

Go Programming Blueprints Second Edition

Go Programming Blueprints - Second Edition

Build real-world, production-ready solutions in Go using cutting-edge technology and techniques

About This Book- Get up to date with Go and write code capable of delivering massive world-class scale performance and availability- Learn to apply the nuances of the Go language, and get to know the open source community that surrounds it to implement a wide range of start-up quality projects- Write interesting and clever but simple code, and learn skills and techniques that are directly transferrable to your own projects

Who This Book Is For If you are familiar with Go and are want to put your knowledge to work, then this is the book for you. Go programming knowledge is a must. What You Will Learn-

- Build quirky and fun projects from scratch while exploring patterns, practices, and techniques, as well as a range of different technologies-
- Create websites and data services capable of massive scale using Go's net/http package, exploring RESTful patterns as well as low-latency WebSocket APIs-
- Interact with a variety of remote web services to consume capabilities ranging from authentication and authorization to a fully functioning thesaurus-
- Develop high-quality command-line tools that utilize the powerful shell capabilities and perform well using Go's in-built concurrency mechanisms-
- Build microservices for larger organizations using the Go Kit library-
- Implement a modern document database as well as high-throughput messaging queue technology to put together an architecture that is truly ready to scale-
- Write concurrent programs and gracefully manage the execution of them and communication by smartly using channels-
- Get a feel for app deployment using Docker and Google App Engine

In Detail Go is the language of the Internet age, and the latest version of Go comes with major architectural changes. Implementation of the language, runtime, and libraries has changed significantly. The compiler and runtime are now written entirely in Go. The garbage collector is now concurrent and provides dramatically lower pause times by running in parallel with other Go routines when possible. This book will show you how to leverage all the latest features and much more. This book shows you how to build powerful systems and drops you into real-world situations. You will learn to develop high-quality command-line tools that utilize the powerful shell capabilities and perform well using Go's in-built concurrency mechanisms. Scale, performance, and high availability lie at the heart of our projects, and the lessons learned throughout this book will arm you with everything you need to build world-class solutions. You will get a feel for app deployment using Docker and Google App Engine. Each project could form the basis of a start-up, which means they are directly applicable to modern software markets.

Style and approach This book provides fun projects that involve building applications from scratch. These projects will teach you to build chat applications, a distributed system, and a recommendation system.

Updated for both Python 3.4 and 2.7, this convenient pocket guide is the perfect on-the-job quick reference. You'll find concise, need-to-know information on Python types and statements, special method names, built-in functions and exceptions, commonly used standard library modules, and other prominent Python tools. The handy index lets you pinpoint exactly what you need. Written by Mark Lutz—widely recognized as the world's leading Python trainer—Python Pocket Reference is an ideal companion to O'Reilly's classic Python tutorials, Learning Python and Programming Python, also written by Mark. This fifth edition covers:

- Built-in object types, including numbers, lists, dictionaries, and more
- Statements and syntax for creating and processing objects
- Functions and modules for structuring and reusing code
- Python's object-oriented programming tools
- Built-in functions, exceptions, and attributes
- Special operator overloading methods
- Widely used standard library modules and extensions
- Command-line options and development tools
- Python idioms and hints
- The Python SQL Database API

Summary Go in Action introduces the Go language, guiding you from inquisitive developer to Go guru. The book begins by introducing the unique features and concepts of Go. Then, you'll get hands-on experience writing real-world applications including websites and network servers, as well as techniques to manipulate and convert data at speeds that will make your friends jealous. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

About the Technology Application development can be tricky enough even when you aren't dealing with complex systems programming problems like web-scale concurrency and real-time performance. While it's possible to solve these common issues with additional tools and frameworks, Go handles them right out of the box, making for a more natural and productive coding experience. Developed at Google, Go powers nimble startups as well as big enterprises—companies that rely on high-performing services in their infrastructure.

About the Book Go in Action is for any intermediate-level developer who has experience with other programming languages and wants a jump-start in learning Go or a more thorough understanding of the language and its internals. This book provides an intensive, comprehensive, and idiomatic view of Go. It focuses on the specification and implementation of the language, including topics like language syntax, Go's type system, concurrency, channels, and testing.

What's Inside Language specification and implementation Go's type system Internals of Go's data structures Testing and benchmarking

About the Reader This book assumes you're a working developer proficient with another language like Java, Ruby, Python, C#, or C++.

About the Authors William Kennedy is a seasoned

software developer and author of the blog GoingGo.Net. Brian Ketelsen and Erik St. Martin are the organizers of GopherCon and coauthors of the Go-based Skynet framework. Table of Contents Introducing Go Go quick-start Packaging and tooling Arrays, slices, and maps Go's type system Concurrency Concurrency patterns Standard library Testing and benchmarking

Publisher's note: This edition from 2019 is based on Unreal Engine 4 and does not make use of the most recent Unreal Engine features. A new third edition, updated for Unreal Engine 5 blueprints including new topics, such as implementing procedural generation and creating a product configurator, has now been published. Key Features Design a fully functional game in UE4 without writing a single line of code Implement visual scripting to develop gameplay mechanics, UI, visual effects, VR and artificial intelligence Deploy your game on multiple platforms and share it with the world Book Description Blueprints is the visual scripting system in Unreal Engine that enables programmers to create baseline systems and can be extended by designers. This book helps you explore all the features of the Blueprint Editor and guides you through using Variables, Macros, and Functions. You'll also learn about object-oriented programming (OOP) and discover the Gameplay Framework. In addition to this, you'll learn how Blueprint Communication allows one Blueprint to access information from another Blueprint. Later chapters will focus on building a fully functional game using a step-by-step approach. You'll start with a basic first-person shooter (FPS) template, and each chapter will build on the prototype to create an increasingly complex and robust game experience. You'll then progress from creating basic shooting mechanics to more complex systems, such as user interface elements and intelligent enemy behavior. The skills you will develop using Blueprints can also be employed in other gaming genres. In the concluding chapters, the book demonstrates how to use arrays, maps, enums, and vector operations. Finally, you'll learn how to build a basic VR game. By the end of this book, you'll have learned how to build a fully functional game and will have the skills required to develop an entertaining experience for your audience. What you will learn Understand programming concepts in Blueprints Create prototypes and iterate new game mechanics rapidly Build user interface elements and interactive menus Use advanced Blueprint nodes to manage the complexity of a game Explore all the features of the Blueprint editor, such as the Components tab, Viewport, and Event Graph Get to grips with object-oriented programming (OOP) concepts and explore the Gameplay Framework Learn Virtual Reality development with UE Blueprint Who this book is for This book is for anyone who is interested in developing games or applications with UE4. Although basic knowledge of Windows OS is required, experience in programming or UE4 is not necessary.

