

Programming Ruby The Pragmatic Programmers Guide Second Edition

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Programming Ruby [] / Programming Ruby: the pragmatic programmers' guide

Mazes for Programmers

This book is the introduction to Elixir for experienced programmers, completely updated for Elixir 1.6 and beyond. Explore functional programming without the academic overtones (tell me about monads just one more time). Create concurrent applications, but get them right without all the locking and consistency headaches. Meet Elixir, a modern, functional, concurrent language built on the rock-solid Erlang VM. Elixir's pragmatic syntax and built-in support for metaprogramming will make you productive and keep you interested for the long haul. Maybe the time is right for the Next Big Thing. Maybe it's Elixir. Functional programming techniques help you manage the complexities of today's real-world, concurrent systems; maximize uptime; and manage security. Enter Elixir, with its modern, Ruby-like, extendable syntax, compile and runtime evaluation, hygienic macro system, and more. But, just as importantly, Elixir brings a sense of enjoyment to parallel, functional programming. Your applications become fun to work with, and the language encourages you to experiment. Part 1 covers the basics of writing sequential Elixir programs. We'll look at the language, the tools, and the conventions. Part 2 uses these skills to start writing concurrent code-applications that use all the cores on your machine, or all the machines on your network! And we do it both with and without OTP. Part 3 looks at the more advanced features of the language, from DSLs and code generation to extending the syntax. This edition is fully updated with all the new features of Elixir 1.6, with a new chapter on structuring OTP applications, and new sections on the debugger, code formatter, Distillery, and protocols. What You Need: You'll need a computer, a little experience with another high-level language, and a sense of adventure. No functional programming experience is needed.

The Pragmatic Programmer

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.

Learn Ruby the Hard Way

The Pragmatic Programmers classic is back! Freshly updated for modern software development, Pragmatic Unit Testing in Java 8 With JUnit teaches you how to write and run easily maintained unit tests in JUnit with confidence. You'll learn mnemonics to help you know what tests to write, how to remember all the boundary conditions, and what the qualities of a good test are. You'll see how unit tests can pay off by allowing you to keep your system code clean, and you'll learn how to handle the stuff that seems too tough to test. Pragmatic Unit Testing in Java 8 With JUnit steps you through all the important unit testing topics. If you've never written a unit test, you'll see screen shots from Eclipse, IntelliJ IDEA, and NetBeans that will help you get past the hard part--getting set up and started. Once past the basics, you'll learn why you want to write unit tests and how to effectively use JUnit. But the meaty part of the book is its collected unit testing wisdom from people who've been there, done that on production systems for at least 15 years: veteran author and developer Jeff Langr, building on the wisdom of Pragmatic Programmers Andy Hunt and Dave Thomas. You'll learn: How to craft your unit tests to minimize your effort in maintaining them. How to use unit tests to help keep your system clean. How to test the tough stuff. Memorable mnemonics to help you remember what's important when writing unit tests. How to help your team reap and sustain the benefits of unit testing. You won't just learn about unit testing in theory--you'll work through numerous code examples. When it comes to programming, hands-on is the only way to learn!

Ruby in a Nutshell

Offers a Ruby tutorial featuring fifty-two exercises that cover such topics as installing the Ruby environment, organizing and writing code, strings and text, object-oriented programming, debugging and automated testing, and basic game development.

Programming Crystal

Level up your programming skills while making fast-paced, arcade-style video games. Make enemy spaceships explode in balls of fire, and escape from a pit while dodging falling boulders. You'll use the fun and approachable Ruby programming language and the Gosu 2D game library, which makes making games a breeze. Gain the skills and techniques you need to bring your own video game ideas to life with moving images and thumping sounds. If you have a little experience programming in Ruby or another language, then you're ready to start making your own video games. In this book you'll

learn concepts such as animation, keyboard and mouse movement, sounds and music, and physics as you build four exciting games. Your first game will test your reflexes as you try to click on a ruby that pops in and out of your screen. Learn how to draw images and text, and how to make objects move around the screen. You'll make a space-shooter where you defend your home base from a seemingly endless stream of enemies, as you discover how to use keyboard input, add music and sounds, an opening title screen, and scrolling end-credits. Next up: make a sliding number puzzle game where you'll learn to incorporate more complicated logic and user interaction into your game. Learn all about game physics as you build a game where a bold adventurer must climb out of a pit while dodging bouncing, spinning rocks. Finally, package up your games as Windows and Mac apps so you can share them with your friends. When you're done with this book, you'll have improved your programming skills, and you'll have all the tools you need to make your own arcade-style games. What You Need: You'll need a computer running Windows 7 or later, or Mac OS X 10.7 or later. All the other software you need is free, and the first chapter will get you up and running.

