

Android Programming Tutorials 2nd Edition

Get to grips with programming techniques and game development using C++ libraries and Visual Studio 2019 Key Features Learn game development and C++ with a fun, example-driven approach Build clones of popular games such as Timberman, Zombie Survival Shooter, a co-op puzzle platformer, and Space Invaders Discover tips to expand your finished games by thinking critically, technically, and creatively Book Description The second edition of Beginning C++ Game Programming is updated and improved to include the latest features of Visual Studio 2019, SFML, and modern C++ programming techniques. With this book, you'll get a fun introduction to game programming by building five fully playable games of increasing complexity. You'll learn to build clones of popular games such as Timberman, Pong, a Zombie survival shooter, a coop puzzle platformer and Space Invaders. The book starts by covering the basics of programming. You'll study key C++ topics, such as object-oriented programming (OOP) and C++ pointers, and get acquainted with the Standard Template Library (STL). The book helps you learn about collision detection techniques and game physics by building a Pong game. As you build games, you'll also learn exciting game programming concepts such as particle effects, directional sound (spatialization), OpenGL programmable shaders, spawning objects, and much more. Finally, you'll explore game design patterns to enhance your C++ game programming skills. By the end of the book, you'll have gained the knowledge you need to build your own games with exciting features from scratch What you will learn Set up your game development project in Visual Studio 2019 and explore C++ libraries such as SFML Explore C++ OOP by building a Pong game Understand core game concepts such as game animation, game physics, collision detection, scorekeeping, and game sound Use classes, inheritance, and references to spawn and control thousands of enemies and shoot rapid-fire machine guns Add advanced features to your game using pointers, references, and the STL Scale and reuse your game code by learning modern game programming design patterns Who this book is for This book is perfect for you if you have no C++ programming knowledge, you need a beginner-level refresher course, or you want to learn how to build games or just use games as an engaging way to learn C++. Whether you aspire to publish a game (perhaps on Steam) or just want to impress friends with your creations, you'll find this book useful.

Over 100 recipes to help you solve the most common problems faced by Android Developers today About This Book- Find the answers to your common Android programming problems, from set up to security, to help you deliver better applications, faster- Uncover the latest features of Android Marshmallow to make your applications stand out- Get up to speed with Android Studio 1.4 - the first Android Studio based on the IntelliJ IDE from JetBrains Who This Book Is For If you are new to Android development and want to take a hands-on approach to learning the framework, or if you are an experienced developer in need of clear working code to solve the many challenges in Android development, you can benefit from this book. Either way, this is a resource you'll want to keep at your desk for a quick reference to solve new problems as you tackle more challenging projects. What You Will Learn- Along with Marshmallow, get hands-on working with Google's new Android Studio IDE- Develop applications using the latest Android framework while maintaining backward-compatibility with the support library- Master Android programming best practices from the recipes- Create exciting and engaging applications using knowledge gained from recipes on graphics, animations, and multimedia- Work through succinct steps on specifics that will help you complete your project faster- Keep your app responsive (and prevent ANRs) with examples on the AsyncTask class- Utilize Google Speech Recognition APIs for your app.- Make use of Google Cloud Messaging (GCM) to create Push Notifications for your users- Get a better understanding of the Android framework through detailed explanations In Detail The Android OS has the largest installation base of any operating system in the world; there has never been a better time to learn Android development to write your own applications, or to make your own contributions to the open source community! This "cookbook" will make it easy for you to jump to a topic of interest and get what you need to implement the feature in your own application. If you are new to Android and learn best by "doing," then this book will provide many topics of interest. Starting with the basics of Android development, we move on to more advanced concepts, and we'll guide you through common tasks developers struggle to solve. The first few chapters cover the basics including Activities, Layouts, Widgets, and the Menu. From there, we cover fragments and data storage (including SQLite), device sensors, the camera, and GPS. Then we move on more advanced topics such as graphics and animation (including OpenGL), multi-threading with AsyncTask, and Internet functionality with Volley. We'll also demonstrate Google Maps and Google Cloud Messaging (also known as Push Notifications) using the Google API Library. Finally, we'll take a look at several online services designed especially for Android development. Take your application big-time with full Internet web services without having to become a server admin by leveraging the power of Backend as a Service (BaaS) providers. Style and approach This book progresses from the fundamentals of Android Development to more advanced concepts, with recipes to solve the most common problems faced by developers. This cookbook makes it easy to jump to specific topics of interest, where you'll find simple steps to implement the solution and get a clear explanation of how it works.