Python In Your Pocket

Go Programming Blueprints - Second Edition

Build and control AI-enabled autonomous robots using the Raspberry Pi and Python

Mastering Qt 5

Learn Python 3 the Hard Way

Introducing Go

Summary *Go in Practice guides you through 70 real-world techniques in key areas like package management, microservice communication, and more. Following a cookbook-style Problem/Solution/Discussion format, this practical handbook builds on the foundational concepts of the Go language and introduces specific strategies you can use in your day-to-day applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Go may be the perfect systems language. Built with simplicity, concurrency, and modern applications in mind, Go provides the core tool set for rapidly building web, cloud, and systems applications. If you know a language like Java or C#, it's easy to get started with Go; the trick is finding the practical dirt-under-the-fingernails techniques that you need to build production-ready code. About the Book Go in Practice guides you through dozens of real-world techniques in key areas. Following a cookbook-style Problem/Solution/Discussion format, this practical handbook builds on the foundational concepts of the Go language and introduces specific strategies you can use in your day-to-day applications. You'll learn techniques for building web services, using Go in the cloud, testing and debugging, routing, network applications, and much more. After finishing this book, you will be ready to build sophisticated cloud-native Go applications. What's Inside Dozens of specific, practical Golang techniques Using Go for devops and cloudops Writing RESTful web services and microservices Practical web dev techniques About the Reader Written for experienced developers who have already started exploring Go and want to use it effectively in a production setting. About the Authors Matt Farina is a software architect at Deis. Matt Butcher is a Principal Engineer in the Advanced Technology Group at Hewlett Packard Enterprise. They are both authors, speakers, and regular open source contributors. Table of Contents PART 1 - BACKGROUND AND FUNDAMENTALS Getting into Go A solid foundation Concurrency in Go PART 2 - WELL-ROUNDED APPLICATIONS Handling errors and panic Debugging and testing PART 3 - AN INTERFACE FOR YOUR APPLICATIONS HTML and email template patterns Serving and receiving assets and forms Working with web services PART 4 - TAKING YOUR APPLICATIONS TO THE CLOUD Using the cloud Communication between cloud services Reflection and code generation Build a variety of real-world applications by taking advantage of the newest features of Java 9 About This Book See some of the new features of Java 9 and be introduced to parts of the Java SDK This book provides a set of diverse, interesting projects that range in complexity from fairly simple to advanced and cover HTTP 2.0 Take advantage of Java's new modularity features to write real-world applications that solve a variety of problems Who This Book Is For This book is for Java developers who are already familiar with the*

language. Familiarity with more advanced topics, such as network programming and threads, would be helpful, but is not assumed. What You Will Learn Learn how to package Java applications as modules by using the Java Platform Module System Implement process management in Java by using the all-new process handling API Integrate your applications with third-party services in the cloud Interact with mail servers using JavaMail to build an application that filters spam messages Learn to use JavaFX to build rich GUI based applications, which are an essential element of application development Write microservices in Java using platform libraries and third-party frameworks Integrate a Java application with MongoDB to build a cloud-based note taking application **In Detail** Java is a powerful language that has applications in a wide variety of fields. From playing games on your computer to performing banking transactions, Java is at the heart of everything. The book starts by unveiling the new features of Java 9 and quickly walks you through the building blocks that form the basis of writing applications. There are 10 comprehensive projects in the book that will showcase the various features of Java 9. You will learn to build an email filter that separates spam messages from all your inboxes, a social media aggregator app that will help you efficiently track various feeds, and a microservice for a client/server note application, to name a few. The book covers various libraries and frameworks in these projects, and also introduces a few more frameworks that complement and extend the Java SDK. Through the course of building applications, this book will not only help you get to grips with the various features of Java 9, but will also teach you how to design and prototype professional-grade applications with performance and security considerations. **Style and approach** This is a learn-as-you-build practical guide to building full-fledged applications using Java 9. With a project-based approach, we'll improve your Java skills. You will experience a variety of solutions to problems with Java.

Build real-world, production-ready solutions in Go using cutting-edge technology and techniques About This Book Get up to date with Go and write code capable of delivering massive world-class scale performance and availability Learn to apply the nuances of the Go language, and get to know the open source community that surrounds it to implement a wide range of start-up quality projects Write interesting and clever but simple code, and learn skills and techniques that are directly transferrable to your own projects **Who This Book Is For** If you are familiar with Go and are want to put your knowledge to work, then this is the book for you. Go programming knowledge is a must. **What You Will Learn** Build quirky and fun projects from scratch while exploring patterns, practices, and techniques, as well as a range of different technologies Create websites and data services capable of massive scale using Go's net/http package, exploring RESTful patterns as well as low-latency WebSocket APIs Interact with a variety of remote web services to consume capabilities ranging from authentication and authorization to a fully functioning thesaurus Develop high-quality command-line tools that utilize the powerful shell capabilities and perform well using Go's in-built concurrency mechanisms Build microservices for larger organizations using the Go Kit library Implement a modern document database as well as high-throughput messaging queue technology to put together an architecture that is truly ready to scale Write concurrent programs and gracefully manage the execution of them and communication by smartly using channels Get a feel for app deployment using Docker and Google App Engine **In Detail** Go is the language of the Internet age, and the latest version of Go comes with major architectural changes. Implementation of the language, runtime, and libraries has changed significantly. The compiler and runtime are now written entirely in Go. The garbage collector is now concurrent and provides dramatically lower pause times by running in parallel with other Go routines when possible. This book will show you how to leverage all the latest features and much more. This book shows you how to build powerful systems and drops you into real-world situations. You will learn to develop high-quality command-line tools that utilize the powerful shell capabilities and perform well using Go's in-built concurrency mechanisms. Scale, performance, and high availability lie at the heart of our projects, and the lessons learned throughout this book will arm you with everything you need to build world-class solutions. You will get a feel for app deployment using Docker and Google App Engine. Each project could form the basis of a start-up, which means they are directly applicable to modern software markets. **Style and approach** This book provides fun projects that involve building applications from scratch. These projects will teach you to build chat applications, a distributed system, and a recommendation system.

A new edition of the most popular book of project management case studies, expanded to include more than 100 cases plus a "super case" on the Iridium Project Case studies are an important part of project management education and training. This Fourth Edition of Harold Kerzner's Project Management Case Studies features a number of new cases covering value measurement in project management. Also included is the well-received "super case," which covers all aspects of project management and may be used as a capstone for a course. **This new edition: Contains 100-plus case studies drawn from real companies to illustrate both successful and poor implementation of project management Represents a wide range of industries, including medical and pharmaceutical, aerospace, manufacturing, automotive, finance and banking, and telecommunications Covers cutting-edge areas of construction and international project management plus a "super case" on the Iridium Project, covering all aspects of project management Follows and supports preparation for the Project Management Professional (PMP®) Certification Exam** Project Management Case Studies, Fourth Edition is a valuable resource for students, as well as practicing engineers and managers, and can be used on its own or with the new Eleventh Edition of Harold Kerzner's landmark reference, Project Management: A Systems Approach to Planning, Scheduling, and Controlling. (PMP and Project Management Professional are registered marks of the Project Management Institute, Inc.)

Master key features of Go, including advanced concepts like concurrency and working with JSON, to create and optimize real-world services, network servers, and clients **Key Features** This third edition of the bestselling guide to advanced Go programming has been overhauled and expanded to cover RESTful servers, the WebSocket protocol, and Go generics **Use real-world exercises to build high-performance network servers and powerful command line utilities** Packed with practical examples and utilities to apply to your own development work and administrative tasks **Get clear explanations about Go nuances and features to simplify Go development** **Book Description** Mastering Go is the essential guide to putting Go to work on real production systems. This freshly updated third edition includes topics like creating RESTful servers and clients, understanding Go

generics, and developing gRPC servers and clients. Mastering Go was written for programmers who want to explore the capabilities of Go in practice. As you work your way through the chapters, you'll gain confidence and a deep understanding of advanced Go concepts, including concurrency and the operation of the Go Garbage Collector, using Go with Docker, writing powerful command-line utilities, working with JavaScript Object Notation (JSON) data, and interacting with databases. You'll also improve your understanding of Go internals to optimize Go code and use data types and data structures in new and unexpected ways. This essential Go programming book will also take you through the nuances and idioms of Go with exercises and resources to fully embed your newly acquired knowledge. With the help of Mastering Go, you'll become an expert Go programmer by building Go systems and implementing advanced Go techniques in your projects. What you will learn
Use Go in production
Write reliable, high-performance concurrent code
Manipulate data structures including slices, arrays, maps, and pointers
Develop reusable packages with reflection and interfaces
Become familiar with generics for effective Go programming
Create concurrent RESTful servers, and build gRPC clients and servers
Define Go structures for working with JSON data
Who this book is for
You'll need to know the basics of Go before you get started with this book, but beyond that, anyone can sink their teeth into it. It's written primarily for Go programmers who have a bit of experience with the language and want to become expert practitioners.

