advice for working with specific frameworks, like Android and Spring

For both beginning and experienced programmers! From the author of the multi-award-winning Thinking in C++ and Thinking in Java together with a member of the Kotlin language team comes a book that breaks the concepts into small, easy-to-digest "atoms," along with exercises supported by hints and solutions directly inside IntelliJ IDEA! No programming background necessary. Summaries for experienced programmers. Easy steps via very small chapters ("atoms"). Free accompanying exercises/solutions within IntelliJ Idea. Gives you a strong Kotlin foundation. Kotlin is cleaner, more consistent and far more powerful than Java. Increase programming productivity with Kotlin's clear, concise syntax. Produce safer, more reliable programs. Kotlin easily interacts with Java. Effortlessly migrate by adding pieces of Kotlin to an existing Java project. Support for Windows, Mac and Linux. Free version of IntelliJ IDEA includes extensive Kotlin support. Book resources, live seminars, workshops and consulting available at AtomicKotlin.com.

Fully updated for Android Studio 4.0, Android 10 (Q), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types,

flow control, functions, lambdas, coroutines and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 4.0 and the Android SDK are also covered in detail including the Layout Editor, the `ConstraintLayout` and `ConstraintSet` classes, `MotionLayout` animation, constraint chains and barriers, view binding, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

In just 21 days, you can acquire the knowledge and skills necessary to develop applications on your computer, web servers, and mobile devices. With this complete tutorial you'll quickly master the basics and then move on to more advanced features and concepts. Completely updated for Java 11 and 12, this book teaches you about the Java language and how to use it to create applications for any computing environment. By the time you have finished the book, you'll have well-rounded knowledge of Java and the Java class libraries. No previous programming experience required. By following the 21 carefully organized lessons in this book, anyone can learn the basics of Java programming. Learn at your own pace. You can work through each chapter sequentially to make sure you thoroughly understand all the concepts and methodologies, or you can focus on specific lessons to learn the techniques that interest you most. Test your knowledge. Each chapter ends with a Workshop section filled with questions, answers, and exercises for further study. There are even certification practice questions. Completely revised, updated, and expanded to cover the latest features of Java 11 and 12 Learn to develop Java applications using NetBeans—an excellent programming platform Easy-to-understand, practical examples clearly illustrate the fundamentals of Java programming Discover how to quickly

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develop programs with a graphical user interface Find out about JDBC programming with the Derby database Learn how to use Inner Classes and Lambda Expressions Learn rapid application development with Apache NetBeans Create a game using Java

Start building native Android apps the modern way in Kotlin with Jetpack's expansive set of tools, libraries, and best practices. Learn how to create efficient, resilient views with Fragments and share data between the views with ViewModels. Use Room to persist valuable data quickly, and avoid NullPointerExceptions and Java's verbose expressions with Kotlin. You can even handle asynchronous web service calls elegantly with Kotlin coroutines. Achieve all of this and much more while building two full-featured apps, following detailed, step-by-step instructions. With Kotlin and Jetpack, Android development is now smoother and more enjoyable than ever before. Dive right in by developing two complete Android apps. With the first app, Penny Drop, you create a full game complete with random die rolls, customizable rules, and AI opponents. Build lightweight Fragment views with data binding, quickly and safely update data with ViewModel classes, and handle all app navigation in a single location. Use Kotlin with Android-specific Kotlin extensions to efficiently write null-safe code without all the normal boilerplate required for pre-Jetpack + Kotlin apps. Persist and retrieve data as full objects with the Room library, then display that data with ViewModels and list records in a RecyclerView. Next, you create the official app for the Android Baseball League. It's a fake league but a real app, where you use what you learn in Penny Drop and build up from there. Navigate all over the app via a Navigation Drawer, including specific locations via Android App Links. Handle asynchronous and web service calls with Kotlin Coroutines, display that data smoothly with the Paging library, and send notifications to a user's phone from your app. Come build Android apps the modern way with Kotlin and Jetpack! What You Need: You'll need the Android SDK, a text editor, and either a real Android device or emulator for testing. While not strictly required, it's assumed you're using Android Studio, which comes with the Android SDK and simplifies creating an emulator. Also, a few examples require JDK 1.8 or later, though all of these pieces can be completed in other ways when using JDK 1.6.