This book is for you if you want to learn Java and specialize in Android application development. To save you time and effort, this book covers the most important Java programming concepts that are directly related to Android programming. All in an easy to follow tutorial. It is a guide to building real-world mobile applications in Java.

Get ready for a fun-filled experience of learning Java by developing games for the Android platform Key Features Learn Java, Android, and object-oriented programming from scratch Build games including Sub Hunter, Retro Pong, Bullet Hell, Classic Snake, and a 2D Scrolling Shooter Create and design your own games, such as an open-world platform game Book Description Android is one of the most popular mobile operating systems presently. It uses the most popular programming language, Java, as the primary language for building apps of all types. However, this book is unlike other Android books in that it doesn't assume that you already have Java proficiency. This new and

expanded second edition of Learning Java by Building Android Games shows you how to start building Android games from scratch. The difficulty level will grow steadily as you explore key Java topics, such as variables, loops, methods, object oriented programming, and design patterns, including code and examples that are written for Java 9 and Android P. At each stage, you will put what you've learned into practice by developing a game. You will build games such as Minesweeper, Retro Pong, Bullet Hell, and Classic Snake and Scrolling Shooter games. In the later chapters, you will create a time-trial, open-world platform game. By the end of the book, you will not only have grasped Java and Android but will also have developed six cool games for the Android platform. What you will learn

- Set up a game development environment in Android Studio
- Implement screen locking, screen rotation, pixel graphics, and play sound effects
- Respond to a player's touch, and program intelligent enemies who challenge the player in different ways
- Learn game development concepts, such as collision detection, animating sprite sheets, simple tracking and following, AI, parallax backgrounds, and particle explosions
- Animate objects at 60 frames per second (FPS) and manage multiple independent objects using Object-Oriented Programming (OOP)
- Understand the essentials of game programming, such as design patterns, object-oriented programming, Singleton, strategy, and entity-component patterns
- Learn how to use the Android API, including Activity lifecycle, detecting version number, SoundPool API, Paint, Canvas, and Bitmap classes
- Build a side-scrolling shooter and an open world 2D platformer using advanced OOP concepts and programming patterns

Who this book is for Learning Java by Building Android Games is for you if you are completely new to Java, Android, or game programming and want to make Android games. This book also acts as a refresher for those who already have experience of using Java on Android or any other platform without game development experience.

Build Beautiful Apps With Jetpack Compose Jetpack Compose is hyping up everyone in the Android UI toolkit world. This completely new and modern solution to building declarative user interfaces provides more opportunity than ever to create beautiful, reactive and animated apps. However, because of its early-in-development status, Jetpack Compose is missing one of the most important pieces of successful software: detailed documentation. That's why we've prepared a whole book's worth of documentation for you! Jetpack Compose By Tutorials is here to help, by showing you exactly how Compose works, what its fundamental components are and how you can use them to build complex real-world apps! Who this book is for This book is for all Android developers who have experience with the legacy UI Toolkit through XML and View components, but who are looking for a fresh, reusable, clean and easy-to-use solution to reduce their boilerplate code while building stunning user interfaces. Topics covered in Jetpack Compose by Tutorials

- Fundamentals: Core Jetpack Compose elements and functions
- Combining components: Mixing different layouts and building beautiful interfaces
- State Management: State wrappers, LiveData observables and UI recomposition
- UI Styling: Modifiers for size, shape, colors, background, padding and alignment
- User Interaction: Different click, touch and scroll listeners and their handlers
- Animations: State changes, value animations and complex transitions

One thing you can count on: After reading this book, you'll be prepared to tackle any design specification and build it in your Android apps using Jetpack Compose. You'll make your apps really stand out by adding different modifiers and Material Design components, as well as animations.