FXRuby

Summary: Ruby 1.9 was a major release of the language: it introduced multinationalization, new block syntax and scoping rules, a new, faster, virtual machine, and hundreds of new methods in dozens of new classes and modules. Ruby 2.0 is less radical--it has keyword arguments, a new regexp engine, and some library changes. This book describes it all. The first quarter of the book is a tutorial introduction that gets you up to speed with the Ruby language and the most important classes and libraries. Download and play with the hundreds of code samples as your experiment with the language. The second section looks at real-world Ruby, covering the Ruby environment, how to package, document, and distribute code, and how to work with encodings. The third part of the book is more advanced. In it, you'll find a full description of the language, an explanation of duck typing, and a detailed description of the Ruby object model and metaprogramming. The book ends with a reference section: comprehensive and detailed documentation of Ruby's libraries. You'll find descriptions and examples of more than 1,300 methods in 58 built-in classes and modules, along with brief descriptions of 97 standard libraries. Ruby makes your programming more productive; it makes coding fun again. And this book will get you up to speed with the very latest Ruby, quickly and enjoyably.

Pragmatic Unit Testing in Java 8 with JUnit

Introduces Ruby's object-oriented programming capabilities, detailing command-line options, syntax, built-in variables, functions, commonly used classes and modules, environment variables, operators, methods, and security.

Metaprogramming Ruby 2

This is the eBook version of the printed book. If the print book includes a CD-ROM, this content is not included within the eBook version. 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.

The Pragmatic Programmer

Make beautiful apps with beautiful code: use the elegant and concise Ruby programming language with RubyMotion to write truly native iOS apps with less code while having more fun. You'll learn the essentials of creating great apps, and by the end of this book, you'll have built a fully functional API-driven app. Whether you're a newcomer looking for an alternative to Objective-C or a hardened Rails veteran, RubyMotion allows you to create gorgeous apps with no compromise in performance or developer happiness. Developers interested in native iOS app development have been restricted to the limits of Objective-C and Xcode--until RubyMotion came along. RubyMotion enables you do full iOS development using Ruby. You have access to familiar tools such as Rake and RubyGems and can compile Ruby code into native applications. RubyMotion even comes with a Ruby console useful for live coding and interactive debugging. And since RubyMotion is built on top of the Objective-C runtime, you can use all of Apple's libraries and most third-party code alongside Ruby classes. This book takes you from zero knowledge of iOS development to building an app that displays information about colors using a web service API. You'll work through each topic with a small example app that covers just enough to get you familiar with the techniques you need to get real work done. You'll start with just drawing boxes on the screen, but you'll quickly add animations, a navigation stack, and high-performance table views. You'll peek into less visible components, such as using Ruby metaprogramming to create JSON-based models. You'll use some incredibly useful common Ruby techniques that are only possible in RubyMotion, such as writing automated unit tests with an RSpec-like framework. Using both Apple's existing libraries and fresh, community-driven RubyMotion projects, you'll be well on your way to writing real-world apps. What You Need: A Macintosh running OS X 10.7 or later is required to install RubyMotion. RubyMotion is a commercial product and currently requires a purchased license. Experience with the Ruby language and Ruby tools like RubyGems and Rake are suggested.

Agile Web Development with Rails

A tutorial and reference to the object-oriented programming language for beginning to experienced programmers, updated for version 1.9, describes the language's structure, syntax, and operation, and explains how to build applications.

The Ruby Way

Provides information and exercises on developing graphical user interface applications in Ruby.

RubyMotion

A tutorial and reference to the object-oriented programming language for beginning to experienced programmers, updated for version 1.8, describes the language's structure, syntax, and operation, and explains how to build applications. Original. (Intermediate)

Programming Machine Learning

Provides information on creating Web-based applications using Ruby.

The Pragmatic Programmer

"Our tests are broken again!" "Why does the suite take so long to run?" "What value are we getting from these tests anyway?" Solve your testing problems by building and maintaining quality software with RSpec - the popular BDD-flavored Ruby testing framework. This definitive guide from RSpec's lead developer shows you how to use RSpec to drive more maintainable designs, specify and document expected behavior, and prevent regressions during refactoring. Build a project using RSpec to design, describe, and test the behavior of your code. Whether you're new to automated tests or have been using them for years, this book will help you write more effective tests. RSpec has been downloaded more than 100 million times and has inspired countless test frameworks in other languages. Use this influential Ruby testing framework to iteratively develop a project with the confidence that comes from well-tested code. This book guides you through creating a Ruby project with RSpec, and explores the individual components in detail. Start by learning the basics of installing and using RSpec. Then build a real-world JSON API, using RSpec throughout the process to drive a BDD-style outside-in workflow. Apply an effective test strategy to write fast, robust tests that support evolutionary design through refactoring. The rest of the book provides the definitive guide to RSpec's components. Use `rspec-core`'s metadata to slice and dice your spec suite. Dig into `rspec-expectations`' matchers: compose them in flexible ways, specify expected outcomes with precision, and diagnose problems quickly with the help of good failure messages. Write fast, isolated tests with `rspec-mocks`' test doubles while pushing your code toward simpler interfaces. The authors, with a combined 20 years of automated testing experience, share testing wisdom that will lead to a fun, productive testing experience. What You Need: To follow along with the book, you'll need Ruby 2.2+. The book will guide you through installing RSpec 3 and setting up a

new project to use it.

