

# Code Complete 2nd Edition

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**Writing Secure Code** Michael Howard 2003 Covers topics such as the importance of secure systems, threat modeling, canonical representation issues, solving database input, denial-of-service attacks, and security code reviews and checklists.

**Write Great Code, Volume 1, 2nd Edition** Randall Hyde 2020-07-31 Understanding the Machine, the first volume in the landmark Write Great Code series by Randall Hyde, explains the underlying mechanics of how a computer works. This, the first volume in Randall Hyde's Write Great Code series, dives into machine organization without the extra overhead of learning assembly language programming. Written for high-level language programmers, Understanding the Machine fills in the low-level details of machine organization that are often left out of computer science and engineering courses. Learn: How the machine represents numbers, strings, and high-level data structures, so you'll know the inherent cost of using them. How to organize your data, so the machine can access it efficiently. How the CPU operates, so you can write code that works the way the machine does. How I/O devices operate, so you can maximize your application's performance when accessing those devices. How to best use the memory hierarchy to produce the fastest possible programs. Great code is efficient code. But before you can write truly efficient code, you must understand how computer systems execute programs and how abstractions in programming languages map to the machine's low-level hardware. After all, compilers don't write the best machine code; programmers do. This book gives you the foundation upon which all great software is built. NEW IN THIS EDITION, COVERAGE OF: Programming languages like Swift and Java Code generation on modern 64-bit CPUs ARM processors on mobile phones and tablets Newer peripheral devices Larger memory systems and large-scale SSDs

*The Pragmatic Programmer* David Thomas 2019-07-30 "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 -VM 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.

**Programming Erlang** Joe Armstrong 2013-09-23 A multi-user game, web site, cloud application, or networked database can have thousands of users all interacting at the same time. You need a powerful, industrial-strength tool to handle the really hard problems inherent in parallel, concurrent environments. You need Erlang. In this second edition of the bestselling Programming Erlang, you'll learn how to write parallel programs that scale effortlessly on multicore systems. Using Erlang, you'll be surprised at how easy it becomes to deal with parallel problems, and how much faster and more efficiently your programs run. That's because Erlang uses sets of parallel processes—not a single sequential process, as found in most programming languages. Joe Armstrong, creator of Erlang, introduces this powerful language in small steps, giving you a complete overview of Erlang and how to use it in common scenarios. You'll start with sequential programming, move to parallel programming and handling errors in parallel programs, and learn to work confidently with distributed programming and the standard Erlang/Open Telecom Platform (OTP) frameworks. You need no previous knowledge of functional or parallel programming. The chapters are packed with hands-on, real-world tutorial examples and insider tips and advice, and finish with exercises for both beginning and advanced users. The second edition has been extensively rewritten. New to this edition are seven chapters covering the latest Erlang features: maps, the type system and the Dialyzer, WebSockets, programming idioms, and a new stand-alone execution environment. You'll write programs that dynamically detect and correct errors, and that can be upgraded without stopping the system. There's also coverage of rebar (the de facto Erlang build system), and information on how to share and use Erlang projects on github, illustrated with examples from cowboy and bitcask. Erlang will change your view of the world, and of how you program. What You Need The Erlang/OTP system. Download it from [erlang.org](http://erlang.org).

**Think Java** Allen B. Downey 2016-05-06 Currently used at many colleges, universities, and high schools, this hands-on introduction to computer science is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a computer scientist. You'll learn how to program—a useful skill by itself—but you'll also discover how to use programming as a means to an end. Authors Allen Downey and Chris Mayfield start with the most

basic concepts and gradually move into topics that are more complex, such as recursion and object-oriented programming. Each brief chapter covers the material for one week of a college course and includes exercises to help you practice what you've learned. Learn one concept at a time: tackle complex topics in a series of small steps with examples Understand how to formulate problems, think creatively about solutions, and write programs clearly and accurately Determine which development techniques work best for you, and practice the important skill of debugging Learn relationships among input and output, decisions and loops, classes and methods, strings and arrays Work on exercises involving word games, graphics, puzzles, and playing cards

**The Pragmatic Programmer** Andrew Hunt 1999-10-20 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.

**Fluent Python** Luciano Ramalho 2015-07-30 Python's simplicity lets you become productive quickly, but this often means you aren't using everything it has to offer. With this hands-on guide, you'll learn how to write effective, idiomatic Python code by leveraging its best—and possibly most neglected—features. Author Luciano Ramalho takes you through Python's core language features and libraries, and shows you how to make your code shorter, faster, and more readable at the same time. Many experienced programmers try to bend Python to fit patterns they learned from other languages, and never discover Python features outside of their experience. With this book, those Python programmers will thoroughly learn how to become proficient in Python 3. This book covers: Python data model: understand how special methods are the key to the consistent behavior of objects Data structures: take full advantage of built-in types, and understand the text vs bytes duality in the Unicode age Functions as objects: view Python functions as first-class objects, and understand how this affects popular design patterns Object-oriented idioms: build classes by learning about references, mutability, interfaces, operator overloading, and multiple inheritance Control flow: leverage context managers, generators, coroutines, and concurrency with the concurrent.futures and asyncio packages Metaprogramming: understand how properties, attribute descriptors, class decorators, and metaclasses work

**The Clean Coder** Robert C. Martin 2011 Presents practical advice on the disciplines, techniques, tools, and practices of computer programming and how to approach software development with a sense of pride, honor, and self-respect.