Summary Hello App Inventor! introduces creative young readers to the world of mobile programming—no experience required! Featuring more than 30 fun invent-it-yourself projects, this full-color, fun-to-read book starts with the building blocks you need to create a few practice apps. Then you'll learn the skills you need to bring your own app ideas to life. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book Have you ever wondered how apps are made? Do you have a great idea for an app that you want to make reality? This book can teach you how to create apps for any Android device, even if you have never programmed before. With App Inventor, if you can imagine it, you can create it. Using this free, friendly tool, you can decide what you want your app to do and then click together colorful jigsaw-puzzle blocks to make it happen. App Inventor turns your project into an Android app that you can test on your computer, run on your phone, share with your friends, and even sell in the Google Play store. Hello App Inventor! introduces young readers to the world of mobile programming. It assumes no previous experience. Featuring more than 30 invent-it-yourself projects, this book starts with basic apps and gradually builds the skills you need to bring your own ideas to life. We've provided the graphics and sounds to get you started right away. And a special Learning Points feature connects the example you're following to important computing concepts you'll use in any programming language. App Inventor is developed and maintained by MIT. What's Inside Covers MIT App Inventor 2 How to create animated characters, games, experiments, magic tricks, and a Zombie Alarm clock Use advanced phone features like: Movement sensors Touch screen interaction GPS Camera Text Web connectivity About the Authors Paula Beer and Carl Simmons are professional educators and authors who spend most of their time training new teachers and introducing children to programming. Table of Contents Getting to know App Inventor Designing the user interface Using the screen: layouts and the canvas Fling, touch, and drag: user interaction with the touch screen Variables, decisions, and procedures Lists and loops Clocks and timers Animation Position sensors Barcodes and scanners Using speech and storing data on your phone Web-enabled apps Location-aware apps From idea to app Publishing and beyond

Real-World Android by Tutorials guides you through building one professional Android app using the most important architectures and libraries. Along the way, you'll get a solid foundation in Android development concepts so you can make informed decisions about how to apply them in your own codebase. Learn how to implement a real-world Android app When developing a professional Android app, there are hundreds of options for libraries and possible architectures. Finding documentation is easy, but you might end up with an app structure that isn't ideal for your project. Real-World Android by Tutorials helps you implement a real-world app from scratch, addressing critical problems like finding the

right architecture, making the UI responsive and appealing and implementing efficient animations. Who this book is for This book is for intermediate Android developers who already know the basics of the Android platform and the Kotlin language, and who are looking to build modern and professional apps using the most important libraries. If you want to create a reactive and good-looking UI and are determined not to ignore important aspects like security, this book will help. Topics covered in Real-World Android by TutorialsBy reading this book, you'll learn about the following topics: Choosing the right architecture: Pick the right app architecture to achieve a good separation between domain and data layers, making your app easy to build and maintain. Building features: Learn how to structure your code to make it more testable. Modularization: Split your code into different modules, improving the build time and reusability of your code. Animations: Use the new Motion Editor to implement animations that make your app's UI more appealing. Custom Views: Go beyond the basics by creating a View that's specific to your app's needs. Security: Protect your app's data and code. Tooling: Mastering the right tool is a fundamental skill when creating a professional app. Learn how to use the tools to analyze your code and fix some tricky bugs. After reading this book, you'll be prepared to implement your own, professional Android app.

What will you learn from this book? If you have an idea for a killer Android app, this book will help you build your first working application in a jiffy. You'll learn hands-on how to structure your app, design interfaces, create a database, make your app work on various smartphones and tablets, and much more. It's like having an experienced Android developer sitting right next to you! All you need is some Java know-how to get started. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Android Development 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.

Data Mining: A Tutorial-Based Primer, Second Edition provides a comprehensive introduction to data mining with a focus on model building and testing, as well as on interpreting and validating results. The text guides students to understand how data mining can be employed to solve real problems and recognize whether a data mining solution is a feasible alternative for a specific problem. Fundamental data mining strategies, techniques, and evaluation methods are presented and implemented with the help of two well-known software tools. Several new topics have been added to the second edition including an introduction to Big Data and data analytics, ROC curves, Pareto lift charts, methods for handling large-sized, streaming and imbalanced data, support vector machines, and extended coverage of textual data mining. The second edition contains tutorials for attribute selection, dealing with imbalanced data, outlier analysis, time series analysis, mining textual data, and more. The text provides in-depth coverage of RapidMiner Studio and Weka's Explorer interface. Both software tools are used for stepping students through the tutorials depicting the knowledge discovery process. This allows the reader maximum flexibility for their hands-on data mining experience.

