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Kotlin In-depth [Vol-II] Aug 22 2021 Master the concise and expressive power of a pragmatic multi-paradigm language for JVM, Android and beyond Key Features- Language fundamentals- Object-oriented and functional programming with Kotlin- Kotlin standard library- Building domain-specific languages- Using Kotlin for Web development- Kotlin for Android platform- Coroutine-based concurrencyDescriptionThe purpose of this book is to guide a reader through the capabilities of the Kotlin language and give examples of using it for development of various applications be it desktop, mobile or Web. Although our primary focus is on the JVM and Android, the knowledge we're sharing here to various extents applies to other Kotlin-supported platforms such as JavaScript, native and even multi-platform applications. The book starts with an introduction to language and its ecosystem that will give you an understanding of the key ideas behind Kotlin design, introduce you to the Kotlin tooling and present you the basic language syntax and constructs. In the next chapters we'll get to know the multi-paradigm nature of Kotlin which allows you to create powerful abstractions by combining various aspects of functional and object-oriented programming. We'll talk about using common Kotlin APIs such as the standard library, reflection, and coroutine-based concurrency as well as the means for creating your own flexible APIs based on domain-specific languages. In the concluding chapters, we'll give examples of using Kotlin for more specialized tasks such as testing, building Android applications, Web development and creating microservices. What will you learnBy the end of the book, you'll obtain a thorough knowledge of all basic aspects of Kotlin programming. You'll be able to create a flexible and reusable code by taking advantage of object-oriented and functional features, use Kotlin standard library, compose your own domain-specific languages, write asynchronous code using Kotlin coroutines library as well. You'll also have a basic understanding of using Kotlin for writing test code, web applications and Android development. This knowledge will also give you a solid foundation for deeper learning of related development platforms, tools and frameworks. Who this book is forThe book is primarily aimed at developers familiar with Java and JVM and willing to get a firm understanding of Kotlin while having little to no experience in that language. Discussion of various language features will be accompanied, if deemed necessary, by comparisons with their Java's analogs which should simplify Java-to-Kotlin transition. Most of the material, however, is rather Java-agnostic and should be beneficial even without prior Java knowledge. In general, experience in object-oriented or functional paradigm is a plus, but not required. Table of Contents10. Annotations and Reflection11. Domain-Specific Languages12. Java Interoperability13. Concurrency14. Testing with Kotlin15. Android Applications16. Web Development with Kotlin17. Building MicroservicesAbout the AuthorAleks Sedunov has been working as a Java developer since 2008. After joining JetBrains in 2012 he's been actively participating in the Kotlin language development focusing on IDE tooling for the IntelliJ platform. Currently, he's working in a DataGrip team, a JetBrains Database IDE, carrying on with using Kotlin as the main development tool. His LinkedIn Profile: <https://www.linkedin.com/in/alexy-sedunov-8554a530/>

Kotlin for Android Developers Feb 25 2022 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.

Learn Android Studio 3 with Kotlin Dec 26 2021 Build Android apps using the popular and efficient Android Studio 3 suite of tools, an integrated development environment (IDE) with which Android developers can now use the Kotlin programming language. With this book, you'll learn the latest and most productive tools in the Android tools ecosystem, ensuring quick Android app development and minimal effort on your part. Along the way, you'll use Android Studio to develop apps tier by tier through practical examples. These examples cover core Android topics such as Activities, Intents, BroadcastReceivers, Services and AsyncTask. Then, you'll learn how to publish your apps and sell them online and in the Google Play store. What You'll Learn Use Android Studio 3 to quickly and confidently build your first Android apps Build an Android user interface using activities and layouts, event handling, images, menus and the action bar Incorporate new elements including fragments Learn how data is persisted Use Kotlin to build apps Who This Book Is For Those who may be new to Android Studio 3 or Android Studio in general. You may or may not be new to Android development in general. Some prior experience with Java is also recommended.

Programming Android with Kotlin Aug 10 2020 Android development is so vast that mastering this mobile operating system can seem daunting--particularly now that Kotlin has become the official Android development language. This book helps Android developers make the transition from Java to Kotlin and shows them how Kotlin provides a true advantage for gaining control over asynchronous computations. By focusing specifically on coroutines, a new asynchronous programming paradigm, this book describes how you can achieve structured concurrency with Kotlin. Authors Pierre-Olivier Laurence, Amanda Hinchman-Dominguez, and Mike Dunn provide implementations of the most common tasks in native Android development. The basics of the Kotlin language and the Android architecture Data transformations in Kotlin Android fundamentals in memory and threading Concurrency with coroutines Channels and flows Android profiling tools Learn Kotlin Programming Feb 13 2021 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 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.