Go in Practice

Dive into the Future of Infrastructure

Python Pocket Reference

Go in Action

Blueprints of the Afterlife

Java 9 Programming Blueprints

Geometry Management, Event Handling, and more
Key Features
A Practical, guide to learn the application of Python and GUI programming with tkinter
Create multiple cross-platform real-world projects by integrating host of third party libraries and tools
Learn to build beautiful and highly interactive user interfaces, targeting multiple devices.
Book Description
Tkinter is the built-in GUI package that comes with standard Python distributions. It is a cross-platform package, which means you build once and deploy everywhere. It is simple to use and intuitive in nature, making it suitable for programmers and non-programmers alike. This book will help you master the art of GUI programming. It delivers the bigger picture of GUI programming by building real-world, productive, and fun applications such as a text editor, drum machine, game of chess, audio player, drawing application, piano tutor, chat application, screen saver, port scanner, and much more. In every project, you will build on the skills acquired in the previous project and gain more expertise. You will learn to write multithreaded programs, network programs, database-driven programs, asyncio based programming and more. You will also get to know the modern best practices involved in writing GUI apps. With its rich source of sample code, you can build upon the knowledge gained with this book and use it in your own projects in the discipline of your choice. What you will learn
-A Practical, guide to help you learn the application of Python and GUI programming with Tkinter
- Create multiple, cross-platform, real-world projects by integrating a host of third-party libraries and tools
- Learn to build beautiful and highly interactive user interfaces, targeting multiple devices.
Who this book is for
This book is for a beginner to intermediate-level Pythonists who want to build modern, cross-platform GUI applications with the amazingly powerful Tkinter. Prior knowledge of Tkinter is required.

Develop an extendable smart robot capable of performing a complex series of actions with Python and Raspberry Pi
Key Features
Get up to speed with the fundamentals of robotic programming and build intelligent robots
Learn how to program a voice agent to control and interact with your robot's behavior
Enable your robot to see its environment and avoid barriers using sensors
Book Description
We live in an age where the most complex or repetitive tasks are automated. Smart robots have the potential to revolutionize how we perform all kinds of tasks with high accuracy and efficiency. With this second edition of Learn Robotics Programming, you'll see how a combination of the Raspberry Pi and Python can be a great starting point for robot programming. The book starts by introducing you to the basic structure of a robot and shows you how to design, build, and program it. As you make your way through the book, you'll add different outputs and sensors, learn robot building skills, and write code to add autonomous behavior using sensors and a camera. You'll also be able to upgrade your robot with Wi-Fi connectivity to control it using a smartphone. Finally, you'll understand how you can apply the skills that you've learned to visualize, lay out, build, and code your future robot building projects. By the end of this book, you'll have built an interesting robot that can perform basic artificial intelligence operations and be well versed in programming robots and creating complex robotics projects using what you've learned. What you will learn
Leverage the features of the Raspberry Pi OS
Discover how to configure a Raspberry Pi to build an AI-enabled robot
Interface motors and sensors with a Raspberry Pi
Code your robot to develop engaging and intelligent robot behavior
Explore AI behavior such as speech recognition and visual processing
Find out how you can control AI robots with a mobile phone over Wi-Fi
Understand how to choose the right parts and assemble your robot
Who this book is for
This second edition of Learn Robotics Programming is for programmers, developers, and robotics enthusiasts who want to develop a fully functional robot and leverage AI to build interactive robots. Basic knowledge of the Python programming language will help you understand the concepts covered in this robot programming book more effectively.

What others in the trenches say about The Pragmatic Programmer...
"The cool thing about this book is that it's great for keeping the programming process fresh. The book helps you to continue to grow and clearly comes from people who have been there." –Kent Beck, author of *Extreme Programming Explained: Embrace Change*
"I found this book to be a great mix of solid advice and wonderful analogies!" –Martin Fowler, author of *Refactoring and UML Distilled*
"I

would buy a copy, read it twice, then tell all my colleagues to run out and grab a copy. This is a book I would never loan because I would worry about it being lost." –Kevin Ruland, Management Science, MSG-Logistics "The wisdom and practical experience of the authors is obvious. The topics presented are relevant and useful.... By far its greatest strength for me has been the outstanding analogies—tracer bullets, broken windows, and the fabulous helicopter-based explanation of the need for orthogonality, especially in a crisis situation. I have little doubt that this book will eventually become an excellent source of useful information for journeymen programmers and expert mentors alike." –John Lakos, author of Large-Scale C++ Software Design "This is the sort of book I will buy a dozen copies of when it comes out so I can give it to my clients." –Eric Vought, Software Engineer "Most modern books on software development fail to cover the basics of what makes a great software developer, instead spending their time on syntax or technology where in reality the greatest leverage possible for any software team is in having talented developers who really know their craft well. An excellent book." –Pete McBreen, Independent Consultant "Since reading this book, I have implemented many of the practical suggestions and tips it contains. Across the board, they have saved my company time and money while helping me get my job done quicker! This should be a desktop reference for everyone who works with code for a living." –Jared Richardson, Senior Software Developer, iRenaissance, Inc. "I would like to see this issued to every new employee at my company...." –Chris Cleeland, Senior Software Engineer, Object Computing, Inc. "If I'm putting together a project, it's the authors of this book that I want. . . . And failing that I'd settle for people who've read their book." –Ward Cunningham Straight from the programming trenches, *The Pragmatic Programmer* cuts through the increasing specialization and technicalities of modern software development to examine the core process—taking a requirement and producing working, maintainable code that delights its users. It covers topics ranging from personal responsibility and career development to architectural techniques for keeping your code flexible and easy to adapt and reuse. Read this book, and you'll learn how to Fight software rot; Avoid the trap of duplicating knowledge; Write flexible, dynamic, and adaptable code; Avoid programming by coincidence; Bullet-proof your code with contracts, assertions, and exceptions; Capture real requirements; Test ruthlessly and effectively; Delight your users; Build teams of pragmatic programmers; and Make your developments more precise with automation. Written as a series of self-contained sections and filled with entertaining anecdotes, thoughtful examples, and interesting analogies, *The Pragmatic Programmer* illustrates the best practices and major pitfalls of many different aspects of software development. Whether you're a new coder, an experienced programmer, or a manager responsible for software projects, use these lessons daily, and you'll quickly see improvements in personal productivity, accuracy, and job satisfaction. You'll learn skills and develop habits and attitudes that form the foundation for long-term success in your career. You'll become a Pragmatic Programmer. This book is for developers who have knowledge of the basics of the SFML library and its capabilities in 2D game development. Minimal experience with C++ is required.

Ready, set, program with Go! Now is the perfect time to learn the Go Programming Language. It's one of the most in-demand languages among tech recruiters and developers love its simplicity and power. *Go Programming Language For Dummies* is an easy way to add this top job skill to your toolkit. Written for novice and experienced coders alike, this book traverses basic syntax, writing functions, organizing data, building packages, and interfacing with APIs. Go—or GoLang, as it's also known—has proven to be a strong choice for developers creating applications for the cloud-based world we live in. This book will put you on the path to using the language that's created some of today's leading web applications, so you can steer your career where you want to Go! Learn how Go works and start writing programs and modules Install and implement the most powerful third-party Go packages Use Go in conjunction with web services and MySQL databases Keep your codebase organized and use Go to structure data With this book, you can join the growing numbers of developers using Go to create 21st century solutions. Step inside to take start writing code that puts data in users' hands.