Beginning Android 4 Games Development offers everything you need to join the ranks of successful Android game developers. You'll start with game design fundamentals and programming basics, and then progress toward creating your own basic game engine and playable game that works on Android 4.0 and earlier devices. This will give you everything you need to branch out and write your own Android games. The potential user base and the wide array of available high-performance devices makes Android an attractive target for aspiring game developers. Do you have an awesome idea for the next break-through mobile gaming title? Beginning Android 4 Games Development will help you kick-start your project. The book will guide you through the process of making several example games for the Android platform, and involves a wide range of topics: The fundamentals of Android game development targeting Android 1.5-4.0+ devices The Android platform basics to apply those fundamentals in the context of making a game The design of 2D and 3D games and their successful implementation on the Android platform

Learn Android Test-Driven Development! Writing apps is hard. Writing testable apps is even harder, but it doesn't have to be. Reading and understanding all the official Google documentation on testing can be time-consuming - and confusing. This is where Android Test-Driven Development comes to the rescue! In this book, you'll learn about Android Test-Driven Development the quick and easy way: by following fun and easy-to-read tutorials. Who This Book Is For This book is for the intermediate Android developers who already know the basics of Android and Kotlin development but want to learn Android Test-Driven Development. Topics Covered in Android Test-Driven Development - Getting Started with Testing: Learn the core concepts involved in testing including what is a test, why should you test, what should you test and what you should not test. - Test-Driven Development (TDD): Discover the Red-Green-Refactor steps and how to apply them. - The Testing Pyramid: Learn about the different types of tests and how to organize them. - Unit Tests: Learn how to start writing unit tests with TDD using JUnit and Mockito. - Integration Tests: Writing tests with different subsystems is a must in today's complex application world. Learn how to test with different subsystems including the persistence and network layers. - Architecting for Testing: Explore how to architect your app for testing and why it matters. - TDD on Legacy Projects: Take your TDD to the next level by learning how to apply it to existing legacy projects. And much more, including Espresso tests, UI tests, code coverage and refactoring. One thing you can count on: after reading this book, you'll be prepared to take advantage of Android Test-Driven Development in your own apps!

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 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.

Learn how to program with Kotlin! Kotlin is the exciting modern language from JetBrains, creators of IntelliJ IDEA, the basis of many popular IDEs such as Android Studio and PyCharm. Since the adoption of Kotlin by Google as an official language for Android, the momentum behind Kotlin has gone off the charts. Kotlin supports many platforms, including Android, the web, the back-end, and even iOS. By reading this book, you'll be ready to use Kotlin on any and all of these platforms. Who This Book Is For This book is for complete beginners to Kotlin. No prior programming experience is necessary! Topics Covered in Kotlin Apprentice

- Kotlin Development Environment: See how to setup a development environment for Kotlin using IntelliJ IDEA.
- Numbers and Strings: These are the basic kinds of data in any app-learn how to use them in Kotlin.
- Making Decisions: Your code doesn't always run straight through-learn how to use conditions and loops to control program flow.
- Functions and Lambdas: Group your code together into reusable chunks to run and pass around.
- Collection Types: Discover the many ways Kotlin offers to store and organize data into collections.
- Building Your Own Types: Learn how to model elements in your app using classes, objects, interfaces, and enumerations.
- Functional Programming: Learn how to use Kotlin in a functional style and how this can make your code clearer and more efficient.
- Coroutines: Asynchronous programming can be a complex topic on any platform, but Kotlin gives you a clear and consise approach with coroutines.
- Kotlin Platforms and Scripting: Learn about how Kotlin can be used on multiple platforms and see its use as a scripting language.
- Kotlin/Native and Multiplatform: See how to use Kotlin/Native to bring your apps to more than one platform.

One thing you can count on: after reading this book, you'll be prepared to take advantage of Kotlin wherever you choose to use it!

Presents a guide to Android application development using the app-driven approach for sixteen fully tested apps that include syntax, code walkthroughs, and sample outputs.

Presents instructions for creating Android applications for mobile devices using Java.

Learn Android programming with Kotlin! Learning Android programming can be challenging. Sure, there is plenty of documentation, but the tools and libraries available today for Android are easily overwhelming for newcomers to Android and Kotlin. Android Apprentice takes a different approach. From building a simple first app, all the way to a fully-featured podcast player app, this book walks you step-by-step, building on basic concepts to advanced techniques so you can build amazing apps worthy of the Google Play Store! Who This Book Is For This book is for anyone interested in writing mobile apps for Android. Though no previous mobile experience is necessary, this book is also a great resource for iPhone developers transitioning from iOS. Topics Covered in Android Apprentice

Getting Started: Learn how to set up Android Studio and the Android Emulator.