Ruby Performance Optimization

You don't have to accept slow Ruby or Rails performance. In this comprehensive guide to Ruby optimization, you'll learn how to write faster Ruby code--but that's just the beginning. See exactly what makes Ruby and Rails code slow, and how to fix it. Alex Dymo will guide you through perils of memory and CPU optimization, profiling, measuring, performance testing, garbage collection, and tuning. You'll find that all those "hard" things aren't so difficult after all, and your code will run orders of magnitude faster. This is the first book ever that consolidates all the Ruby performance optimization advice in one place. It's your comprehensive guide to memory optimization, CPU optimization, garbage collector tuning, profiling, measurements, performance testing, and more. You'll go from performance rookie to expert. First, you'll learn the best practices for writing Ruby code that's easy not only on the CPU, but also on memory, and that doesn't trigger the dreaded garbage collector. You'll find out that garbage collection accounts for 80% of slowdowns, and often takes more than 50% of your program's execution time. And you'll discover the bottlenecks in Rails code and learn how selective attribute loading and preloading can mitigate the performance costs of ActiveRecord. As you advance to Ruby performance expert, you'll learn how to profile your code, how to make sense out of profiler reports, and how to make optimization decisions based on them. You'll make sure slow code doesn't creep back into your Ruby application by writing performance tests, and you'll learn the right way to benchmark Ruby. And finally, you'll dive into the Ruby interpreter internals to really understand why garbage collection makes Ruby so slow, and how you can tune it up. What You Need: Some version of Ruby. The advice from this book applies to all modern Ruby versions from 1.9 to 2.2. 80% of the material will also be useful for legacy Ruby 1.8 users, and there is 1.8-specific advice as well.

Beginning Ruby

In this updated edition of the Jolt Award-winning book, users are shown a new approach to Web development using Rails 2, making this the most up-to-date and authoritative Rails book out there.

Seven Languages in Seven Weeks

Provides information on both Rails and Ruby from the perspective of a PHP developer.

Comprehensive Ruby Programming

Ruby Programming
Ruby PickAxe Book

Everyday Scripting with Ruby

A book for the Ruby programmer who's never written a Mac application before, "Rubycocoa" delves into the Cocoa framework right from the beginning, answering questions and solving problems.

Learn Game Programming with Ruby

"Seven Languages in Seven Weeks" presents a meaningful exploration of seven languages within a single book. Rather than serve as a complete reference or installation guide, the book hits what's essential and unique about each language.

Learn to Program

"One of the most significant books in my life." -Obie Fernandez, Author, The Rails Way "Twenty years ago, the first edition of The Pragmatic Programmer completely changed the trajectory of my career. This new edition could do the same for yours." -Mike Cohn, Author of Succeeding with Agile, Agile Estimating and Planning, and User Stories Applied ". . . filled with practical advice, both technical and professional, that will serve you and your projects well for years to come." -Andrea Goulet, CEO, Corgibytes, Founder, LegacyCode.Rocks ". . . lightning does strike twice, and this book is proof." -VM (Vicky) Brasseur, Director of Open Source Strategy, Juniper Networks The Pragmatic Programmer is one of those rare tech books you'll read, re-read, and read again over the years. Whether you're new to the field or an experienced practitioner, you'll come away with fresh insights each and every time. Dave Thomas and Andy Hunt wrote the first edition of this influential book in 1999 to help their clients create better software and rediscover the joy of coding. These lessons have helped a generation of programmers examine the very essence of software development, independent of any particular language, framework, or methodology, and the Pragmatic philosophy has spawned hundreds of books, screencasts, and audio books, as well as thousands of careers and success stories. Now, twenty years later, this new edition re-examines what it means to be a modern programmer. Topics range 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 Learn continuously Avoid the trap of duplicating knowledge Write flexible, dynamic, and adaptable code Harness the power of basic tools Avoid programming by coincidence Learn real requirements Solve the underlying problems of concurrent code Guard against security vulnerabilities Build teams of Pragmatic Programmers Take responsibility for your work and career Test ruthlessly and effectively, including property-based testing Implement the Pragmatic Starter Kit Delight your users

Written as a series of self-contained sections and filled with classic and fresh anecdotes, thoughtful examples, and interesting analogies, The Pragmatic Programmer illustrates the best approaches 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. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Text Processing with Ruby