Go Programming Blueprints

Mastering Go

Develop quality game components and solve scripting problems with the power of C++ and UE4, 2nd Edition

Project Management

Build nine projects by working with widgets, geometry management, event handling, and more, 2nd Edition

The Art of Community

Perfect for beginners familiar with programming basics, this hands-on guide provides an easy introduction to Go, the general-purpose programming language from Google. Author Caleb Doxsey covers the language 's core features with step-by-step instructions and exercises in each chapter to help you practice what you learn. Go is a general-purpose programming language with a clean syntax and advanced features, including concurrency. This book provides the one-on-one support you need to get started with the language, with short, easily digestible chapters that build on one another. By the time you finish this book, not only will you be able to write real Go programs, you'll be ready to tackle advanced techniques. Jump into Go basics, including data types, variables, and control structures Learn complex types, such as slices, functions, structs, and interfaces Explore Go 's core library and learn how to create your own package Write tests for your code by using the language 's go test program Learn how to run programs concurrently with goroutines and channels Get suggestions to help you master the craft of programming

Start thinking about your development pipeline as a mission-critical application. Discover techniques for implementing code-driven infrastructure and CI/CD workflows using Jenkins, Docker, Terraform, and cloud-native services. In *Pipeline as Code*, you will master: Building and deploying a Jenkins cluster from scratch Writing pipeline as code for cloud-native applications Automating the deployment of Dockerized and Serverless applications Containerizing applications with Docker and Kubernetes Deploying Jenkins on AWS, GCP and Azure

Managing, securing and monitoring a Jenkins cluster in production Key principles for a successful DevOps culture Pipeline as Code is a practical guide to automating your development pipeline in a cloud-native, service-driven world. You ' ll use the latest infrastructure-as-code tools like Packer and Terraform to develop reliable CI/CD pipelines for numerous cloud-native applications. Follow this book's insightful best practices, and you ' ll soon be delivering software that ' s quicker to market, faster to deploy, and with less last-minute production bugs. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Treat your CI/CD pipeline like the real application it is. With the Pipeline as Code approach, you create a collection of scripts that replace the tedious web UI wrapped around most CI/CD systems. Code-driven pipelines are easy to use, modify, and maintain, and your entire CI pipeline becomes more efficient because you directly interact with core components like Jenkins, Terraform, and Docker. About the book In Pipeline as Code you ' ll learn to build reliable CI/CD pipelines for cloud-native applications. With Jenkins as the backbone, you ' ll programmatically control all the pieces of your pipeline via modern APIs. Hands-on examples include building CI/CD workflows for distributed Kubernetes applications, and serverless functions. By the time you ' re finished, you ' ll be able to swap manual UI-based adjustments with a fully automated approach! What's inside Build and deploy a Jenkins cluster on scale Write pipeline as code for cloud-native applications Automate the deployment of Dockerized and serverless applications Deploy Jenkins on AWS, GCP, and Azure Grasp key principles of a successful DevOps culture About the reader For developers familiar with Jenkins and Docker. Examples in Go. About the author Mohamed Labouardy is the CTO and co-founder of Crew.work, a Jenkins contributor, and a DevSecOps evangelist. Table of Contents PART 1 GETTING STARTED WITH JENKINS 1 What ' s CI/CD? 2 Pipeline as code with Jenkins PART 2 OPERATING A SELF-HEALING JENKINS CLUSTER 3 Defining Jenkins architecture 4 Baking machine images with Packer 5 Discovering Jenkins as code with Terraform 6 Deploying HA Jenkins on multiple cloud providers PART 3 HANDS-ON CI/CD PIPELINES 7 Defining a pipeline as code for microservices 8 Running automated tests with Jenkins 9 Building Docker images within a CI pipeline 10 Cloud-native applications on Docker Swarm 11 Dockerized microservices on K8s 12 Lambda-based serverless functions PART 4 MANAGING, SCALING, AND MONITORING JENKINS 13 Collecting continuous delivery metrics 14 Jenkins administration and best practices

How to build useful, real-world applications in the Python programming language Key Features Deliver scalable and high-performing applications in Python. Delve into the great ecosystem of Python frameworks and libraries through projects that you will build with this book. This comprehensive guide will help you demonstrate the power of Python by building practical projects. Book Description Python is a very powerful, high-level, object-oriented programming language. It's known for its simplicity and huge community support. Python Programming Blueprints will help you build useful, real-world applications using Python. In this book, we will cover some of the most common tasks that Python developers face on a daily basis, including performance optimization and making web applications more secure. We will familiarize ourselves with the associated software stack and master asynchronous features in Python. We will build a weather application using command-line parsing. We will then move on to create a Spotify remote control where we'll use OAuth and the Spotify Web API. The next project will cover reactive extensions by teaching you how to cast votes on Twitter the Python way. We will also focus on web development by using the famous Django framework to create an online game store. We will then create a web-based messenger using the new Nameko microservice framework. We will cover topics like authenticating users and, storing messages in Redis. By the end of the book, you will have gained hands-on experience in coding with Python. What you will learn Learn object-oriented and functional programming concepts while developing projects The dos and don'ts of storing passwords in a database Develop a fully functional website using the popular Django framework Use the Beautiful Soup library to perform web scrapping Get started with cloud computing by building microservice and serverless applications in AWS Develop scalable and cohesive microservices using the Nameko framework Create service dependencies for Redis and PostgreSQL Who this book is for This book is for software developers who are familiar with Python and want to gain hands-on experience with web and software development projects. A basic knowledge of Python programming is required.

The Go Programming Language is the authoritative resource for any programmer who wants to learn Go. It shows how to write clear and idiomatic Go to solve real-world problems. The book does not assume prior knowledge of Go nor experience with any specific language, so you ' ll find it accessible whether you ' re most comfortable with JavaScript, Ruby, Python, Java, or C++. The first chapter is a tutorial on the basic concepts of Go, introduced through programs for file I/O and text processing, simple graphics, and web clients and servers. Early chapters cover the structural elements of Go programs: syntax, control flow, data types, and the organization of a program into packages, files, and functions. The examples illustrate many packages from the standard library and show how to create new ones of your own. Later chapters explain the package mechanism in more detail, and how to build, test, and maintain projects using the go tool. The chapters on methods and interfaces introduce Go ' s unconventional approach to object-oriented programming, in which methods can be declared on any type and interfaces are implicitly satisfied. They explain the key principles of encapsulation, composition, and substitutability using realistic examples. Two chapters on concurrency present in-depth approaches to this increasingly important topic. The first, which covers the basic mechanisms of goroutines and channels, illustrates the style known as communicating sequential processes for which Go is renowned. The second covers more traditional aspects of concurrency with shared variables. These chapters provide a solid foundation for programmers encountering concurrency for the first time. The final two chapters explore lower-level features of Go. One covers the art of metaprogramming using reflection. The other shows how to use the unsafe package to step outside the type system for special situations, and how to use the cgo tool to create Go bindings for C libraries. The book features hundreds of interesting and practical examples of well-written Go code that cover the whole language, its most important packages, and a wide range of applications. Each chapter has exercises to test your understanding and explore extensions and alternatives. Source code is freely available for download from <http://gopl.io/> and may be conveniently fetched, built, and installed using the go get command.

What will you learn from this book? Go makes it easy to build software that ' s simple, reliable, and efficient. And this book makes it easy for programmers like you to get started.

Googledesigned Go for high-performance networking and multiprocessing, but—like Python and JavaScript—the language is easy to read and use. With this practical hands-on guide, you ' ll learn how to write Go code using clear examples that demonstrate the language in action. Best of all, you ' ll understand the conventions and techniques that employers want entry-level Godevelopers to know. Why does this book look so different? Based on the latest research in cognitive science and learning theory, HeadFirst Go 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.