Code Complete, 2nd Edition Steve McConnell Widely considered one of the best practical guides to programming, Steve McConnell's original CODE COMPLETE has been helping developers write better software for more than a decade. Now this classic book has been fully updated and revised with leading-edge practices—and hundreds of new code samples—illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking—and help you build the highest quality code.

Working Effectively with Legacy Code Michael Feathers 2004-09-22 Get more out of your legacy systems: more performance, functionality, reliability, and manageability Is your code easy to change? Can you get nearly instantaneous feedback when you do change it? Do you understand it? If the answer to any of these questions is no, you have legacy code, and it is draining time and money away from your development efforts. In this book, Michael Feathers offers start-to-finish strategies for working more effectively with large, untested legacy code bases. This book draws on material Michael created for his renowned Object Mentor seminars: techniques Michael has used in mentoring to help hundreds of developers, technical managers, and testers bring their legacy systems under control. The topics covered include Understanding the mechanics of software change: adding features, fixing bugs, improving design, optimizing performance Getting legacy code into a test harness Writing tests that protect you against introducing new problems Techniques that can be used with any language or platform—with examples in Java, C++, C, and C# Accurately identifying where code changes need to be made Coping with legacy systems that aren't object-oriented Handling applications that don't seem to have any structure This book also includes a catalog of twenty-four dependency-breaking techniques that help you work with program elements in isolation and make safer changes.

**Head First Design Patterns** Eric Freeman 2004-10-25 Using research in neurobiology, cognitive science and learning theory, this text loads patterns into your brain in a way that lets you put them to work immediately, makes you better at solving software design problems, and improves your ability to

speak the language of patterns with others on your team.

**Infrastructure as Code** Kief Morris 2020-12-08 Six years ago, Infrastructure as Code was a new concept. Today, as even banks and other conservative organizations plan moves to the cloud, development teams for companies worldwide are attempting to build large infrastructure codebases. With this practical book, Kief Morris of ThoughtWorks shows you how to effectively use principles, practices, and patterns pioneered by DevOps teams to manage cloud-age infrastructure. Ideal for system administrators, infrastructure engineers, software developers, team leads, and architects, this updated edition demonstrates how you can exploit cloud and automation technology to make changes easily, safely, quickly, and responsibly. You'll learn how to define everything as code and apply software design and engineering practices to build your system from small, loosely coupled pieces. This book covers: Foundations: Use Infrastructure as Code to drive continuous change and raise the bar of operational quality, using tools and technologies to build cloud-based platforms Working with infrastructure stacks: Learn how to define, provision, test, and continuously deliver changes to infrastructure resources Working with servers and other platforms: Use patterns to design provisioning and configuration of servers and clusters Working with large systems and teams: Learn workflows, governance, and architectural patterns to create and manage infrastructure elements

## **Code** 1999

**The Nature of Code** Daniel Shiffman 2012 How can we capture the unpredictable evolutionary and emergent properties of nature in software? How can understanding the mathematical principles behind our physical world help us to create digital worlds? This book focuses on a range of programming strategies and techniques behind computer simulations of natural systems, from elementary concepts in mathematics and physics to more advanced algorithms that enable sophisticated visual results. Readers will progress from building a basic physics engine to creating intelligent moving objects and complex systems, setting the foundation for further experiments in generative design. Subjects covered include forces, trigonometry, fractals, cellular automata, self-organization, and genetic algorithms. The book's examples are written in Processing, an open-source language and development environment built on top of the Java programming language. On the book's website (<http://www.natureofcode.com>), the examples run in the browser via Processing's JavaScript mode.