Crystal is for Ruby programmers who want more performance, or for developers who enjoy working in a high-level scripting environment. Crystal combines native execution speed and concurrency with Ruby-like syntax, so you will feel right at home. This book, the first available on Crystal, shows you how to write applications that have the beauty and elegance of a modern language, combined with the power of types and modern concurrency tooling. Now you can write beautiful code that runs faster, scales better, and is a breeze to deploy. Crystal is elegant to read and easy to program like Ruby, allowing full object-oriented development. Its compiler is powerful enough to nearly always infer the type of your variables. So you get the benefits of a statically typed language: more robust code, safety and execution speed, while still reaching high productivity in development. Null pointer exceptions as in JavaScript, Java or C#, are a thing of the past: Crystal annihilates them, just like Rust. Explore the building blocks and design of the language, and how you can use the Crystal tool-chain to build and manage powerful applications. Harness the power of the macro system, as well as how to work with fibers and channels, making concurrency as easy as possible. Learn how to use the Kemal web framework and access databases, and how to tap the potential of existing Crystal libraries. Find the spot that Crystal fills in today's software world with real-world examples. With Crystal, you can combine the best of both worlds: the high-level coding of dynamic languages, and the safety and blazing performance of a natively compiled language. What You Need: To develop in Crystal, you only need Crystal v 0.26 the latest version, a common text editor and a browser.

Effective Testing with RSpec 3

Speak directly to your system. With its simple commands, flags, and parameters, a well-formed command-line application is the quickest way to automate a backup, a build, or a deployment and simplify your life. With this book, you'll learn specific ways to write command-line applications that are easy to use, deploy, and maintain, using a set of clear best practices and the Ruby programming language. This book is designed to make any programmer or system administrator more productive in their job. Now updated for Ruby 2. Writing a command-line application that's self-documenting, robust, adaptable and

forever useful is easier than you might think. Ruby is particularly suited to this task, because it combines high-level abstractions with "close to the metal" system interaction wrapped up in a concise, readable syntax. Plus, Ruby has the support of a rich ecosystem of open source tools and libraries. Ten insightful chapters each explain and demonstrate a command-line best practice. You'll see how to use these tools to elevate the lowliest automation script to a maintainable, polished application. You'll learn how to use free, open source parsers to create user-friendly command-line interfaces as well as command suites. You'll see how to use defaults to keep options simple for everyday users, while giving advanced users options for more complex tasks. There's no reason why a command-line application should lack documentation, whether it's part of a help command or a man page; you'll find out when and how to use both. Your journey from command-line novice to pro ends with a look at valuable approaches to testing your apps, and includes some fun techniques for outside-the-box, colorful interfaces that will delight your users. With Ruby, the command line is not dead. Long live the command line.

Programming Cocoa with Ruby

For more than a decade, Ruby developers have turned to *The Ruby Way* for reliable "how-to" guidance on effective Ruby programming. Now, Hal Fulton and André Arko have thoroughly updated this classic guide to cover new language enhancements and developers' experiences through Ruby 2.1. The new edition illuminates Ruby 2.1 through 400+ examples, each answering the question: "How do I do this in Ruby?" For each example, they present both a task description and realistic technical constraints. Next, they walk step-by-step through presenting one good solution, offering detailed explanations to promote deeper understanding. Conveniently organized by topic, *The Ruby Way, Third Edition* makes it easier than ever to find the specific solution you want—and to write better code by reflecting Ruby's unique philosophy and spirit. Coverage includes Ruby 2.1 overview: terminology, philosophy, and basic principles Best practices for strings and regular expressions Efficiently internationalizing your code Performing calculations (including trigonometry, calculus, statistics, and time/date calculations) Working with "Rubyesque" objects such as symbols and ranges Using arrays, hashes, stacks, queues, trees, graphs, and other data structures Efficiently storing data with YAML, JSON, and SQLite3 Leveraging object-oriented and dynamic features, from multiple constructors to program inspection Building GUIs with Shoes 4, Ruby/Tk, Ruby/GTK3, QtRuby, and other toolkits Improving thread performance by understanding Ruby's synchronization methods and avoiding its pitfalls Automating system administration with Ruby Data formats: JSON, XML, RSS, Atom, RMagick, PDF, and more Testing and debugging with RSpec, Minitest, Cucumber, byebug, and pry Measuring Ruby program performance Packaging and distributing code, and managing dependencies with Bundler Network programming: clients, time servers, POP, SMTP, IMAP, Open-URI Web applications: HTTP servers, Rails, Sinatra, HTML generation, and more Writing distributed Ruby software with drb Choosing modern development tools that maximize your productivity All source code for this book may be downloaded at www.rubyhacker.com. informit.com/aw informit.com/ruby