Kotlin In-Depth [Vol-I] Nov 12 2020 Master the concise and expressive power of a pragmatic, multi-paradigm language for JVM, Android and beyond
DESCRIPTION The purpose of this book is to guide a reader through the capabilities of Kotlin language and give examples of how to use it for the development of various applications, be it desktop, mobile or Web. Although our primary focus is on JVM and Android, the knowledge we're sharing here, to various extents, applies to other Kotlin-supported platforms such as JavaScript, native and even multi-platform applications. The book starts with an introduction to the language and its ecosystem, which will give you an understanding of the key ideas behind the Kotlin design, introduce you to the Kotlin tooling and present you the basic language syntax and constructs. In the next chapters, we get to know the multi-paradigm nature of Kotlin which allows us to create powerful abstractions by combining various aspects of functional and object-oriented programming. We'll talk about using common Kotlin APIs, such as the standard library, reflection, and coroutine-based concurrency as well as the means for creating your own flexible APIs based on domain-specific languages. In the concluding chapters, we give examples of using Kotlin for more specialized tasks, such as testing, building Android applications, Web development and creating microservices. **KEY FEATURES** ? Language fundamentals ? Object-oriented and functional programming with Kotlin ? Kotlin standard library ? Building domain-specific languages ? Using Kotlin for Web development ? Kotlin for Android platform ? Coroutine-based concurrency **WHAT WILL YOU LEARN** By the end of the book you'll obtain a thorough knowledge of all the basic aspects of Kotlin programming. You'll be able to create a flexible and reusable code by taking advantage of object-oriented and functional features, use Kotlin standard library, compose your own domain-specific languages, write asynchronous code using Kotlin coroutines library as well. You'll also have a basic understanding of using Kotlin for writing test code, web applications and Android development. This knowledge will also give you a solid foundation for deeper learning of related development platforms, tools, and frameworks. **WHO IS THIS BOOK FOR** The book is primarily aimed at developers who are familiar with Java and JVM and are willing to get a firm understanding of Kotlin while having little to no experience in that language. Discussion of various language features will be accompanied, if deemed necessary, by comparisons with their Java's analogs, which should simplify the Java-to-Kotlin transition. Most of the material, however, is rather Java-agnostic and should be beneficial even without prior knowledge of Java. In general, experience in object-oriented or functional paradigm is a plus, but not required. **Table of Contents** 1. Kotlin: Powerful and Pragmatic 2. Language Fundamentals 3. Defining Functions 4. Working with Classes and Objects 5. Leveraging Advanced Functions and Functional Programming 6. Using Special-Case Classes 7. Understanding Class Hierarchies 8. Exploring Collections and I/O 9. Generics 10. Annotations and Reflection 11. Domain-Specific Languages 12. Java Interoperability 13. Concurrency 14. Testing with Kotlin 15. Android Applications 16. Web Development with Ktor 17. Building Microservices