Layouts: Create layouts that can be used for both Activities and Fragments

Debugging: No one's perfect! Learn how to dig down and troubleshoot bugs in your apps.

Communication: Design separate Activites and communicate and send data between them using Intents.

Scrolling Layouts: Learn how to use RecyclerViews to make efficient, reusable views that scroll fluidly at a touch.

Google Places: Integrate location APIs to bring the magic of maps into your Android apps.

Networking: Learn how to access resouces on the internet and handle networked responses.

Material Design: Make sure your apps conform to modern best practices by using Google's standards of Material Design

AndroidX: Learn how to use the AndroidX libraries to support older versions of Android. And much, much more! One thing you can count on: after reading this book, you'll be prepared to write feature-rich apps from scratch and go all the way to submitting them to the Google Play Store!

About the Tutorial Team The Tutorial Team is a group of app developers and authors who write tutorials at the popular website raywenderlich.com. We take pride in making sure each tutorial we write holds to the highest standards of quality. We want our tutorials to be well written, easy to follow, and fun. If you've enjoyed the tutorials we've written in the past, you're in for a treat. The tutorials we've written for this book are some of our best yet - and this book contains detailed technical knowledge you simply won't be able to find anywhere else.

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

Learn all the Java and Android skills you need to start making powerful mobile applications with practical and actionable steps

- Key Features
- Kick-start your Android programming career, or just have fun publishing apps to the Google Play marketplace

A first-principles introduction to Java, via Android, which means you'll be able to start building your own applications from scratch

Learn by example and build four real-world apps and dozens of mini-apps throughout the book **Book Description** Are you trying to start a career in programming, but haven't found the right way in? Do you have a great idea for an app, but don't know how to make it a reality? Or maybe you're just frustrated that in order to learn Android, you must know Java. If so, then this book is for you. This new and expanded second edition of *Android Programming for Beginners* will be your companion to create Android Pie applications from scratch. We will introduce you to all the fundamental concepts of programming in an Android context, from the basics of Java to working with the Android API. All examples use the up-to-date API classes, and are created from within Android Studio, the official Android development environment that helps supercharge your application development process. After this crash course, we'll dive deeper into Android programming and you'll learn how to create applications with a professional-standard UI through fragments and store your user's data with SQLite. In addition, you'll see how to make your apps multilingual, draw to the screen with a finger, and work with graphics, sound, and animations too. By the end of this book, you'll be ready to start building your own custom applications in Android and Java. What you will learn

- Master the fundamentals of coding Java for Android Pie
- Install and set up your Android development environment
- Build functional user interfaces with the Android Studio visual designer
- Add user interaction, data captures, sound, and animation to your apps
- Manage your apps' data using the built-in Android SQLite database
- Find out about the design patterns used by professionals to make top-grade applications
- Build, deploy, and publish real Android applications to the Google Play marketplace

Who this book is for This book is for you if you are completely new to Java, Android, or programming and want to make Android applications. This book also acts as a refresher for those who already have experience of using Java on Android to advance their knowledge and make fast progress through the early projects.

Android development is hot, and many programmers are interested in joining the fun. However, because this technology is based on Java, you should first obtain a solid grasp of the Java language and its foundational APIs to improve your chances of succeeding as an Android app developer. After all, you will be busy learning the architecture of an Android app, the various Android-specific APIs, and Android-specific tools. If you do not already know Java fundamentals, you will probably end up with a massive headache from also having to quickly cram those fundamentals into your knowledge base. *Learn Java for Android Development, Second Edition* teaches programmers of any skill level the essential Java language and foundational Java API skills that must be learned to improve the programmer's chances of succeeding as an Android app developer. Each of the book's 14 chapters provides an exercise section that gives you the opportunity to reinforce your understanding of the chapter's material. Answers to the book's more than 500 exercises are provided in an appendix. A second appendix provides a significant game-oriented Java application, which you can convert into an Android app. Once you complete this book, you should be ready to dive into beginning Android app development. Maybe, start that journey with Apress' *Beginning Android*.