rubyhacker.com/therubyway therubyway.io

Build Awesome Command-Line Applications in Ruby 2

Unlock the secrets to creating random mazes! Whether you're a game developer, an algorithm connoisseur, or simply in search of a new puzzle, you're about to level up. Learn algorithms to randomly generate mazes in a variety of shapes, sizes, and dimensions. Bend them into Moebius strips, fold them into cubes, and wrap them around spheres. Stretch them into other dimensions, squeeze them into arbitrary outlines, and tile them in a dizzying variety of ways. From twelve little algorithms, you'll discover a vast reservoir of ideas and inspiration. From video games to movies, mazes are ubiquitous. Explore a dozen algorithms for generating these puzzles randomly, from Binary Tree to Eller's, each copiously illustrated and accompanied by working implementations in Ruby. You'll learn their pros and cons, and how to choose the right one for the job. You'll start by learning six maze algorithms and transition from making mazes on paper to writing programs that generate and draw them. You'll be introduced to Dijkstra's algorithm and see how it can help solve, analyze, and visualize mazes. Part 2 shows you how to constrain your mazes to different shapes and outlines, such as text, circles, hex and triangle grids, and more. You'll learn techniques for culling dead-ends, and for making your passages weave over and under each other. Part 3 looks at six more algorithms, taking it all to the next level. You'll learn how to build your mazes in multiple dimensions, and even on curved surfaces. Through it all, you'll discover yourself brimming with ideas, the best medicine for programmer's block, burn-out, and the grayest of days. By the time you're done, you'll be energized and full of maze-related possibilities! What You Need: The example code requires version 2 of the Ruby programming language. Some examples depend on the ChunkyPNG library to generate PNG images, and one chapter uses POV-Ray version 3.7 to render 3D graphics.

Rails for PHP Developers

Beginning Ruby is a thoroughly contemporary guide to this powerful object-oriented language. It's one of the only guides aimed at both the novice programmer as well as experienced developers who are new to Ruby. The book starts by explaining the principles behind object oriented programming and within a few chapters builds towards creating a genuine Ruby application. The book then explains key Ruby principles, such as classes and objects; projects, modules and libraries; and other aspects of Ruby such as database access. In addition, Ruby on Rails is covered in some depth and the book's appendixes provide essential and long-lasting reference information.

Design Patterns in Ruby (Adobe Reader)

You've decided to tackle machine learning - because you're job hunting, embarking on a new project, or just think self-driving cars are cool. But where to start? It's easy to be intimidated, even as a software developer. The good news is that it doesn't have to be that hard. Master machine learning by writing code one line at a time, from simple learning programs all the way to a true deep learning system. Tackle the hard topics by breaking them down so they're easier to understand, and build your confidence by getting your hands dirty. Peel away the obscurities of machine learning, starting from scratch and going all the way to deep learning. Machine learning can be intimidating, with its reliance on math and algorithms that most programmers don't encounter in their regular work. Take a hands-on approach, writing the Python code yourself, without any libraries to obscure what's really going on. Iterate on your design, and add layers of complexity as you go. Build an image recognition application from scratch with supervised learning. Predict the future with linear regression. Dive into gradient descent, a fundamental algorithm that drives most of machine learning. Create perceptrons to classify data. Build neural networks to tackle more complex and sophisticated data sets. Train and refine those networks with backpropagation and batching. Layer the neural networks, eliminate overfitting, and add convolution to transform your neural network into a true deep learning system. Start from the beginning and code your way to machine learning mastery. What You Need: The examples in this book are written in Python, but don't worry if you don't know this language: you'll pick up all the Python you need very quickly. Apart from that, you'll only need your computer, and your code-adept brain.

Programming Clojure

Provides information on the basics of the Ruby scripting language and how to create scripts using test-driven design.

Programming Ruby

Praise for Design Patterns in Ruby " Design Patterns in Ruby documents smart ways to resolve many problems that Ruby developers commonly encounter. Russ Olsen has done a great job of selecting classic patterns and augmenting these with newer patterns that have special relevance for Ruby. He clearly explains each idea, making a wealth of experience available to Ruby developers for their own daily work." —Steve Metsker, Managing Consultant with Dominion Digital, Inc. "This book provides a great demonstration of the key 'Gang of Four' design patterns without resorting to overly technical explanations. Written in a precise, yet almost informal style, this book covers enough ground that even those without prior exposure to design patterns will soon feel confident applying them using Ruby. Olsen has done a great job to make a book about a classically 'dry' subject into such an engaging and even occasionally humorous read." —Peter Cooper "This book renewed my interest in understanding patterns after a decade of good intentions. Russ picked the most useful patterns for Ruby and introduced them in a straightforward and logical manner, going beyond the GoF's patterns. This book has improved my use of Ruby, and encouraged me to blow off the dust covering the GoF book." —Mike Stok " Design Patterns in