Android Application Development with Kotlin Jan 15 2021 Unleash the Power of Kotlin for Android App Development **DESCRIPTION** This book aims to provide the knowledge around the fundamental concept of Kotlin languages, and it's an application in Android application development. It covers basic to advanced concepts with practical examples. Each chapter in this book is a step by step journey towards the learning Kotlin and excel in various topics and concepts. It covers topics like data types, various functions, including lambdas and higher-order functions. It also covers advanced topics like Generics, Collections, DSL, Coroutine, etc. Most importantly, such concepts are explained with practical usage of it in Android application. You will get to know what is the best possible way to use these concepts while you develop an Android application. In this book, along with Kotlin, an attempt has been made where few Android-specific topics are also explained. For example, the application is using Architecture components, including ViewModel, LiveData, NavigationComponent, and also it uses Flow, which is a hot topic in Kotlin. While we learn this concept, along with that, we also develop a sample application where we can apply our learning and, in the end, have some tangible and measurable output. Readers with little previous knowledge of Android application development can easily follow this book. Most of the chapters are code-heavy and focuses on practical usage of Kotlin's features. Each chapter has code on the GitHub. You can check out this code and try it out. Or you can develop in parallel and cherry-pick things from the sample code base as and when you need it. Few chapters also follow the quiz at the end, and you can self assess yourself by going through that quiz. In total there are ten chapters. **KEY FEATURES** - The book has theories explained elaborately along with Kotlin code and corresponding output to support the theoretical explanations. The Kotlin codes are provided with step-by-step comments to explain each instruction of the code. - The book is quite well balanced with programs and illustrative real-case problems. - The book is not just explaining theoretical concepts of the language. Still, it explains how the full-fledged application can be developed using some latest tools and technologies and create an excellent Android application using Kotlin. - Few of the chapter offers the quiz at the end of it. And you can revise the concepts quickly. - A rich sample application is created to demonstrate Kotlin's capability in various parts of the application. - Quite the latest concepts are discussed in depth. For example, Flow, NavigationComponent, Coroutine, ViewModel, and LiveData. **WHAT WILL YOU LEARN** - Know the basics and many advanced concepts of Android. - Able to code in Kotlin for your Android application. - You will know how architecture components can be used in Android application with Kotlin. - Writing tests that use coroutine, Flow, LiveData, and ViewModel. - What measures you need to take before you put an application in production. - How agile practices can be applied before and after the application development is started. **WHO THIS BOOK IS FOR** The book is for readers with basic programming and android application development skills. The book is for any engineering graduates that wish to use Kotlin as a programming language for their Android application or wish to build a career in this direction. This book can also be useful for those who want to learn how testing aspects work for Android applications. The use cases and programs discussed in the book are self-explanatory and detailed with practical examples wherever necessary. This is why the book can be read by anyone who has an interest in Kotlin and Android and how applications are developed with the industry level standard maintained. **TABLE OF CONTENTS** 1. Getting started with Kotlin for Android 2. Kotlin Fundamentals 3. Go to the Depth of Kotlin 4. Design Patterns in Kotlin 5. Analyzing and Architecting a Meal Recipe App 6. Making Network Calls Using Coroutines 7. Kotlin-ize remaining of your app 8. Testing the Kotlin Code 9. Make Your App Production Ready 10. Kotlin Everywhere

The Joy of Kotlin May 19 2021 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

Functional Programming in Kotlin Oct 31 2019 Functional Programming in Kotlin is a reworked version of the bestselling *Functional Programming in Scala*, with all code samples, instructions, and exercises translated into the powerful Kotlin language. In this authoritative guide, you'll take on the challenge of learning functional programming from first principles, and start writing Kotlin code that's easier to read, easier to reuse, better for concurrency, and less prone to bugs and errors. about the technology Kotlin is a new JVM language designed to interoperate with Java and offer an improved developer experience for creating new applications. It's already a top choice for writing web services, and Android apps. Although it preserves Java's OO roots, Kotlin really shines when you adopt a functional programming mindset. By learning the core principles and practices of functional programming outlined in this book, you'll start writing code that's easier to read, easier to test and reuse, better for concurrency, and less prone to bugs. about the book *Functional Programming in Kotlin* is a serious tutorial for programmers looking to learn FP and apply it to the everyday business of coding. Based on the bestselling *Functional Programming in Scala*, this book guides intermediate Java

and Kotlin programmers from basic techniques to advanced topics in a logical, concise, and clear progression. In it, you'll find concrete examples and exercises that open up the world of functional programming. The book will deliver practical mastery of FP using Kotlin and a valuable perspective on program design that you can apply to other languages. What's inside Functional programming techniques for real-world applications Write combinator libraries Identify common structures and idioms in functional design Code for simplicity, modularity, and fewer bugs about the reader For intermediate Kotlin and Java developers. No experience with functional programming is required. about the author Marco Vermeulen has almost two decades of programming experience on the JVM, with much of that time spent on functional programming using Scala and Kotlin. Rúnar Bjarnason and Paul Chiusano are the authors of Functional Programming in Scala, on which this book is based. They are internationally-recognized experts in functional programming and the Scala programming language.

Data Structures & Algorithms in Kotlin (Second Edition) Dec 02 2019 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.

Mastering Kotlin Jan 27 2022 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 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.

Kotlin Programming for Beginners Mar 05 2020 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 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 toolbox? Scroll to the top of this page and click the "Buy Now with 1-Click" button to get started today!