Android Programming Tutorials show you what you can do with Android, through a series of 40 individual exercises. *Android Programming Tutorials* gives you hands-on instruction in how to build sophisticated Android applications, using many of the technologies outlined in CommonsWare's other Android books. These exercises lead you through the basics of creating Android applications, all the way through many fun Android features like Internet access, location tracking, maps, integrated WebKit browsers, cameras, accelerometers, home screen widgets, and much more. Full source code to all the exercise answers is available, to help you if you get stuck. *Android Programming Tutorials* makes an excellent companion volume to more traditional Android books that merely tell you what is possible.

Your all-encompassing guide to learning Android app development If you're an aspiring or beginning programmer interested in creating apps for the Android market—which grows in size and downloads every day—this is your comprehensive, one-stop guide. *Android Application Development All-in-One For Dummies* covers the information you absolutely need to get started developing apps for Android. Inside, you'll quickly get up to speed on Android programming concepts and put your new knowledge to use to manage data, program cool phone features, refine your applications, navigate confidently around the Android native development kit, and add important finishing touches to your apps. Covering the latest features and enhancements to the Android Software Developer's Kit, this friendly, hands-on guide walks you through Android programming basics, shares techniques for developing great Android applications, reviews Android hardware, and much more. All programming examples, including the sample application, are available for download from the book's website Information is carefully organized and presented in an easy-to-follow format 800+ pages of content make this an invaluable resource at an unbeatable price Written by an expert Java educator, Barry Burd, who authors the bestselling *Java For Dummies* Go from Android newbie to master programmer in no time with the help of *Android Application Development All-in-One For Dummies!*

"Learn to program games using Apple's new framework: Sprite Kit!"--Cover.

Android Programming Tutorials

"*Android Programming Tutorials*" show you what you can do with Android, through a series of 28 individual exercises, giving you hands-on instruction in how to build sophisticated Android applications, using many of the technologies outlined in CommonsWare's other Android books. These exercises lead you through the basics of creating Android applications, all the way through many fun Android features like Internet access, location tracking, maps, integrated WebKit browsers, cameras, accelerometers, and much more. Full source code to all the exercise answers is available right on this page, to help you if you get stuck. "*Android Programming Tutorials*" makes an excellent companion volume to more traditional Android books that merely tell you what is possible. The book has been battle-tested, used in the author's live Android training events, with the exercises put through their paces by hundreds of students.

What people are saying about *Building iPhone Apps w/ HTML, CSS, and JavaScript* "The future of mobile development is clearly web technologies like CSS, HTML and JavaScript. Jonathan Stark shows you how to leverage your existing web development skills to build native iPhone applications using these technologies." --John Allsopp, author and founder of Web Directions "Jonathan's book is the most comprehensive documentation available for developing web applications for mobile Safari. Not just great tech coverage, this book is an easy read of purely fascinating mobile tidbits in a fun colloquial style. Must have for all PhoneGap developers." -- Brian LeRoux, Nitobi Software It's a fact: if you know HTML, CSS, and JavaScript, you already have the tools you need to develop your own iPhone apps. With this book, you'll learn how to use these open source web technologies to design and build apps for the iPhone and iPod Touch on the platform of your choice-without using Objective-C or Cocoa. Device-agnostic mobile apps are the wave of the future, and this book shows you how to create one product for several platforms. You'll find guidelines for converting your product into a native iPhone app using the free PhoneGap framework. And you'll learn why releasing your product as a web app first helps you find, fix, and test bugs much faster than if you went straight to the App Store with a product built with Apple's

tools. Build iPhone apps with tools you already know how to use Learn how to make an existing website look and behave like an iPhone app Add native-looking animations to your web app using jQTouch Take advantage of client-side data storage with apps that run even when the iPhone is offline Hook into advanced iPhone features -- including the accelerometer, geolocation, and vibration -- with JavaScript Submit your applications to the App Store with Xcode This book received valuable community input through O'Reilly's Open Feedback Publishing System (OFPS).