SFML Blueprints

Build creative computer vision projects with the latest version of OpenCV 4 and Python 3, 2nd Edition

Pro Python System Administration

Case Studies

A Very Simple Introduction to the Terrifyingly Beautiful World of Computers and Code

Learning Go Programming

You Will Learn Python 3! Zed Shaw has perfected the world's best system for learning Python 3. Follow it and you will succeed—just like the millions of beginners Zed has taught to date! You bring the discipline, commitment, and persistence; the author supplies everything else. In Learn Python 3 the Hard Way, you'll learn Python by working through 52 brilliantly crafted exercises. Read them. Type their code precisely. (No copying and pasting!) Fix your mistakes. Watch the programs run. As you do, you'll learn how a computer works; what good programs look like; and how to read, write, and think about code. Zed then teaches you even more in 5+ hours of video where he shows you how to break, fix, and debug your code—live, as he's doing the exercises. Install a complete Python environment Organize and write code Fix and break code Basic mathematics Variables Strings and text Interact with users Work with files Looping and logic Data structures using lists and dictionaries Program design Object-oriented programming Inheritance and composition Modules, classes, and objects Python packaging Automated testing Basic game development Basic web development It'll be hard at first. But soon, you'll just get it—and that will feel great! This course will reward you for every minute you put into it. Soon, you'll know one of the world's most powerful, popular programming languages. You'll be a Python programmer. This Book Is Perfect For Total beginners with zero programming experience Junior developers who know one or two languages Returning professionals who haven't written code in years Seasoned professionals looking for a fast, simple, crash course in Python 3

The latest guide to using QGIS 2.14 to create great maps and perform geoprocessing tasks with ease About This Book Learn how to work with various data and create beautiful maps using this easy-to-follow guide. Give a touch of professionalism to your maps both for functionality and look and feel with the help of this practical guide. A progressive hands-on guide that builds on a geo-spatial data and adds more reactive maps by using geometry tools. Who This Book Is For This book is great for users, developers, and consultants who know the basic functions and processes of GIS and want to learn to use QGIS to analyze geospatial data and create rich mapping applications. If you want to take advantage of the wide range of functionalities that QGIS offers, then this is the book for you. What You Will Learn Install QGIS and get familiar with the user interface Load vector and raster data from files, databases, and web services Create, visualize, and edit spatial data Perform geoprocessing tasks and automate them Create advanced cartographic outputs Design great print maps Expand QGIS using Python In Detail QGIS is a user-friendly open source geographic information system (GIS) that runs on Linux, Unix, Mac OS X, and Windows. The popularity of open source geographic information systems and QGIS in particular has been growing rapidly over the last few years. Learning QGIS Third Edition is a practical, hands-on guide updated for QGIS 2.14 that provides you with clear, step-by-step exercises to help you apply your GIS knowledge to QGIS. Through clear, practical exercises, this book will introduce you to working with QGIS quickly and painlessly. This book takes you from installing and configuring QGIS to handling spatial data to creating great maps. You will learn how to load and visualize existing spatial data and create data from scratch. You will get to know important plugins, perform common geoprocessing and spatial analysis tasks and automate them with Processing. We will cover how to achieve great cartographic output and print maps. Finally, you will learn how to extend QGIS using Python and even create your own plugin. Style and approach A step by step approach to explain concepts of Geospatial map with the help of real life examples

Build real-world, production-ready solutions by harnessing the powerful features of Go About This Book An easy-to-follow guide that provides everything a developer needs to know to build end-to-end web applications in Go Write interesting and clever, but simple code, and learn skills and techniques that are directly transferable to your own projects A practical approach to utilize application scaffolding to design highly scalable programs that are deeply rooted in go routines and channels Who This Book Is For This book is intended for developers who are new to Go, but have previous experience of building web applications and APIs. What You Will Learn Build a fully featured REST API to enable client-side single page apps Utilize TLS to build reliable and secure sites Learn to apply the nuances of the Go language to implement a wide range of start-up quality projects Create websites and data services capable of massive scale using Go's net/http package, exploring RESTful patterns as well as low-latency WebSocket APIs Interact with a variety of remote web services to consume capabilities ranging from authentication and authorization to a fully functioning thesaurus Explore the core syntaxes and language features that enable concurrency in Go Understand when and where to use concurrency to keep data consistent and applications non-blocking, responsive, and reliable Utilize advanced concurrency patterns and best practices to stay low-level without compromising the simplicity of Go itself In Detail Go is an open source programming language that makes it easy to build simple, reliable, and efficient software. It is a statically typed language with syntax loosely derived from that of C, adding garbage collection, type safety, some dynamic-typing capabilities, additional built-in types such as variable-length arrays and key-value maps, and a large standard library. This course starts with a walkthrough of the topics most critical to anyone building a new web application. Whether it's keeping your application secure, connecting to your database, enabling token-based authentication, or utilizing logic-less templates, this course has you covered. Scale, performance, and high availability lie at the heart of the projects, and the lessons learned throughout this course will arm you with everything you need to build world-class solutions. It will also take you through the history of concurrency, how Go utilizes it, how Go differs from other languages, and the features and structures of Go's concurrency core. It will make you feel comfortable designing a safe, data-consistent, and high-performance concurrent application in Go. This course is an invaluable resource to help you understand Go's powerful features to build simple, reliable, secure, and efficient web applications. Style and approach This course is a step-by-step guide, which starts off with the basics of go programming to build web applications and will gradually move on to cover intermediate and advanced topics. You will be going through this

smooth transition by building interesting projects along with the authors, discussing significant options, and decisions at each stage, while keeping the programs lean, uncluttered, and as simple as possible.

Summary Get Programming with Go introduces you to the powerful Go language without confusing jargon or high-level theory. By working through 32 quick-fire lessons, you'll quickly pick up the basics of the innovative Go programming language! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Go is a small programming language designed by Google to tackle big problems. Large projects mean large teams with people of varying levels of experience. Go offers a small, yet capable, language that can be understood and used by anyone, no matter their experience. About the Book Hobbyists, newcomers, and professionals alike can benefit from a fast, modern language; all you need is the right resource! Get Programming with Go provides a hands-on introduction to Go language fundamentals, serving as a solid foundation for your future programming projects.

You'll master Go syntax, work with types and functions, and explore bigger ideas like state and concurrency, with plenty of exercises to lock in what you learn. What's inside Language concepts like slices, interfaces, pointers, and concurrency Seven capstone projects featuring spacefaring gophers, Mars rovers, ciphers, and simulations All examples run in the Go Playground - no installation required! About the Reader This book is for anyone familiar with computer programming, as well as anyone with the desire to learn. About the Author Nathan Youngman organizes the Edmonton Go meetup and is a mentor with Canada Learning Code. Roger Peppé contributes to Go and runs the Newcastle upon Tyne Go meetup. Table of Contents Unit 0 - GETTING STARTED Get ready, get set, Go Unit 1 - IMPERATIVE PROGRAMMING A glorified calculator Loops and branches Variable scope Capstone: Ticket to Mars Unit 2 - TYPES Real numbers Whole numbers Big numbers Multilingual text Converting between types Capstone: The Vigenère cipher Unit 3 - BUILDING BLOCKS Functions Methods First-class functions Capstone: Temperature tables Unit 4 - COLLECTIONS Arrayed in splendor Slices: Windows into arrays A bigger slice The ever-versatile map Capstone: A slice of life Unit 5 - STATE AND BEHAVIOR A little structure Go's got no class Composition and forwarding Interfaces Capstone: Martian animal sanctuary Unit 6 - DOWN THE GOPHER HOLE A few pointers Much ado about nil To err is human Capstone: Sudoku rules Unit 7 - CONCURRENT PROGRAMMING Goroutines and concurrency Concurrent state Capstone: Life on Mars

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.