Delve into the world of Kotlin and learn to build powerful Android and web applications Key Features Learn the fundamentals of Kotlin to write high-quality code Test and debug your applications with the different unit testing frameworks in Kotlin Explore Kotlin's interesting features such as null safety, reflection, and annotations Book Description Kotlin is a general-purpose programming language used for developing cross-platform applications. Complete with a comprehensive introduction and projects covering the full set of Kotlin programming features, this book will take you through the fundamentals of Kotlin and get you up to speed in no time. Learn Kotlin Programming covers the installation, tools, and how to write basic programs in Kotlin. You'll learn how to implement object-oriented programming in Kotlin and

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easily reuse your program or parts of it. The book explains DSL construction, serialization, null safety aspects, and type parameterization to help you build robust apps. You'll learn how to destructure expressions and write your own. You'll then get to grips with building scalable apps by exploring advanced topics such as testing, concurrency, microservices, coroutines, and Kotlin DSL builders. Furthermore, you'll be introduced to the `kotlinx.serialization` framework, which is used to persist objects in JSON, Protobuf, and other formats. By the end of this book, you'll be well versed with all the new features in Kotlin and will be able to build robust applications skillfully. What you will learn

- Explore the latest Kotlin features in order to write structured and readable object-oriented code
- Get to grips with using lambdas and higher-order functions
- Write unit tests and integrate Kotlin with Java code
- Create real-world apps in Kotlin in the microservices style
- Use Kotlin extensions with the Java collections library
- Uncover destructuring expressions and find out how to write your own
- Understand how Java-nullable code can be integrated with Kotlin features

Who this book is for If you're a beginner or intermediate programmer who wants to learn Kotlin to build applications, this book is for you. You'll also find this book useful if you're a Java developer interested in switching to Kotlin.

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, 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 Oreo and Android "P." Write and run code every step of the way, using Android Studio to create apps that integrate with other 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.

Each book aims to teach an important technology or programming language and is designed to take a person from being a novice to a professional by including the most essential information and explaining step by step how to put together real-world projects.

Familiarize yourself with all of Kotlin's features with this in-depth guide

About This Book Get a thorough introduction to Kotlin Learn to use Java code alongside Kotlin without any hiccups Get a complete overview of null safety, Generics, and many more interesting features

Who This Book Is For The book is for existing Java developers who want to learn more about an alternative JVM language. If you want to see what Kotlin has to offer, this book is ideal for you.

What You Will Learn Use new features to write structured and readable object-oriented code Find out how to use lambdas and higher order functions to write clean, reusable, and simple code Write unit tests and integrate Kotlin tests with Java code in a transitioning code base Write real-world production code in Kotlin in the style of microservices Leverage Kotlin's extensions to the Java collections library Use destructuring expressions and find out how to write your own Write code that avoids null pointer errors and see how Java-nullable code can integrate with features in a Kotlin codebase Discover how to write functions in Kotlin, see the new features available, and extend existing libraries Learn to write an algebraic data types and figure out when they should be used In Detail

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Kotlin has been making waves ever since it was open sourced by JetBrains in 2011; it has been praised by developers across the world and is already being adopted by companies. This book provides a detailed introduction to Kotlin that shows you all its features and will enable you to write Kotlin code to production. We start with the basics: get you familiar with running Kotlin code, setting up, tools, and instructions that you can use to write basic programs. Next, we cover object oriented code: functions, lambdas, and properties – all while using Kotlin's new features. Then, we move on to null safety aspects and type parameterization. We show you how to destructure expressions and even write your own. We also take you through important topics like testing, concurrency, microservices, and a whole lot more. By the end of this book you will be able to compose different services and build your own applications. Style and approach An easy to follow guide that covers the full set of features in Kotlin programming.

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>.

This book will equip you to create high-quality, visually appealing Android 11 apps from scratch with Kotlin. You'll discover a wide range of real-world development challenges faced by developers and explore various techniques to overcome them.

Master Android development using a variety of Kotlin features About This Book Leverage specific features of Kotlin to ease Android application development An illustrative guide that will help you write code based Kotlin language to build robust Android applications Filled with various practical examples build amazing Android project using Kotlin so you can easily apply your knowledge to real world scenarios Who This Book Is For The book is for developers who want to build amazing Android applications in an easy and effective way. Basic knowledge of Kotlin is assumed, but you do not need any familiarity with Android development. What You Will Learn Understand the basics of Android development with Kotlin Get to know the key concepts in Android development See how to create modern mobile applications for the Android platform Adjust your application's look and feel Know how to persist and share application database Work with Services and other concurrency mechanisms Write effective tests Migrate an existing Java-based project to Kotlin In Detail Kotlin is a programming language intended to be a better Java, and it's designed to be usable and readable across large teams with different levels of knowledge. As a language, it helps developers build amazing Android applications in an easy and effective way. This book begins by giving you a strong grasp of Kotlin's features in the context of Android development and its APIs. Moving on, you'll take steps toward building stunning applications for Android. The book will show you how to set up the environment, and the difficulty level will grow steadily with the applications covered in the upcoming chapters. Later on, the book will introduce you to the Android Studio IDE, which plays an integral role in Android development.