Learn Android Accessibility! Accessibility is an important, often overlooked, part of building a quality app. The Web Content Accessibility Guidelines (WCAG) can be confusing and it's often unclear how to apply these guidelines to Android. That's where Android Accessibility by Tutorials comes in! In this book, you'll learn about building accessible apps on Android using WCAG through hands-on, step-by-step tutorials. Who This Book is For This book is for intermediate Android developers who already know the basics of Android and Kotlin development and want to learn about accessibility. Topics Covered in Android Accessibility by Tutorials Importance of accessibility: Learn why accessibility is important and how you can use it to improve product quality. Getting your team on board: Gain insight into how you can get buy-in from your team to make accessibility a priority. Testing for accessibility: Practice using the tools you need to uncover areas for accessibility improvement. WCAG: Explore the guidelines used when enforcing accessibility laws. Android's accessibility: Become familiar with the Android APIs that cater to accessibility. Custom views: Understand how to integrate with accessibility services when building a custom view. One thing you can count on: after reading this book, you'll be prepared to improve your own apps by making them more accessible.

Learn Data Structures & Algorithms in Kotlin! Data structures and algorithms are fundamental tools every developer should have. In this book, you'll learn how to implement key data structures in Kotlin, and how to use them to solve a robust set of algorithms. This book is for intermediate Kotlin or Android developers who already know the basics of the language and want to improve their knowledge. Topics Covered in This Book Introduction to Kotlin: If you're new to Kotlin, you can learn the main constructs and begin writing code. Complexity: When you study algorithms, you need a way to compare their performance in time and space. Learn about the Big-O notation to help you do this. Elementary Data Structures: Learn how to implement Linked List, Stacks, and Queues in Kotlin. Trees: Learn everything you need about Trees - in particular, Binary Trees, AVL Trees, as well as Binary Search and much more. Sorting Algorithms: Sorting algorithms are critical for any developer. Learn to implement the main sorting algorithms, using the tools provided by Kotlin. Graphs: Have you ever heard of Dijkstra and the calculation of the shortest path between two different points? Learn about Graphs and how to use them to solve the most useful and important algorithms.

This book teaches anyone with a basic understanding of Java how to develop Android apps at a professional level, using Android Studio. To start, it shows how to use Android Studio to code, test, and debug a Tip Calculator app for a smartphone or tablet. Then, it expands upon this app to show must-have Android skills such as working with layouts, widgets, events, themes, styles, menus, preferences, and fragments. Next, this book presents two more apps that illustrate Android skills you'll use every day, such as working with threads, files, adapters, intents, services, notifications, broadcast receivers, SQLite databases, content providers, and app widgets. Finally, this book presents an app that uses the Google Maps API and shows you how to submit your finished apps to the Google Play store. The real-world apps let you see how the skills you're learning work together, and they illustrate how and when you'd use each skill.

Yes, you can create your own apps for Android devices—and it's easy to do. This extraordinary book introduces you to App Inventor 2, a powerful visual tool that lets anyone build apps. Learn App Inventor basics hands-on with step-by-step instructions for building more than a dozen fun projects, including a text answering machine app, a quiz app, and an app for finding your parked car! The second half of the book features an Inventor's Manual to help you understand the fundamentals of app building and computer science. App Inventor 2 makes an excellent textbook for beginners and experienced developers alike. Use programming blocks to build apps—like working on a puzzle Create custom multi-media quizzes and study guides Design games and other apps with 2D graphics and animation Make a custom tour of your city, school, or workplace Control a LEGO® MINDSTORMS® NXT robot with your phone Build location-aware apps by working with your phone's sensors Explore apps that incorporate information from the Web

Offers software developers step-by-step instructions on how to create and distribute their first marketable, professional Android application.

Learn Android programming with Kotlin! Learning Android programming can be challenging. Sure, there is plenty of documentation, but the tools and libraries available today for Android are easily overwhelming for newcomers to Android and Kotlin. Android Apprentice takes a different approach. From building a simple first app, all the way to a fully-featured podcast player app, this book walks you step-by-step, building on basic concepts to advanced techniques so you can build amazing apps worthy of the Google Play Store! Who This Book Is For This book is for anyone interested in writing mobile apps for Android. Though no previous mobile experience is necessary, this book is also a great resource for iPhone developers transitioning from iOS. Topics Covered in Android Apprentice Getting Started: Learn how to set up Android Studio and the Android Emulator. Layouts: Create layouts that can be used for both Activities and Fragments Debugging: No one's perfect! Learn how to dig down and troubleshoot bugs in your apps. Communication: Design separate Activities and communicate and send data between them using Intents. Scrolling Layouts: Learn how to use RecyclerViews to make efficient, reusable views that scroll fluidly at a touch. Google Places: Integrate location APIs to bring the magic of maps into your Android apps. Networking: Learn how to access resources on the internet and handle networked responses. Material Design: Make sure your apps conform to modern best practices by using Google's standards of Material Design And much, much more! One thing you can count on: after reading this book, you'll be prepared to write feature-rich apps from scratch and go all the way to submitting them to the Google Play Store!