Learn to build your first games and bring your ideas to life using UE4 and C++

Learn Robotics Programming

Python 3 Object-oriented Programming

From Journeyman to Master

Go Programming Language For Dummies

Build nine projects by leveraging powerful frameworks such as Flask, Nameko, and Django

Kivy – Interactive Applications and Games in Python Second Edition, will equip you with all the necessary knowledge to create interactive, responsive, and cross-platform games. This book introduces the Kivy language and the necessary components so you can implement a graphical user interface (GUI) and learn techniques to handle events and control multi-touch actions. You will learn strategies to animate your applications, and obtain interactive, professional-looking, and responsive results. You will be applying the knowledge throughout the book by developing three applications and tackling their diverse programming challenges.

An insightful guide to learning the Go programming language About This Book Insightful coverage of Go programming syntax, constructs, and idioms to help you understand and use Go effectively Push your Go skills, with topics such as, data types, channels, concurrency, object-oriented Go, testing, and network programming Each chapter provides worked examples that are designed to help reader quickly understand respective topic Who This Book Is For If you have prior exposure to programming and are interested in learning the Go programming language, this book is designed for you. It will quickly run you through the basics of programming to let you exploit a number of features offered by Go programming language. What You Will Learn Install and configure the Go development environment to quickly get started with your first program. Use the basic elements of the language including source

variables, constants, and control flow primitives to quickly get started with Go Gain practical insight into the use of Go's type system including basic and composite types and structs. Use interface types and techniques such as embedding to create idiomatic object-oriented programs in Go. Develop effective functions that are encapsulated in package structures with support for error handling and panic recovery. Implement goroutine, channels, and other concurrency primitives to write highly-concurrent and tested and benchmarked code using Go's built test tools Access OS resources by calling C libraries and interact with program environment at runtime In Detail The Go programming language has firmly established itself as a favorite for building complex and scalable system applications. Go offers a direct and practical approach to programming that lets you write correct and predictable code using concurrency idioms and a full-featured standard library. This is a step-by-step, practical guide full of real world examples to help you learn Go in no time at all. We start off by understanding the fundamentals of Go, followed by a detailed description of the Go data types, program structures and Maps. After that, you will use Go concurrency idioms to avoid pitfalls and create programs that are exact in expected behavior. Next, you will be familiarized with the tools and libraries that are available for writing and exercising tests, benchmarking, and code coverage. Finally, you will be able to utilize some of the most important features of GO such as, Network Programming, and integration to build efficient applications. All the concepts are explained in a crisp and concise manner and by the end of this book; you would be able to create highly efficient applications that you can deploy over cloud. Style and approach The book is written to serve as a reader-friendly step-by-step guide to learning the Go programming language. Each topic is introduced to build on previous materials covered. Every concept is introduced with easy-to-follow code examples that focus on maximizing the understanding of the topic. Pro Python System Administration, Second Edition explains and shows how to apply Python scripting in practice. It will show you how to approach and resolve real-world system administrators will come across in their careers. This book has been updated using Python 2.7 and Python 3 where appropriate. It also uses various new and relevant projects and tools that should now be used in practice. In this updated edition, you will find several projects in the categories of network administration, web server administration, monitoring and database management. In each project, the author will define the problem, design the solution, and go through the more interesting implementation steps, accompanied by the source code of a fully working prototype, which you'll be able to use immediately or adapt to your requirements and environment. This book is primarily for experienced system administrators whose day-to-day tasks involve looking after and managing small-to-medium-sized server estates. It will also be beneficial for system administrators who want to learn more about automation and want to apply their Python knowledge to solve various system administration problems. Python developers will also benefit from this book, especially if they are involved in developing automation and management tools.

Unreal Engine 4 (UE4) is a popular and award-winning game engine that powers some of the most popular games. A truly powerful tool for game development, there has been a lot of time to use it for both commercial and independent projects. With more than 100 recipes, this book shows how to unleash the power of C++ while developing games ... In a future world that has been decimated by a sentient glacier and corrupt nanotechnology, a film archivist, a former mercenary and a virtuoso dishwasher are manipulated by a corporation overseeing the construction of a Manhattan replica in Puget Sound. By the author of Misconception. Original.

The Pragmatic Programmer

Unreal Engine 4.x Scripting with C++ Cookbook

Blueprints Visual Scripting for Unreal Engine

Pipeline as Code

Learning C# by Programming Games

Go Recipes

Understand the principles of software architecture with coverage on SOA, distributed and messaging systems, and database modeling Key FeaturesGain knowledge of architectural approaches on SOA and microservices for architectural decisionsExplore different architectural patterns for building distributed applicationsMigrate applications written in Java or Python to the Go languageBook Description Building software requires careful planning and architectural considerations; Golang was developed with a fresh perspective on building next-generation applications on the cloud with distributed and concurrent computing concerns. Hands-On Software Architecture with Golang starts with a brief introduction to architectural elements, Go, and a case study to demonstrate architectural principles. You'll then move on to look at code-level aspects such as modularity, class design, and constructs specific to Golang and implementation of design patterns. As you make your way through the chapters, you'll explore the core objectives of architecture such as effectively managing complexity, scalability, and reliability of software systems. You'll also work through creating distributed systems and their communication before moving on to modeling and scaling of data. In the concluding chapters, you'll learn to deploy architectures and plan the migration of applications from other languages. By the end of this book, you will have gained insight into various design and architectural patterns, which will enable you to create robust, scalable architecture using Golang. What you will learnUnderstand architectural paradigms and deep dive into MicroservicesDesign parallelism/concurrency patterns and learn object-oriented design patterns in GoExplore API-driven systems architecture with introduction to REST and GraphQL standardsBuild event-driven architectures and make your architectures anti-fragileEngineer scalability

and learn how to migrate to Go from other languages
Get to grips with deployment considerations with CICD pipeline, cloud deployments, and so on
Build an end-to-end e-commerce (travel) application backend in Go
Who this book is for
Hands-On Software Architecture with Golang is for software developers, architects, and CTOs looking to use Go in their software architecture to build enterprise-grade applications.
Programming knowledge of Golang is assumed.

Get to grips with traditional computer vision algorithms and deep learning approaches, and build real-world applications with OpenCV and other machine learning frameworks
Key Features
Understand how to capture high-quality image data, detect and track objects, and process the actions of animals or humans
Implement your learning in different areas of computer vision
Explore advanced concepts in OpenCV such as machine learning, artificial neural network, and augmented reality
Book Description
OpenCV is a native cross-platform C++ library for computer vision, machine learning, and image processing. It is increasingly being adopted in Python for development. This book will get you hands-on with a wide range of intermediate to advanced projects using the latest version of the framework and language, OpenCV 4 and Python 3.8, instead of only covering the core concepts of OpenCV in theoretical lessons. This updated second edition will guide you through working on independent hands-on projects that focus on essential OpenCV concepts such as image processing, object detection, image manipulation, object tracking, and 3D scene reconstruction, in addition to statistical learning and neural networks. You'll begin with concepts such as image filters, Kinect depth sensor, and feature matching. As you advance, you'll not only get hands-on with reconstructing and visualizing a scene in 3D but also learn to track visually salient objects. The book will help you further build on your skills by demonstrating how to recognize traffic signs and emotions on faces. Later, you'll understand how to align images, and detect and track objects using neural networks. By the end of this OpenCV Python book, you'll have gained hands-on experience and become proficient at developing advanced computer vision apps according to specific business needs. What you will learn
Generate real-time visual effects using filters and image manipulation techniques such as dodging and burning
Recognize hand gestures in real-time and perform hand-shape analysis based on the output of a Microsoft Kinect sensor
Learn feature extraction and feature matching to track arbitrary objects of interest
Reconstruct a 3D real-world scene using 2D camera motion and camera reprojection techniques
Detect faces using a cascade classifier and identify emotions in human faces using multilayer perceptrons
Classify, localize, and detect objects with deep neural networks
Who this book is for
This book is for intermediate-level OpenCV users who are looking to enhance their skills by developing advanced applications. Familiarity with OpenCV concepts and Python libraries, and basic knowledge of the Python programming language are assumed.