Learning Concurrency in Kotlin Apr 05 2020 Take advantage of Kotlin's concurrency primitives to write efficient multithreaded applications Key Features Learn Kotlin's unique approach to multithreading Work through practical examples that will help you write concurrent non-blocking code Improve the overall execution speed in multiprocessor and multicore systems Book Description The primary requirements of modern-day applications are scalability, speed, and making the most use of hardware. Kotlin meets these requirements with its immense support for concurrency. Many concurrent primitives of Kotlin, such as channels and suspending functions, are designed to be non-blocking and efficient. This allows for new approaches to concurrency and creates unique challenges for the design and implementation of concurrent code. Learning Concurrency in Kotlin addresses those challenges with real-life examples and exercises that take advantage of Kotlin's primitives. Beginning with an introduction to Kotlin's coroutines, you will learn how to write concurrent code and understand the fundamental concepts needed to be able to write multithreaded software in Kotlin. You'll explore how to communicate between and synchronize your threads and coroutines to write asynchronous applications that are collaborative. You'll also learn how to handle errors and exceptions, as well as how to leverage multi-core processing. In addition to this, you'll delve into how coroutines work internally, allowing you to see the bigger picture. Throughout the book you'll build an Android application - an RSS reader - designed and implemented according to the different topics covered in the book What you will learn Understand Kotlin's approach to concurrency Implement sequential and asynchronous suspending functions Create suspending data sources that are resumed on demand Explore the best practices for error handling Use channels to communicate between coroutines Uncover how coroutines work under the hood Who this book is for If you're a Kotlin or Android developer interested in learning how to program concurrently to enhance the performance of your applications, this is the book for you.

Kotlin in Action Sep 03 2022 Summary Kotlin in Action guides experienced Java developers from the language basics of Kotlin all the way through 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 Kotlin Operator overloading and other conventions Higher-order functions: lambdas as parameters and return values Generics Annotations and reflection DSL construction

Android Development with Kotlin Mar 29 2022 Learn how to make Android development much faster using a variety of Kotlin features, from basics to advanced, to write better quality code. About This Book Leverage specific features of Kotlin to ease Android application development Write code based on both object oriented and functional programming to build robust applications Filled with various practical examples so you can easily apply your knowledge to real world scenarios Identify the improved way of dealing with common Java patterns Who This Book Is For This book is for developers who have a basic understanding of Java language and have 6-12 months of experience with Android development and developers who feel comfortable with OOP concepts. What You Will Learn Run a Kotlin application and understand the integration with Android Studio Incorporate Kotlin into new/existing Android Java based project Learn about Kotlin type system to deal with null safety and immutability Define various types of classes and deal with properties Define collections and transform them in functional way Define extensions, new behaviours to existing libraries and Android framework classes Use generic type variance modifiers to define subtyping relationship

between generic types Build a sample application In Detail Nowadays, improved application development does not just mean building better performing applications. It has become crucial to find improved ways of writing code. Kotlin is a language that helps developers build amazing Android applications easily and effectively. This book discusses Kotlin features in context of Android development. It demonstrates how common examples that are typical for Android development, can be simplified using Kotlin. It also shows all the benefits, improvements and new possibilities provided by this language. The book is divided in three modules that show the power of Kotlin and teach you how to use it properly. Each module presents features in different levels of advancement. The first module covers Kotlin basics. This module will lay a firm foundation for the rest of the chapters so you are able to read and understand most of the Kotlin code. The next module dives deeper into the building blocks of Kotlin, such as functions, classes, and function types. You will learn how Kotlin brings many improvements to the table by improving common Java concepts and decreasing code verbosity. The last module presents features that are not present in Java. You will learn how certain tasks can be achieved in simpler ways thanks to Kotlin. Through the book, you will learn how to use Kotlin for Android development. You will get to know and understand most important Kotlin features, and how they can be used. You will be ready to start your own adventure with Android development with Kotlin.

Learn Kotlin Programming Nov 24 2021 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 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.

Kotlin for Android App Development Oct 24 2021 Write More Robust and Maintainable Android Apps with Kotlin "Peter Sommerhoff takes a practical approach to teaching Kotlin by providing a larger set of code listings that demonstrate language features and by guiding readers through the development of two Android apps step by step. . . . Peter finds a good balance between what is essential and what can be left to readers, so this book is an efficient yet comprehensible source for starting programming with Kotlin." -Bernhard Rumpe, Professor of Software Engineering, RWTH Aachen University The Kotlin language brings state-of-the-art programming techniques and constructs to Android development. Kotlin for Android App Development will help you rapidly understand Kotlin's principles and techniques, apply Kotlin in production app development, integrate Kotlin with existing Java code, and plan a migration to Kotlin, if you choose. If you have at least basic programming experience (with any language), Peter Sommerhoff's well-crafted overview and examples will help you get quickly up-to-speed with the Kotlin language, its constructs, and its advanced functional and object-oriented capabilities. Once you've mastered these foundations, Sommerhoff walks you through two complete app development projects, introducing best practices and emerging patterns for writing code that's robust, concise, readable, and highly performant. Understand Kotlin's goals, principles, advantages, design, and constructs Take full advantage of functional programming in the Kotlin environment Write more concise and reusable code using Kotlin's object-oriented features Interoperate with existing Java code, and plan a migration to Kotlin Use coroutines to efficiently handle concurrency Capture data via third-party APIs, map it to internal data representations, and present it to users Master best practices for architecting Kotlin Android apps Improve productivity and readability by creating simple domain-specific languages in Kotlin