Learn all the Java and Android skills you need to start making powerful mobile applications About This Book Kick-start your Android programming career, or just have fun publishing apps to the Google Play marketplace A first-principles introduction to Java, via Android, which means you'll be able to start building your own applications from scratch Learn by example and build three real-world apps and over 40 mini apps throughout the book Who This Book Is For Are you trying to start a career in programming, but haven't found the right way in? Do you have a great idea for an app, but don't know how to make it a reality? Or maybe you're just frustrated that "to learn Android, you must know java." If so, Android Programming for Beginners is for you. You don't need any programming experience to follow along with this book, just a computer and a sense of adventure. What You Will Learn Master the fundamentals of coding Java for Android Install and set up your Android development environment Build functional user interfaces with the Android Studio visual designer Add user interaction, data captures, sound, and animation to your apps Manage your apps' data using the built-in Android SQLite database Find out about the design patterns used by professionals to make top-grade applications Build, deploy, and publish real Android applications to the Google Play marketplace In Detail Android is the most popular OS in the world. There are millions of devices accessing tens of thousands of applications. It is many people's entry point into the world of technology; it is an operating system for everyone. Despite this, the entry-fee to actually make Android applications is usually a computer science degree, or five years' worth of Java experience. Android Programming for Beginners will be your companion to create Android applications from scratch—whether you're looking to start your programming career, make an application for work, be reintroduced to mobile development, or are just looking to program for fun. We will introduce you to all the fundamental concepts of programming in an Android context, from the Java basics to working with the Android API. All examples are created from within Android Studio, the official Android development environment that helps supercharge your application development process. After this crash-course, we'll dive deeper into Android programming and you'll learn how to create applications with a professional-

standard UI through fragments, make location-aware apps with Google Maps integration, and store your user's data with SQLite. In addition, you'll see how to make your apps multilingual, capture images from a device's camera, and work with graphics, sound, and animations too. By the end of this book, you'll be ready to start building your own custom applications in Android and Java. Style and approach With more than 40 mini apps to code and run, *Android Programming for Beginners* is a hands-on guide to learning Android and Java. Each example application demonstrates a different aspect of Android programming. Alongside these mini apps, we push your abilities by building three larger applications to demonstrate Android application development in context.

Learn Reactive Programming in Kotlin with RxJava! The popularity of reactive programming continues to grow on an ever-increasing number of platforms and languages. Rx lets developers easily and quickly build apps with code that can be understood by other Rx developers—even over different platforms. Not only will you learn how to use RxJava to create complex reactive applications on Android, you'll also see how to solve common application design issues by using RxJava. Finally, you'll discover how to exercise full control over the library and leverage the full power of reactive programming in your apps.

Who This Book Is For This book is for Android developers who already feel comfortable with the Android SDK and Kotlin, and want to dive deep into development with RxJava, RxKotlin, and RxAndroid.

Topics Covered in Reactive Programming with Kotlin:

- Getting Started:** Get an introduction to the reactive programming paradigm, learn the terminology involved, and see how to begin using RxJava in your projects.
- Event Management:** Learn how to handle asynchronous event sequences via two key concepts in Rx—Observables and Observers.
- Being Selective:** See how to work with various events using tools such as filtering, transforming, combining, and timing operators.
- UI Development:** RxJava and companion libraries make it easy to work with the UI of your apps, providing a reactive approach to handling user events.
- Intermediate Topics:** Level up your RxJava knowledge with chapters on reactive networking, error handling, and schedulers.
- Advanced Topics:** Round out your RxJava education by learning about app architecture, repositories, and integrating RxJava with Android Jetpack. And much, much more!

By the end of the book, you'll have hands-on experience solving common issues in a reactive paradigm—and you'll be well on your way to coming up with your own Rx patterns and solutions!

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 3.0 and Android 8, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE), the Android 8 Software Development Kit (SDK) and the Java programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. 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. More advanced topics such as database management, content providers and intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. 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 3 and Android 8 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Instant Apps, the Android Studio Profiler and Gradle build configuration. Assuming you already have some Java 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. 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."

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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>.

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