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We'll use Kotlin's basic programming concepts such as functions, lambdas, properties, object-oriented code, safety aspects, type parameterization, testing, and concurrency, which will guide you through writing Kotlin code into production. We'll also show you how to integrate Kotlin into any existing Android project. Style and approach In this book, you'll master Android development using Kotlin through real application examples. We'll introduce you to basic Android concepts and offer guidance from the first steps to the final project. In each chapter, we'll develop one important application functionality as a development milestone. As we progress, you'll become more experienced in Android and our application will progress toward a real-world product. Finally, when we complete the application's development, we'll write proper tests to ensure it's production ready.

Want to build apps for Android devices? This book is the perfect way to master the fundamentals. Written by experts who have taught this mobile platform to hundreds of developers in large organizations and startups alike, this gentle introduction shows experienced object-oriented programmers how to use Android's basic building blocks to create user interfaces, store data, connect to the network, and more. Throughout the book, you'll build a Twitter-like application, adding new features with each chapter. You'll also create your own toolbox of code patterns to help you program any type of Android application with ease. Become familiar with the Android platform and how it fits into the mobile ecosystem Dive into the Android stack, including its application framework and the APK application package Learn Android's building blocks: Activities, Intents, Services, Content Providers, and Broadcast Receivers Create basic Android user interfaces and organize UI elements in Views and Layouts Build a service that uses a background process to update data in your application

Fully updated for Android Studio Arctic Fox, the goal of this book is to teach the skills necessary to develop Android-based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, control flow, functions, lambdas, and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor, and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room database access, the Database Inspector, app navigation, live data, and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, and the recording and playback of audio. This edition of the book also covers printing, transitions, cloud-based file storage, and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers, and collapsing toolbars. Other key features of Android Studio Arctic Fox and Android are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, MotionLayout Editor, view binding, constraint chains, barriers, and direct reply notifications. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Delivery, Gradle build configuration, and submitting apps to the Google Play Developer Console. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac, or Linux system, and have ideas for some apps to develop, you are ready to get started.

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Provides instruction on building Android apps, including solutions to working with web services, multitouch gestures, location awareness, and device features.

Android Programming Unleashed is the most comprehensive and technically sophisticated guide to best-practice Android development with today's powerful new versions of Android: 4.1 (Jelly Bean) and 4.0.3 (Ice Cream Sandwich). Offering the exceptional breadth and depth developers have come to expect from the Unleashed series, it covers everything programmers need to know to develop robust, high-performance Android apps that deliver a superior user experience. Leading developer trainer Bintu Harwani begins with basic UI controls, then progresses to more advanced topics, finally covering how to develop feature rich Android applications that can access Internet-based services and store data. He illuminates each important SDK component through complete, self-contained code examples that show developers the most effective ways to build production-ready code. Coverage includes: understanding the modern Android platform from the developer's standpoint... using widgets, containers, resources, selection widgets, dialogs, and fragments... supporting actions and persistence... incorporating menus, ActionBar, content providers, and databases... integrating media and animations... using web, map, and other services... supporting communication via messaging, contacts, and emails... publishing Android apps, and much more.

Explore popular language features, Java to Kotlin interoperability, advanced topics, and practical applications by building a variety of sample projects Key Features Understand and leverage the syntax, tools, and patterns by writing code in Kotlin Explore practical topics such as Java interop, concurrency with coroutines, and functional programming Discover how to use Kotlin for build targets like Android, iOS, JavaScript, and backend service Book Description Using Kotlin without taking advantage of its power and interoperability is like owning a sports car and never taking it out of the garage. While documentation and introductory resources can help you learn the basics of Kotlin, the fact that it's a new language means that there are limited learning resources and code bases available in comparison to Java and other established languages. This Kotlin book will show you how to leverage software designs and concepts that have made Java the most dominant enterprise programming language. You'll understand how Kotlin is a modern approach to object-oriented programming (OOP). This book will take you through the vast array of features that Kotlin provides over other languages. These features include seamless interoperability with Java, efficient syntax, built-in functional programming constructs, and support for creating your own DSL. Finally, you will gain an understanding of implementing practical design patterns and best practices to help you master the Kotlin language. By the end of the book, you'll have obtained an advanced understanding of Kotlin in order to be able to build production-grade applications. What you will learn Model data using interfaces, classes, and data classes Grapple with practical interoperability challenges and solutions with Java Build parallel apps using concurrency solutions such as coroutines Explore functional, reactive, and imperative programming to build flexible apps Discover how to build your own domain-specific language Embrace functional programming using the standard library and Arrow Delve into the use of Kotlin for frontend JavaScript development Build server-side services using Kotlin and Ktor Who this book is for If you're a Kotlin developer looking to further their skills or a professional Java developer looking for better or