Learn to Program with Kotlin May 31 2022 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.

Learn Android Studio 3 with Kotlin Dec 14 2020 Build Android apps using the popular and efficient Android Studio 3 suite of tools, an integrated development environment (IDE) with which Android developers can now use the Kotlin programming language. With this book, you'll learn the latest and most productive tools in the Android tools ecosystem, ensuring quick Android app development and minimal effort on your part. Along the way, you'll use Android Studio to develop apps tier by tier through practical examples. These examples cover core Android topics such as Activities, Intents, BroadcastReceivers, Services and AsyncTask. Then, you'll learn how to publish your apps and sell them online and in the Google Play store. What You'll Learn Use Android Studio 3 to quickly and confidently build your first Android apps Build an Android user interface using activities and layouts, event handling, images, menus and the action bar Incorporate new elements including fragments Learn how data is persisted Use Kotlin to build apps Who This Book Is For Those who may be new to Android Studio 3 or Android development in general. You may or may not be new to Android development in general. Some prior experience with Java is also recommended.

Effective Kotlin Mar 17 2021 Kotlin is a powerful and pragmatic language, but it's not enough to know about its features. We also need to know when they should be used and in what way. This book is a guide for Kotlin developers on how to become excellent Kotlin developers. It presents and explains in-depth the best practices for Kotlin development. Each item is presented as a clear rule of thumb, supported by detailed explanations and practical examples.

Kotlin for Android Developers Oct 04 2022 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! "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.

Android Apprentice (Fourth Edition) Jul 29 2019 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 RecyclerView Views 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 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.

Programming Kotlin Apr 29 2022 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 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.

Java to Kotlin Jun 27 2019 It takes a week to travel the 8,000 miles overland from Java to Kotlin. If you're an experienced Java developer who has tried the Kotlin language, you were probably productive in about the same time. You'll have found that they do things differently in Kotlin, though. Nullability is important, collections are different, and classes are final by default. Kotlin is more functional, but what does that mean, and how should it change the way that you program? And what about all that Java code that you still have to support? Your tour guides Duncan and Nat first made the trip in 2015, and they've since helped many teams and individuals follow in their footsteps. Travel with them as they break the route down into legs like Optional to Nullable, Beans to Values, and Open to Sealed Classes. Each explains a key concept and then shows how to refactor production Java to idiomatic Kotlin, gradually and safely, while maintaining interoperability. The resulting code is simpler, more expressive, and easier to change. By the end of the journey, you'll be confident in refactoring Java to Kotlin, writing Kotlin from scratch, and managing a mixed language codebase as it evolves over time.

Learn Kotlin for Android Development Nov 05 2022 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.

Kotlin for Enterprise Applications using Java EE Jan 03 2020 Build Java Enterprise Applications and learn how Kotlin makes it easier to code them using components like JSF 2.3, Enterprise JavaBeans (EJB) 3.2, Contexts and Dependency Injection (CDI) 2.0, the Java API for WebSockets, JAX-RS 2.1, Servlet 4.0. Key FeaturesAn in-depth guide updated with all the latest features of Kotlin 1.2 and Java EE 8Build microservices in Java EE with the help of Kotlin use casesExplore coroutines, garbage collection, multithreading, memory management and moreBook Description Kotlin was developed with a view to solving programmers' difficulties and operational challenges. This book guides you in making Kotlin and Java EE work in unison to build enterprise-grade applications. Together, they can be used to create services of any size with just a few lines of code and let you focus on the business logic. Kotlin for Enterprise Applications using Java EE begins with a brief tour of Kotlin and helps you understand what makes it a popular and reasonable choice of programming language for application development, followed by its incorporation in the Java EE platform. We will then learn how to build applications using the Java Persistence API (JPA) and Enterprise JavaBeans (EJB), as well as develop RESTful web services and MicroServices. As we work our way through the chapters, we'll use various performance improvement and monitoring tools for your application and see how they optimize real-world applications. At each step along the way, we will see how easy it is to develop enterprise applications in Kotlin. By the end of this book, we will have learned design patterns and how to implement them using Kotlin. **What you will learn**Understand Kotlin syntax and appreciate why it's gaining in popularityExplore the Java EE ecosystem and the APIs in Java EEImplement applications using KotlinOvercome the challenges of developing the Java EE system using KotlinGain insights into Java Message Services (JMS)Build RESTful MicroServices and secure applicationsOptimize applications with performance and monitoring toolsUnderstand design patterns and implement them**Who this book is for** Kotlin for Enterprise Applications using Java EE is for Java EE developers who want to build their enterprise project or application with Kotlin or migrate from Java to Kotlin. Basic knowledge of programming is necessary to understand the key concepts covered in this book.