Ruby is a great way for programmers from statically typed objectoriented languages to learn how design patterns appear in a more dynamic, flexible language like Ruby." —Rob Sanheim, Ruby Ninja, Relevance Most design pattern books are based on C++ and Java. But Ruby is different—and the language's unique qualities make design patterns easier to implement and use. In this book, Russ Olsen demonstrates how to combine Ruby's power and elegance with patterns, and write more sophisticated, effective software with far fewer lines of code. After reviewing the history, concepts, and goals of design patterns, Olsen offers a quick tour of the Ruby language—enough to allow any experienced software developer to immediately utilize patterns with Ruby. The book especially calls attention to Ruby features that simplify the use of patterns, including dynamic typing, code closures, and "mixins" for easier code reuse. Fourteen of the classic "Gang of Four" patterns are considered from the Ruby point of view, explaining what problems each pattern solves, discussing whether traditional implementations make sense in the Ruby environment, and introducing Ruby-specific improvements. You'll discover opportunities to implement patterns in just one or two lines of code, instead of the endlessly repeated boilerplate that conventional languages often require. Design Patterns in Ruby also identifies innovative new patterns that have emerged from the Ruby community. These include ways to create custom objects with metaprogramming, as well as the ambitious Rails-based "Convention Over Configuration" pattern, designed to help integrate entire applications and frameworks. Engaging, practical, and accessible, Design Patterns in Ruby will help you build better software while making your Ruby programming experience more rewarding.

The Cucumber Book

Annotation Everyone in the Ruby world seems to be talking about metaprogramming--how you can use it to remove duplication in your code and write elegant, beautiful programs. Now you can get in on the action as well. This book describes metaprogramming as an essential component of Ruby. Once you understand the principles of Ruby, including the object model, scopes, and eigenclasses, you're on your way to applying metaprogramming both in your daily work and in your fun, after-hours projects. Learning metaprogramming doesn't have to be difficult or boring. By taking you on a Monday-through-Friday workweek adventure with a pair of programmers, Paolo Perrotta helps make mastering the art of metaprogramming both straightforward and entertaining. The book is packed with: Pragmatic examples of metaprogramming in action, many of which come straight from popular libraries or frameworks, such as Rails. Programming challenges that let you experiment and play with some of the most fun, "out-there" metaprogramming concepts. Metaprogramming "spells"--34 practical recipes and idioms that you can study and apply right now, to write code that is sure to impress. Whether you're a Ruby apprentice on the path to mastering the language or a Ruby wiz in search of new tips, this book is for you.

Best of Ruby Quiz

Scripted GUI Testing with Ruby is a practical, quick-moving tutorial based on real life, and real-world GUI applications. Right out of the gate you'll start working with code to drive a desktop GUI. You'll discover the kinds of gotchas and edge cases that don't exist in simple, toy programs. As you add more tests, you'll learn how to organize your test code and write lucid examples. The result is a series of "smoke tests" team will run on Continuous Integration servers. Next, we'll explore a variety of different testing tips and tricks. You'll employ a series of increasingly random and punishing test monkeys to try to crash programs. Table-driven techniques will show you how to check dozens of different input combinations. See how to use longer acceptance tests (in the form of stories) to represent the way a typical customer would use your program. The book uses examples from Windows, OS X, and cross-platform Java desktop programs as well as Web applications. You'll develop test scripts in Ruby; you don't need to be a Ruby expert, but basic comfort with the language will be helpful.

Programming Ruby 1.9 & 2.0

Drowning in unnecessary complexity, unmanaged state, and tangles of spaghetti code? In the best tradition of Lisp, Clojure gets out of your way so you can focus on expressing simple solutions to hard problems. Clojure cuts through complexity by providing a set of composable tools--immutable data, functions, macros, and the interactive REPL. Written by members of the Clojure core team, this book is the essential, definitive guide to Clojure. This new edition includes information on all the newest features of Clojure, such as transducers and specs. Clojure joins the flexibility and agility of Lisp with the reach, stability, and performance of Java. Combine Clojure's tools for maximum effectiveness as you work with immutable data, functional programming, and safe concurrency to write programs that solve real-world problems. Start by reading and understanding Clojure syntax and see how Clojure is evaluated. From there, find out about the sequence abstraction, which combines immutable collections with functional programming to create truly reusable data transformation code. Clojure is a functional language; learn how to write programs in a functional style, and when and how to use recursion to your advantage. Discover Clojure's unique approach to state and identity, techniques for polymorphism and open systems using multimethods and protocols, and how to leverage Clojure's metaprogramming capabilities via macros. Finally, put all the pieces together in a real program. New to this edition is coverage of Clojure's spec library, one of the most interesting new features of Clojure for describing both data and functions. You can use Clojure spec to validate data, destructure data, explain invalid data, and generate large numbers of tests to verify the correctness of your code. With this book, you'll learn how to think in Clojure, and how to take advantage of its combined strengths to build powerful programs quickly. What You Need: Java 6 or higher Clojure 1.9

Programming Elixir ≥ 1.6

Provides information on metaprogramming concepts to help write productive Ruby code.