## A Philosophy of Software Design John Ousterhout 2018-04-10

*Adaptive Code* Gary McLean Hall 2017-04-18 Write code that can adapt to changes. By applying this book's principles, you can create code that accommodates new requirements and unforeseen scenarios without significant rewrites. Gary McLean Hall describes Agile best practices, principles, and patterns for designing and writing code that can evolve more quickly and easily, with fewer errors, because it doesn't impede change. Now revised, updated, and expanded, *Adaptive Code, Second Edition* adds indispensable practical insights on Kanban, dependency inversion, and creating reusable abstractions. Drawing on over a decade of Agile consulting and development experience, McLean Hall has updated his best-seller with deeper coverage of unit testing, refactoring, pure dependency injection, and more. Master powerful new ways to:

- Write code that enables and complements Scrum, Kanban, or any other Agile framework
- Develop code that can survive major changes in requirements
- Plan for adaptability by using dependencies, layering, interfaces, and design patterns
- Perform unit testing and refactoring in tandem, gaining more value from both
- Use the "golden master" technique to make legacy code adaptive
- Build SOLID code with single-responsibility, open/closed, and Liskov substitution principles
- Create smaller interfaces to support more-diverse client and architectural needs
- Leverage dependency injection best

practices to improve code adaptability • Apply dependency inversion with the Stairway pattern, and avoid related anti-patterns About You This book is for programmers of all skill levels seeking more-practical insight into design patterns, SOLID principles, unit testing, refactoring, and related topics. Most readers will have programmed in C#, Java, C++, or similar object-oriented languages, and will be familiar with core procedural programming techniques.

**C++ Templates** David Vandevor 2017-09-15 Templates are among the most powerful features of C++, but they remain misunderstood and underutilized, even as the C++ language and development community have advanced. In *C++ Templates, Second Edition*, three pioneering C++ experts show why, when, and how to use modern templates to build software that's cleaner, faster, more efficient, and easier to maintain. Now extensively updated for the C++11, C++14, and C++17 standards, this new edition presents state-of-the-art techniques for a wider spectrum of applications. The authors provide authoritative explanations of all new language features that either improve templates or interact with them, including variadic templates, generic lambdas, class template argument deduction, compile-time if, forwarding references, and user-defined literals. They also deeply delve into fundamental language concepts (like value categories) and fully cover all standard type traits. The book starts with an insightful tutorial on basic concepts and relevant language features. The remainder of the book serves as a comprehensive reference, focusing first on language details and then on coding techniques, advanced applications, and sophisticated idioms. Throughout, examples clearly illustrate abstract concepts and demonstrate best practices for exploiting all that C++ templates can do. Understand exactly how templates behave, and avoid common pitfalls Use templates to write more efficient, flexible, and maintainable software Master today's most effective idioms and techniques Reuse source code without compromising performance or safety Benefit from utilities for generic programming in the C++ Standard Library Preview the upcoming concepts feature The companion website, [tmplbook.com](http://tmplbook.com), contains sample code and additional updates.

*Think Complexity* Allen Downey 2012-03-02 Enhances Python skills by working with data structures and algorithms and gives examples of complex systems using exercises, case studies, and simple explanations.

**More Effective Agile** Steve McConnell 2019-08-24 In this comprehensive yet accessible overview for software leaders, the author presents an impactful, action-oriented prescription-covering the practical considerations needed to ensure you reap the full benefits of effective Agile

**Impact Evaluation in Practice, Second Edition** Paul J. Gertler 2016-09-12 The second edition of the *Impact Evaluation in Practice* handbook is a comprehensive and accessible introduction to impact evaluation for policy makers and development practitioners. First published in 2011, it has been used widely across the development and academic communities. The book incorporates real-world examples to present practical guidelines for designing and implementing impact evaluations. Readers will gain an understanding of impact evaluations and the best ways to use them to design evidence-based policies and programs. The updated version covers the newest techniques for evaluating programs and includes state-of-the-art implementation advice, as well as an expanded set of examples and case studies that draw on recent development challenges. It also includes new material on research ethics and partnerships to conduct impact evaluation. The handbook is divided into four sections: Part One discusses what to evaluate and why; Part Two presents the main impact evaluation methods; Part Three addresses how to manage impact evaluations; Part Four reviews impact evaluation sampling and data collection. Case studies illustrate different applications of impact evaluations. The book links to complementary instructional material available online, including an applied case as well as questions and

answers. The updated second edition will be a valuable resource for the international development community, universities, and policy makers looking to build better evidence around what works in development.

**Clean Code** Robert C. Martin 2009 Looks at the principles and clean code, includes case studies showcasing the practices of writing clean code, and contains a list of heuristics and "smells" accumulated from the process of writing clean code.

**Refactoring** Martin Fowler 1999 Users can dramatically improve the design, performance, and manageability of object-oriented code without altering its interfaces or behavior. "Refactoring" shows users exactly how to spot the best opportunities for refactoring and exactly how to do it, step by step.