Mastering Android Development with Kotlin Apr 17 2021 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. 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.

Learn Ethical Hacking from Scratch Aug 29 2019 Learn how to hack systems like black hat hackers and secure them like security experts Key Features Understand how computer systems work and their vulnerabilities Exploit weaknesses and hack into machines to test their security Learn how to secure systems from hackers **Book Description** This book starts with the basics of ethical hacking, how to practice hacking safely and legally, and how to install and interact with Kali Linux and the Linux terminal. You will explore network hacking, where you will see how to test the security of wired and wireless networks. You'll also learn how to crack the password for any Wi-Fi network (whether it uses WEP, WPA, or WPA2) and spy on the connected devices. Moving on, you will discover how to gain access to remote computer systems using client-side and server-side attacks. You will also get the hang of post-exploitation techniques, including remotely controlling and interacting with the systems that you compromised. Towards the end of the book, you will be able to pick up web application hacking techniques. You'll see how to discover, exploit, and prevent a number of website vulnerabilities, such as XSS and SQL injections. The attacks covered are practical techniques that work against real systems and are purely for educational purposes. At the end of each section, you will learn how to detect, prevent, and secure systems from

these attacks. What you will learn Understand ethical hacking and the different fields and types of hackers Set up a penetration testing lab to practice safe and legal hacking Explore Linux basics, commands, and how to interact with the terminal Access password-protected networks and spy on connected clients Use server and client-side attacks to hack and control remote computers Control a hacked system remotely and use it to hack other systems Discover, exploit, and prevent a number of web application vulnerabilities such as XSS and SQL injections Who this book is for Learning Ethical Hacking from Scratch is for anyone interested in learning how to hack and test the security of systems like professional hackers and security experts.

Kotlin Programming Jul 21 2021 Kotlin is a statically typed programming language designed to interoperate with Java and fully supported by Google on the Android operating system. Based on Big Nerd Ranch's popular Kotlin Essentials course, this guide shows you how to work effectively with the Kotlin programming language through hands-on examples and clear explanations of key Kotlin concepts and foundational APIs. Written for Kotlin 1.2, this book will also introduce you to JetBrains' IntelliJ IDEA development environment. Whether you are an experienced Android developer looking for modern features beyond what Java offers or a new developer ready to learn your first programming language, the authors will guide you from first principles to advanced usage of Kotlin. By the end of this book, you will be empowered to create reliable, concise applications in Kotlin.

Reactive Programming in Kotlin Sep 10 2020 Learn how to implement Reactive Programming paradigms with Kotlin, and apply them to web programming with Spring Framework 5.0 and in Android Application Development. About This Book Learn how to solve blocking user experience with Reactive Programming and get deep insights into RxKotlin Integrate Reactive Kotlin with Spring and build fantastic Android Apps with RxKotlin and RxAndroid Build reactive architectures that reduce complexity throughout the development process and make your apps(web and Android) scalable Who This Book Is For This book is for Kotlin developers who would like to build fault-tolerant, scalable, and distributed systems. A basic knowledge of Kotlin is required, but no prior knowledge of reactive programming. What You Will Learn Learn about reactive programming paradigms and how reactive programming can improve your existing projects Gain in-depth knowledge in RxKotlin 2.0 and the ReactiveX Framework Use RxKotlin with Android Create your own custom operators in RxKotlin Use Spring Framework 5.0 with Kotlin Use the reactor-kotlin extension Build Rest APIs with Spring,Hibernate, and RxKotlin Use testSubscriber to test RxKotlin applications Use backpressure management and Flowables In Detail In today's app-driven era, when programs are asynchronous, and responsiveness is so vital, reactive programming can help you write code that's more reliable, easier to scale, and better-performing. Reactive programming is revolutionary. With this practical book, Kotlin developers will first learn how to view problems in the reactive way, and then build programs that leverage the best features of this exciting new programming paradigm. You will begin with the general concepts of Reactive programming and then gradually move on to working with asynchronous data streams. You will dive into advanced techniques such as manipulating time in data-flow, customizing operators and provider and how to Use the concurrency model to control asynchronicity of code and process event handlers effectively. You will then be introduced to functional reactive programming and will learn to apply FRP in practical use cases in Kotlin. This book will also take you one step forward by introducing you to spring 5 and spring boot 2 using Kotlin. By the end of the book, you will be able to build real-world applications with reactive user interfaces as well as you'll learn to implement reactive programming paradigms in Android. Style and Approach Loaded with numerous code examples and real-life projects, this book helps you delve into Reactive Programming with Kotlin, and apply it to real-world Spring-web and Android projects, thus making all your apps reactive.