Crafting Rails 4 Applications

Text is everywhere. Web pages, databases, the contents of files--for almost any programming task you perform, you need to process text. Cut even the most complex text-based tasks down to size and learn how to master regular expressions, scrape information from Web pages, develop reusable utilities to process text in pipelines, and more. Most information in the world is in text format, and programmers often find themselves needing to make sense of the data hiding within. It might be to convert it from one format to another, or to find out information about the text as a whole, or to extract information from it. But how do you do this efficiently, avoiding labor-intensive, manual work? Text Processing with Ruby takes a practical approach. You'll learn how to get text into your Ruby programs from the file system and from user input. You'll process delimited files such as CSVs, and write utilities that interact with other programs in text-processing pipelines. Decipher character encoding mysteries, and avoid the pain of jumbled characters and malformed output. You'll learn to use regular expressions to match, extract, and replace patterns in text. You'll write a parser and learn how to process Web pages to pull out information from even the messiest of HTML. Before long you'll be able to tackle even the most enormous and entangled text with ease, scything through gigabytes of data and effortlessly extracting the bits that matter. What You Need: This book requires a passing familiarity with the Ruby programming language, and assumes that you already have Ruby installed on your computer.

Rails Recipes

This book will provide you with all of the tools you need to be a professional Ruby developer. Starting with the core principles, such as syntax and best practices, and up to advanced topics like metaprogramming and big data analysis. About This Book Provides the core skills required to become a Ruby programmer Covers how to use the most popular Ruby Gem libraries Includes details on regular expressions Who This Book Is For This is a complete course written from the ground up for beginners wanting to gain a solid understanding of the Ruby language. It starts at the beginning with how to install Ruby and work with it on multiple machines, so simply have a computer that's connected to the Internet and you'll be ready. What You Will Learn Learn how to use Ruby code effectively, picking the right tool for the job and not duplicating built-in functionality Gain best software development practices, and how to identify and fix common errors Absorb core programming skills, such as variables, strings, loops, conditionals, and much more Explore object-oriented programming and learn to create modular, reusable code that you can use across projects Build 10 practical Ruby programs as you work through the book on topics such as big data analysis and solving Euler equations In Detail Ruby is a powerful, general-purpose programming language that can be applied to any task. Whether you are an experienced developer who wants to learn a new language or you are new to programming, this book is your comprehensive Ruby coding guide. Starting with the foundational principles, such as syntax, and scaling up to advanced topics such as big data analysis, this book will give

you all of the tools you need to be a professional Ruby developer. A few of the key topics are: object-oriented programming, built-in Ruby methods, core programming skills, and an introduction to the Ruby on Rails and Sinatra web frameworks. You will also build 10 practical Ruby programs. Created by an experienced Ruby developer, this book has been written to ensure it focuses on the skills you will need to be a professional Ruby developer. After you have read this book, you will be ready to start building real-world Ruby projects. Style and approach This is a comprehensive course for learning the Ruby programming language that works methodically through everything that you need to know. It begins with the basics of the language and then works through some complete projects to apply your skills and ensure that you have fully absorbed them and can use them in the real world.

Agile Web Development with Rails 6

Your customers want rock-solid, bug-free software that does exactly what they expect it to do. Yet they can't always articulate their ideas clearly enough for you to turn them into code. You need Cucumber: a testing, communication, and requirements tool-all rolled into one. All the code in this book is updated for Cucumber 2.4, Rails 5, and RSpec 3.5. Express your customers' wild ideas as a set of clear, executable specifications that everyone on the team can read. Feed those examples into Cucumber and let it guide your development. Build just the right code to keep your customers happy. You can use Cucumber to test almost any system or any platform. Get started by using the core features of Cucumber and working with Cucumber's Gherkin DSL to describe-in plain language-the behavior your customers want from the system. Then write Ruby code that interprets those plain-language specifications and checks them against your application. Next, consolidate the knowledge you've gained with a worked example, where you'll learn more advanced Cucumber techniques, test asynchronous systems, and test systems that use a database. Recipes highlight some of the most difficult and commonly seen situations the authors have helped teams solve. With these patterns and techniques, test Ajax-heavy web applications with Capybara and Selenium, REST web services, Ruby on Rails applications, command-line applications, legacy applications, and more. Written by the creator of Cucumber and the co-founders of Cucumber Ltd., this authoritative guide will give you and your team all the knowledge you need to start using Cucumber with confidence. What You Need: Windows, Mac OS X (with XCode) or Linux, Ruby 1.9.2 and upwards, Cucumber 2.4, Rails 5, and RSpec 3.5