Unleash the power of Python 3 objects
About This Book
Stop writing scripts and start architecting programs
Learn the latest Python syntax and libraries
A practical, hands-on tutorial that teaches you all about abstract design patterns and how to implement them in Python 3
Who This Book Is For
If you're new to object-oriented programming techniques, or if you have basic Python skills and wish to learn in depth how and when to correctly apply object-oriented programming in Python to design software, this is the book for you. What You Will Learn
Implement objects in Python by creating classes and defining methods
Separate related objects into a taxonomy of classes and describe the properties and behaviors of those objects via the class interface
Extend class functionality using inheritance
Understand when to use object-oriented features, and more importantly when not to use them
Discover what design patterns are and why they are different in Python
Uncover the simplicity of unit testing and why it's so important in Python
Grasp common concurrency techniques and pitfalls in Python 3
Exploit object-oriented programming in key Python technologies such as Kivy and Django. Object-oriented programming concurrently with asyncio
In Detail
Python 3 is more versatile and easier to use than ever. It runs on all major platforms in a huge array of use cases. Coding in Python minimizes development time and increases productivity in comparison to other languages. Clean, maintainable code is easy to both read and write using Python's clear, concise syntax. Object-oriented programming is a popular design paradigm in which data and behaviors are encapsulated in such a way that they can be manipulated together. Many modern programming languages utilize the powerful concepts behind object-oriented programming and Python is no exception. Starting with a detailed analysis of object-oriented analysis and design, you will use the Python programming language to clearly grasp key concepts from the object-oriented paradigm. This book fully explains classes, data encapsulation, inheritance, polymorphism, abstraction, and exceptions with an emphasis on when you can use each principle to develop well-designed software. You'll get an in-depth analysis of many common object-oriented design patterns that are more suitable to Python's unique style. This book will not just teach Python syntax, but will also build your confidence in how to program. You will also learn how to create maintainable applications by studying higher level design patterns. Following this, you'll learn the complexities of string and file manipulation, and how Python distinguishes between binary and textual data. Not one, but two very powerful automated testing systems will be introduced in the book. After you discover the joy of unit testing and just how easy it can be, you'll study higher level libraries such as database connectors and GUI toolkits and learn how they uniquely apply object-oriented principles. You'll learn how these principles will

allow you to make greater use of key members of the Python eco-system such as Django and Kivy. This new edition includes all the topics that made Python 3 Object-oriented Programming an instant Packt classic. It's also packed with updated content to reflect recent changes in the core Python library and covers modern third-party packages that were not available on the Python 3 platform when the book was first published. Style and approach Throughout the book you will learn key object-oriented programming techniques demonstrated by comprehensive case studies in the context of a larger project.

Developing computer games is a perfect way to learn how to program in modern programming languages. This book teaches how to program in C# through the creation of computer games - and without requiring any previous programming experience. Contrary to most programming books, van Toll, Egges, and Fokker do not organize the presentation according to programming language constructs, but instead use the structure and elements of computer games as a framework. For instance, there are chapters on dealing with player input, game objects, game worlds, game states, levels, animation, physics, and intelligence. The reader will be guided through the development of four games showing the various aspects of game development. Starting with a simple shooting game, the authors move on to puzzle games consisting of multiple levels, and conclude the book by developing a full-fledged platform game with animation, game physics, and intelligent enemies. They show a number of commonly used techniques in games, such as drawing layers of sprites, rotating, scaling and animating sprites, dealing with physics, handling interaction between game objects, and creating pleasing visual effects. At the same time, they provide a thorough introduction to C# and object-oriented programming, introducing step by step important programming concepts such as loops, methods, classes, collections, and exception handling. This second edition includes a few notable updates. First of all, the book and all example programs are now based on the library MonoGame 3.6, instead of the obsolete XNA Game Studio. Second, instead of explaining how the example programs work, the text now invites readers to write these programs themselves, with clearly marked reference points throughout the text. Third, the book now makes a clearer distinction between general (C#) programming concepts and concepts that are specific to game development. Fourth, the most important programming concepts are now summarized in convenient "Quick Reference" boxes, which replace the syntax diagrams of the first edition. Finally, the updated exercises are now grouped per chapter and can be found at the end of each chapter, allowing readers to test their knowledge more directly. The book is also designed to be used as a basis for a game-oriented programming course. Supplementary materials for organizing such a course are available on an accompanying web site, which also includes all example programs, game sprites, sounds, and the solutions to all exercises.

Dr. Alireza Tavakkoli's Game Development and Simulation with Unreal Technology covers the latest version of Unreal Technology. Since the 1990s Epic Games, Inc. has been leading the revolution of gaming graphics and Artificial Intelligence. Now, unreal technology is one of the most potent and prominent engines that is currently used in games. Its influence can be spotted in classic triple A titles like, Fortnite, Gears of War 2, Borderlands 2, and XCOM: Enemy Unknown. Tavakkoli goes into detail concerning the creation of game level designs, blueprint coding, shader programing, as well as artificial intelligence concepts to help readers in creating their own games. Game Development also includes a number of practice friendly extensions and concept modules to help solidify the reader's understanding of concepts and techniques. The book is divided into three sections that acts as building blocks in order to facilitate the comprehension of the material.

The Go Programming Language

Harness the power of Go to build professional utilities and concurrent servers and services

Python Programming Blueprints

Building the New Age of Participation

Head First Go

Tkinter GUI Application Development Blueprints, Second Edition

Online communities offer a wide range of opportunities today, whether you're supporting a cause, marketing a product or service, or developing open source software. The Art of Community will help you develop the broad range of talents you need to recruit members to your community, motivate and manage them, and help them become active participants. Author Jono Bacon offers a collection of experiences and observations from his decade-long involvement in building and managing communities, including his current position as manager for Ubuntu, arguably the largest community in open source software. You'll discover how a vibrant community can provide you with a reliable support network, a valuable source of new ideas, and a powerful marketing force. The Art of Community will help you: Develop a strategy, with specific objectives and goals, for building your community Build simple, non-bureaucratic processes to help your community perform tasks, work together, and share successes Provide tools and infrastructure that let contributors work quickly Create buzz around your community to get more people involved Track the community's work so it can be optimized and simplified Explore a capable, representative governance strategy for your community Identify and manage conflict, including dealing with divisive personalities

Master application development by writing succinct, robust, and reusable code with Qt 5 About This Book Unleash the power of Qt 5 with C++14 Integrate useful third-party libraries such as OpenCV Package and deploy your application on multiple platforms Who This Book Is For This book will appeal to developers and programmers who would like to build GUI-based applications. Knowledge of C++ is necessary and the basics of Qt would be helpful. What You Will Learn Create stunning UIs with Qt Widget and Qt Quick Develop powerful, cross-platform applications with the Qt framework Design GUIs with the Qt Designer and build a library in it for UI preview Handle user interaction with the Qt signal/slot mechanism in C++ Prepare a cross-platform project to host a third-party library Build a Qt application using the OpenCV API Use the Qt Animation framework to display stunning effects Deploy mobile apps with Qt and embedded platforms In Detail Qt 5.7 is an application development framework that provides a great user experience and develops full-capability applications with Qt Widgets, QML, and even Qt 3D. This book will address challenges in successfully developing cross-platform applications with the Qt framework. Cross-platform development needs a well-organized project. Using this book, you will have a better understanding of the Qt framework and the tools to resolve serious issues such as linking, debugging, and multithreading. Your journey will start with the new Qt 5 features. Then you will explore different platforms and learn to tame them. Every chapter along the way is a logical step that you must take to master Qt. The journey will end in an application that has been tested and is ready to be shipped. Style and approach This is an easy-to-follow yet comprehensive guide to building applications in Qt. Each chapter covers increasingly advanced topics, with subjects grouped according to their complexity as well as their usefulness. Packed with practical examples and explanations, Mastering Qt contains everything you need to take your applications to the next level.