Mastering Kotlin Oct 12 2020 Mastering Kotlin helps readers quickly understand core concepts and then move on to practical projects using the Kotlin programming language. Back in the day, Java was the de facto choice for creating Android apps. However, since Google announced Kotlin as the new language of choice for building Android applications, developers haven't looked back. Kotlin is a general purpose, statically typed, open source programming language that runs on Java Virtual Machines. It can be called a Java replacement; however, the Kotlin syntax isn't blindly identical to that of Java. Sure, Kotlin can work with Java, and owing to its intuitiveness, it can also enhance overall productivity and efficiency, but it is not a Java clone. Kotlin differs from Java in that it has assertive interfaces that help determine variable and expression classes, even if they're not defined. Kotlin is a beautiful alternative for modifying and identifying faults because it has a familiar and straightforward syntax and programming structure. It comes with a sophisticated compiler that can track automatic casts, allowing verification durations to be more efficient. Kotlin also has simple signals that may be interpreted without any need for set parameters. And Kotlin is easy to set up: all you need is a Kotlin component for Android Studio. Kotlin developers are in high demand. As a Kotlin developer, you'll be able to pursue a variety of career routes, spanning fields such as mobile app development, game development, game design, and even software development. Many well-known brands use Kotlin in their software and projects. Naturally, it is a good idea to learn Kotlin, and this is how Mastering Kotlin can be the right manual for you! With Mastering Kotlin, learning Kotlin becomes an easy task, and learners can use their skills to create innovative Kotlin apps. The Mastering Computer Science series is edited by Sufyan bin Uzayr, a writer and educator with over a decade of experience in the computing field.

Learning Kotlin by Building Android Applications Sep 22 2021 Learn programming in Kotlin including data types, flow control, lambdas, object-oriented, and functional programming while building 3 Android Apps Key Features Experience the gentle learning curve of Kotlin as you develop your own applications Learn how to integrate Kotlin into Android Studio 3 and use it in your projects Build real-world applications such as Googly Eyes and games using Kotlin Book Description Today Kotlin is an official programming language for Android development and is widely adopted. Kotlin is expressive, concise, and powerful. It also ensures seamless interoperability with existing Android languages like JAVA and C++, which means that it's even easier for developers to use. This book adopts a project-style approach, where we focus on teaching Android development by building three different Android Application: a Tic-Tac-Toe application, a location-based alarm and a To-Do list application. The book begins by giving you a strong grasp of the Kotlin language and its APIs as a preliminary to building stunning applications for Android. You'll learn to set up an environment and as you progress through the chapters and the building of the different applications, the difficulty level will steadily grow. The book also introduces you to the Android Studio IDE, which plays an integral role in Android Development. It covers Kotlin's basic programming concepts such as functions, lambdas, properties, object-oriented code, safety aspects and type parameterization, testing, and concurrency, and helps you write Kotlin code to production. Finally, you'll be taken through the process of releasing your app on the Google Play Store. You will also be introduced to other app distribution channels such as Amazon App Store. As a bonus chapter, you will also learn how to use the Google Faces API to detect faces and add fun functionalities. What you will learn Learn the basics of using the Android Studio IDE and a number of basic programming concepts in Kotlin Discover Android development by building Android apps with Kotlin Uncover some amazing features of Kotlin that give it the upper hand over Java Learn about Kotlin interoperability with Java Integrate Crashlytics for crash reporting and beta testing. Use Google Location services and understand various APIs available for getting user location updates Understand the principles of networking and communication. Learn about the usage of third-party libraries for loading of data Automate your build process with continuous integration tools Who this book is for If you are completely new to Kotlin or the Android platform and need to publish Android applications for fun or for business purposes, but you have no clue where to start, then this book is for you. This book is also for advanced Android developers who want to learn to use Kotlin instead of/alongside Java for Android development, although having some programming experience would be helpful.