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professional resources in order to make a switch to Kotlin, this book is for you. Familiarity with Kotlin programming will assist with understanding key concepts covered in the book.

Google has officially announced Kotlin as a supported language to write Android Apps. These are amazing news for Android developers, which now have the ability to use a modern and powerful language to make their job easier and funnier. But this comes with other responsibilities. If you want to be a good candidate for new Android opportunities, Kotlin is becoming a new need most companies will ask for. So it's your time to start learning about it! And "Kotlin for Android Developers" is the best tool.

Recommended by both Google and JetBrains, this book will guide through the process of learning all the new features that Java was missing, in an easy and fun way. You'll be creating an Android app from ground using Kotlin as the main language. The idea is to learn the language by example, instead of following a typical structure. I'll be stopping to explain the most interesting concepts and ideas about Kotlin, comparing it with Java 7. This way, you can see what the differences are and which parts of the language will help you speed up your work. This book is not meant to be a language reference, but a tool for Android developers to learn Kotlin and be able to continue with their own projects by themselves. I'll be solving many of the typical problems we have to face in our daily lives by making use of the language expressiveness and some other really interesting tools and libraries. The book is very practical, so it is recommended to follow the examples and the code in front of a computer and try everything it's suggested. You could, however, take a first read to get a broad idea and then dive into practice.

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>.

Discover How to Build Highly-Resilient, Scalable, and Beautiful Android Apps With the Kotlin Programming Language! Are you looking for the perfect language as a beginner to kickstart your journey into software development? Are you a Java programmer, or any other programmer looking for an efficient way to get started designing awesome Android apps? If your answer is yes, then keep reading... Kotlin is a powerful, general-purpose programming language suitable for cross-platform development. In this comprehensive beginner's guide to Kotlin programming, you'll master the core foundations of Kotlin as well as build your own

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basic Android app from scratch! Here's what you're going to learn in Kotlin Programming for Beginners Everything you need to know about Kotlin and how it works together with Android How to set up your environment for effective Kotlin application development The core fundamentals of the Kotlin programming language to help you write high-quality code Step-by-step instructions to build your first Kotlin application that runs on Android How to develop aesthetically beautiful and robust layouts using RecyclerView, NavigationView, etc Foolproof ways to test your applications using the available testing frameworks within Kotlin and keep your app free from bugs ...and tons, tons more! Whether you're a brand new software developer looking to pick up your very first language, or you're an experienced Android developer looking to stretch your app to the limits beyond what vanilla Java can offer you, this book is a complete resource guide for everyone looking to master Kotlin and develop awesome apps for Android. Ready to add another programming language to your toolbelt? Scroll to the top of this page and click the "Buy Now with 1-Click" button to get started today!

More than ever, learning to program concurrency is critical to creating faster, responsive applications. Speedy and affordable multicore hardware is driving the demand for high-performing applications, and you can leverage the Java platform to bring these applications to life. Concurrency on the Java platform has evolved, from the synchronization model of JDK to software transactional memory (STM) and actor-based concurrency. This book is the first to show you all these concurrency styles so you can compare and choose what works best for your applications. You'll learn the benefits of each of these models, when and how to use them, and what their limitations are. Through hands-on exercises, you'll learn how to avoid shared mutable state and how to write good, elegant, explicit synchronization-free programs so you can create easy and safe concurrent applications. The techniques you learn in this book will take you from dreading concurrency to mastering and enjoying it. Best of all, you can work with Java or a JVM language of your choice - Clojure, JRuby, Groovy, or Scala - to reap the growing power of multicore hardware. If you are a Java programmer, you'd need JDK 1.5 or later and the Akka 1.0 library. In addition, if you program in Scala, Clojure, Groovy or JRuby you'd need the latest version of your preferred language. Groovy programmers will also need GPar.

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.

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