Programming Ruby 1.9

Get ready to see Rails as you've never seen it before. Learn how to extend the framework, change its behavior, and replace whole components to bend it to your will. Eight different test-driven tutorials will help you understand Rails' inner workings and prepare you to tackle complicated projects with solutions that are well-tested, modular, and easy to maintain. This second edition of the bestselling Crafting Rails Applications has been updated to Rails 4 and discusses new topics such as

streaming, mountable engines, and thread safety. Rails is one of the most extensible frameworks out there. This pioneering book deep-dives into the Rails plugin APIs and shows you, the intermediate Rails developer, how to use them to write better web applications and make your day-to-day work with Rails more productive. Rails Core developer Jose Valim guides you through eight different tutorials, each using test-driven development to build a new Rails plugin or application that solves common problems with these APIs. You'll learn how the Rails rendering stack works and customize it to read templates from the database while you discover how to mimic Active Record behavior, such as validations, in any other object. You'll find out how Rails integrates with Rack, the different ways to stream data from your web application, and how to mix Rails engines and Sinatra applications into your Rails apps, so you can choose the most appropriate tool for the job. In addition, you'll improve your productivity by customizing generators and responders. This book will help you understand Rails' inner workings, including generators, template handlers, internationalization, routing, and responders. With the knowledge you'll gain, you'll create well-tested, modular, and robust solutions for your next project.

Metaprogramming Ruby

Learn Rails the way the Rails core team recommends it, along with the tens of thousands of developers who have used this broad, far-reaching tutorial and reference. If you're new to Rails, you'll get step-by-step guidance. If you're an experienced developer, get the comprehensive, insider information you need for the latest version of Ruby on Rails. The new edition of this award-winning classic is completely updated for Rails 6 and Ruby 2.6, with information on system testing, Webpack, and advanced JavaScript. Ruby on Rails helps you produce high-quality, beautiful-looking web applications quickly - you concentrate on creating the application, and Rails takes care of the details. Rails 6 brings many improvements, and this edition is updated to cover the new features and changes in best practices. We start with a step-by-step walkthrough of building a real application, and in-depth chapters look at the built-in Rails features. Follow along with an extended tutorial as you write a web-based store application. Eliminate tedious configuration and housekeeping, seamlessly incorporate Ajax and JavaScript, send and receive emails, manage background jobs with ActiveJob, and build real-time features using WebSockets and ActionCable. Test your applications as you write them using the built-in unit, integration, and system testing frameworks, internationalize your applications, and deploy your applications easily and securely. New in this edition is coverage of Action Mailer, which allows you to receive emails in your app as well as ActionText, a zero-configuration rich text editing feature. Rails 1.0 was released in December 2005. This book was there from the start, and didn't just evolve alongside Rails, it evolved with Rails. It has been developed in consultation with the Rails core team. In fact, Rails itself is tested against the code in this book. What You Need: All you need is a Windows, Mac OS X, or Linux machine to do development on. This book will take you through the steps to install Rails and its dependencies. If you aren't familiar with the Ruby programming language, this book contains a chapter that covers the basics necessary to understand the material in the book.

Scripted GUI Testing with Ruby

Solve these twenty-five popular programming puzzles, and sharpen your programming skills as you craft solutions. You'll find interesting and challenging programming puzzles including: 800 Numbers Crosswords Cryptograms Knight's Tour Paper, Rock, Scissors Tic-Tac-Toe Texas Hold-Em and more. Learning to program can be quite a challenge. Classes and books can get you so far, but at some point you have to sit down and start playing with some code. Only by reading and writing real code, with real problems, can you learn. The Ruby Quiz was built to fill exactly this need for Ruby programmers. Challenges, solutions, and discussions combine to make Ruby Quiz a powerful way to learn Ruby tricks. See how algorithms translate to Ruby code, get exposure to Ruby's libraries, and learn how other programmers use Ruby to solve problems quickly and efficiently.

Programming Ruby [2nd Edition] / Programming Ruby: the pragmatic programmers' guide

Printed in full color. For this new edition of the best-selling Learn to Program, Chris Pine has taken a good thing and made it even better. First, he used the feedback from hundreds of reader e-mails to update the content and make it even clearer. Second, he updated the examples in the book to use the latest stable version of Ruby, and also to use code that looks more like real-world Ruby code, so that people who have just learned to program will be more familiar with common Ruby techniques. Not only does the Second Edition now include answers to all of the exercises, it includes them twice. First you'll find the "how you could do it" answers, using the techniques you've learned up to that point in the book. Next you'll see "how Chris Pine would do it": answers using more advanced Ruby techniques, to whet your appetite as well as providing sort of a "Rosetta Stone" for more elegant solutions. Computers are everywhere, on every desk, in your iPod, cell phone, and PDA. To live well in the 21st century, you need to know how to make computers do things. And to really make computers do what you want, you have to learn to program. Fortunately, that's easier now than ever before. Chris Pine's book will teach you how to program. You'll learn to use your computer better, to get it to do what you want it to do. Starting with small, simple one-line programs to calculate your age in seconds, you'll see how to advance to fully structured, real programs. You'll learn the same technology used to drive modern dynamic websites and large, professional applications. It's now easier to learn to write your own computer software than it has ever been before. Now everyone can learn to write programs for themselves---no previous experience is necessary. Chris takes a thorough, but light-hearted approach that teaches you how to program with a minimum of fuss or bother. Printed in full color.

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