Kotlin Cookbook Jun 19 2021 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 this Java-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 context and 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, JavaScript generation, 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

Android Programming May 07 2020 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>.

How to Build Android Apps with Kotlin Jun 07 2020 Master the fundamentals of Android programming and apply your skills to create scalable and reliable apps using industry best practices Key Features Build apps with Kotlin, Google's preferred programming language for Android development Unlock solutions to development challenges with guidance from experienced Android professionals Improve your apps by adding valuable features that make use of advanced functionality Book Description Are you keen to get started building Android 11 apps, but don't know where to start? How to Build Android Apps with Kotlin is a comprehensive guide that will help kick-start your Android development practice. This book starts with the fundamentals of app development, enabling you to utilize Android Studio and Kotlin to get started building Android projects. You'll learn how to create apps and run them on virtual devices through guided exercises. Progressing through the chapters, you'll delve into Android's RecyclerView to make the most of lists, images, and maps, and see how to fetch data from a web service. Moving ahead, you'll get to grips with testing, learn how to keep your architecture clean, understand how to persist data, and gain basic knowledge of the dependency injection pattern. Finally, you'll see how to publish your apps on the Google Play store. You'll work on realistic projects that are split up into bite-size exercises and activities, allowing you to challenge yourself in an enjoyable and attainable way. You'll build apps to create quizzes, read news articles, check weather reports, store recipes, retrieve movie information, and remind you where you parked your car. By the end of this book, you'll have the skills and confidence to build your own creative Android applications using Kotlin. What you will learn Create maintainable and scalable apps using Kotlin Understand the Android development lifecycle Simplify app development with Google architecture components Use standard libraries for dependency injection and data parsing Apply the repository pattern to retrieve data from outside sources Publish your app on the Google Play store Who this book is for If you want to build your own Android applications using Kotlin but are unsure of how to begin, then this book is for you. To easily grasp the concepts in this book, it is recommended that you already have a basic understanding of Kotlin, or experience in a similar programming language and a willingness to brush up on Kotlin before you start.

Head First Kotlin Jul 01 2022 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.

Kotlin Programming By Example Feb 02 2020 Enhance your Kotlin programming skills by building 3 real-world applications Key Features Build three full-fledged, engaging applications from scratch and learn to deploy them Enhance your app development and programming activities with Kotlin's powerful and intuitive tools and utilities. Experience the gentle learning curve, expressiveness, and intuitiveness of Kotlin, as you develop your own applications Book Description Kotlin greatly reduces the verbosity of source code. With Google having announced their support for Kotlin as a first-class language for writing Android apps, now's the time learn how to create apps from scratch with Kotlin Kotlin Programming By Example takes you through the building blocks of Kotlin, such as functions and classes. You'll explore various features of Kotlin by building three applications of varying complexity. For a quick start to Android development, we look at building a classic game, Tetris, and elaborate on object-oriented programming in Kotlin. Our next application will be a messenger app, a level up in terms of complexity. Before moving onto the third app, we take a look at data persistent methods, helping us learn about the storage and retrieval of useful applications. Our final app is a place reviewer: a web application that will make use of the Google Maps API and Place Picker. By the end of this book, you will have gained experience of creating and deploying Android applications using Kotlin. What you will learn Learn the building blocks of the Kotlin programming language Develop powerful RESTful microservices for Android applications Create reactive Android applications efficiently Implement an MVC architecture pattern and dependency management using Kotlin Centralize, transform, and stash data with Logstash Secure applications using Spring Security Deploy Kotlin microservices to AWS and Android applications to the Play Store Who this book is for This book is for those who are new to Kotlin or are familiar with the basics, having dabbled with Java until now. Basic programming knowledge is mandatory.

Atomic Kotlin Aug 02 2022 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.

Programming Kotlin Jul 09 2020 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.

Thinking in Java Sep 30 2019 An overview of the programming language's fundamentals covers syntax, initialization, implementation, classes, error handling, objects, applets, multiple threads, projects, and network programming.