Solve your Go problems using a problem-solution approach. Each recipe is a self-contained answer to a practical programming problem in Go. Go Recipes contains recipes that deal with the fundamentals of Go, allowing you to build simple, reliable, and efficient software. Other topics include working with data using modern NoSQL databases such as MongoDB and RethinkDB. The book provides in-depth guidance for building highly scalable backend APIs in Go for your mobile client applications and web client applications. All this means that you'll be able to write programs that get the most out of multicore and networked machines, using Go's novel type system that enables flexible and modular program construction. You'll see how to test your Go applications so they are ready for deployment, as well as learning how to write HTTP servers to offer you maximum flexibility when dealing with remote clients. What You'll Learn Work with the core fundamentals of Go Persist data into NoSQL databases Build scalable backend APIs Test your Go applications Create HTTP web servers in Go Who This Book Is For Experienced programmers who have some or no prior experience with Go.

Legend has it that Google deploys over two billion application containers a week. How's that possible? Google revealed the secret through a project called Kubernetes, an open source cluster orchestrator (based on its internal Borg system) that radically simplifies the task of building, deploying, and maintaining scalable distributed systems in the cloud. This practical guide shows you how Kubernetes and container technology can help you achieve new levels of velocity, agility, reliability, and efficiency. Authors Kelsey Hightower, Brendan Burns, and Joe Beda—who've worked on Kubernetes at Google and other organizations—explain how this system fits into the lifecycle of a distributed application. You will learn how to use tools and APIs to automate scalable distributed systems, whether it is for online services, machine-learning applications, or a cluster of Raspberry Pi computers. Explore the distributed system challenges that Kubernetes addresses Dive into containerized application development, using containers such as Docker Create and run containers on Kubernetes, using the docker image format and container runtime Explore specialized objects essential for running applications in production Reliably roll out new software versions without downtime or errors Get examples of how to develop and deploy real-world applications in Kubernetes

Learn the tools and techniques of game design using a project-based approach with Unreal Engine 4 and C++ Key Features Kickstart your career or dive into a new hobby by exploring game design with UE4 and C++ Learn the techniques needed to prototype and develop your own ideas Reinforce your skills with project-based learning by building a series of games from scratch Book Description Game development can be both a creatively fulfilling hobby and a full-time career path. It's also an exciting way to improve your C++ skills and apply them in engaging and challenging projects. Game Development Projects with Unreal Engine starts with the basic skills you'll need to get started as a game developer. The fundamentals of game design will be explained clearly and demonstrated practically with realistic exercises. You'll then apply what you've learned with challenging activities. The book starts with an introduction to the Unreal Editor and key concepts such as actors, blueprints, animations, inheritance, and player input. You'll then move on to the first of three projects: building a dodgeball game. In this project, you'll explore line traces, collisions, projectiles, user interface, and sound effects, combining these concepts to showcase your new skills. You'll then move on to the second project; a side-scroller game, where you'll implement concepts including animation blending, enemy AI, spawning objects, and collectibles. The final project is an FPS game, where you will cover the key concepts behind creating a multiplayer environment. By the end of this Unreal Engine 4 game development book, you'll have the confidence and knowledge to get started on your own creative UE4 projects and bring your ideas to life. What you will learn Create a fully-functional third-person character and enemies Build navigation with keyboard, mouse, gamepad, and touch controls Program logic and game mechanics with collision and particle effects Explore AI for games with Blackboards and Behavior Trees Build character animations with Animation Blueprints and Montages Test your game for mobile devices using mobile preview Add polish to your game with visual and sound effects Master the fundamentals of game UI design using a heads-up display Who this book is for This book is suitable for anyone who wants to get started using UE4 for game development. It will also be useful for anyone who has used Unreal Engine before

and wants to consolidate, improve and apply their skills. To grasp the concepts explained in this book better, you must have prior knowledge of the basics of C++ and understand variables, functions, classes, polymorphism, and pointers. For full compatibility with the IDE used in this book, a Windows system is recommended.

A Problem-Solution Approach

OpenCV 4 with Python Blueprints

Build in-depth, full-featured Android 9 Pie apps starting from zero programming experience, 2nd Edition

Build Reliable, Scalable Programs

Game Development Projects with Unreal Engine

Go: Building Web Applications

An insightful guide to learning the Go programming language About This Book Get insightful coverage of Go programming syntax, constructs, and idioms to help you understand Go code Get a full explanation of all the known GoF design patterns in Go, including comprehensive theory and examples Learn to apply the nuances of the Go language, and get to know the open source community that surrounds it to implement a wide range of start-up quality projects Who This Book Is For Beginners to Go who are comfortable in other OOP languages like Java, C#, or Python will find this course interesting and beneficial. What You Will Learn Install and configure the Go development environment to quickly get started with your first program Use the basic elements of the language including source code structure, variables, constants, and control flow primitives Get to know all the basic syntax and tools you need to start coding in Go Create unique instances that cannot be duplicated within a program Build quirky and fun projects from scratch while exploring patterns, practices, and techniques, as well as a range of different technologies Create websites and data services capable of massive scaling using Go's net/http package, Explore RESTful patterns as well as low-latency WebSocket APIs Interact with a variety of remote web services to consume capabilities, ranging from authentication and authorization to a fully functioning thesaurus In Detail The Go programming language has firmly established itself as a favorite for building complex and scalable system applications. Go offers a direct and practical approach to programming that lets programmers write correct and predictable code using concurrency idioms and a full-featured standard library. This practical guide is full of real-world examples to help you get started with Go in no time at all. You'll start by understanding the fundamentals of Go, then get a detailed description of the Go data types, program structures, and Maps. After that, you'll learn how to use Go concurrency idioms to avoid pitfalls and create programs that are exact in expected behavior. Next, you will get familiar with the tools and libraries that are available in Go to write and exercise tests, benchmarking, and code coverage. After that, you will be able to utilize some of the most important features of GO such as Network Programming and OS integration to build efficient applications. Then you'll start applying your skills to build some amazing projects in Go. You will learn to develop high-quality command-line tools that utilize the powerful shell capabilities and perform well using Go's built-in concurrency mechanisms. Scale, performance, and high availability lie at the heart of our projects, and the lessons learned throughout the sections will arm you with everything you need to build world-class solutions. You will get a feel for app deployment using Docker and Google App Engine. Each project could form the basis of a start-up, which means they are directly applicable to modern software markets. With these skills in hand, you will be able to conquer all your fears of application development and go on to build large, robust and succinct apps in Go. This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Learning Go Programming Go Design Patterns Go Programming Blueprints, Second Edition Style and approach Full of real-world, practical examples, this course teaches you the widely used design patterns and best practices in Go in a step-by-step manner. It also provides fun projects that involve building applications from scratch.

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