*Explode the Code 1 Student* 2nd Edition 2015-08-13

**Effective Python** Brett Slatkin 2020

*Learning Processing* Daniel Shiffman 2015-09-09 Learning Processing, Second Edition, is a friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages. Requiring no previous experience, this book is for the true programming beginner. It teaches the basic building blocks of programming needed to create cutting-edge graphics applications including interactive art, live video processing, and data visualization. Step-by-step examples, thorough explanations, hands-on exercises, and sample code, supports your learning curve. A unique lab-style manual, the book gives graphic and web designers, artists, and illustrators of all stripes a jumpstart on working with the Processing programming environment by providing instruction on the basic principles of the language, followed by careful explanations of select advanced techniques. The book has been developed with a supportive learning experience at its core. From algorithms and data mining to rendering and debugging, it teaches object-oriented programming from the ground up within the fascinating context of interactive visual media. This book is ideal for graphic designers and visual artists without programming background who want to learn programming. It will also appeal to students taking college and graduate courses in interactive media or visual computing, and for self-study. A friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages No previous experience required—this book is for the true programming beginner! Step-by-step examples, thorough explanations, hands-on exercises, and sample code supports your learning curve

**Python for Data Analysis** Wes McKinney 2017-09-25 Get complete instructions for manipulating, processing, cleaning, and crunching datasets in Python. Updated for Python 3.6, the second edition of this hands-on guide is packed with practical case studies that show you how to solve a broad set of data analysis problems effectively. You'll learn the latest versions of pandas, NumPy, IPython, and Jupyter in the process. Written by Wes McKinney, the creator of the Python pandas project, this book is a practical, modern introduction to data science tools in Python. It's ideal for analysts new to Python and for Python programmers new to data science and scientific computing. Data files and related material are available on GitHub. Use the IPython shell and Jupyter notebook for exploratory computing Learn basic and advanced features in NumPy (Numerical Python) Get started with data analysis tools in the pandas library Use flexible tools to load, clean, transform, merge, and reshape data Create informative visualizations with matplotlib Apply the pandas groupby facility to slice, dice, and summarize datasets Analyze and manipulate regular and irregular time series data Learn how to solve real-world data analysis problems with thorough, detailed examples

## Explode the Code 4 1/2

**Programming Scala** Dean Wampler 2014-12-04 Get up to speed on Scala, the JVM language that offers all the benefits of a modern object model, functional programming, and an advanced type system. Packed with code examples, this comprehensive book shows you how to be productive with the language and ecosystem right away, and explains why Scala is ideal for today's highly scalable, data-centric applications that support concurrency and distribution. This second edition covers recent language features, with new chapters on pattern matching, comprehensions, and advanced functional programming. You'll also learn about Scala's command-line tools, third-party tools, libraries, and language-aware plugins for editors and IDEs. This book is ideal for beginning and advanced Scala developers alike. Program faster with Scala's succinct and flexible syntax Dive into basic and advanced functional programming (FP) techniques Build killer big-data apps, using Scala's functional combinators Use traits for mixin composition and pattern matching for data extraction Learn the sophisticated type system that combines FP and object-oriented programming concepts Explore Scala-specific concurrency tools, including Akka Understand how to develop rich domain-specific languages Learn good design techniques for building scalable and robust Scala applications

## Explode the Code A B C Teacher 2nd Edition 2015-08-13

**Murach's Python Programming (2nd Edition)** Joel Murach 2021-04 If you want to learn how to program but don't know where to start, this is the right book and the right language for you. From the first page, our self-paced approach will help you build competence and confidence in your programming skills. And Python is the best language ever for learning how to program because of its simplicity and breadthtwo features that are hard to find in a single language. But this isn't just a book for beginners! Our self-paced approach also works for experienced programmers, helping you learn Python faster and better than you've ever learned a language before. By the time you're through, you will have mastered the key Python skills that are needed on the job, including those for object-oriented, database, and GUI programming. To make all of this possible, section 1 presents an 8-chapter course that will get anyone off to a great start with Python. Section 2 builds on that base by presenting the other essential skills that every Python programmer should have. Section 3 shows you how to develop object-oriented programs, a critical skillset in today's world. And section 4 shows you how to apply all of the skills that you've already learned as you build database and GUI programs for the real world.

**Rapid Development** Steve McConnell 1996-07-02 Corporate and commercial software-development teams all want solutions for one important problem—how to get their high-pressure development schedules under control. In RAPID DEVELOPMENT, author Steve McConnell addresses that concern head-on with overall strategies, specific best practices, and valuable tips that help shrink and control development schedules and keep projects moving. Inside, you'll find: A rapid-development strategy that can be applied to any project and the best practices to make that strategy work Candid discussions of great and not-so-great rapid-development practices—estimation, prototyping, forced overtime, motivation, teamwork, rapid-development languages, risk management, and many others A list of classic mistakes to avoid for rapid-development projects, including creeping requirements, shortchanged quality, and silver-bullet syndrome Case studies that vividly illustrate what can go wrong, what can go right, and how to tell which direction your project is going RAPID DEVELOPMENT is the real-world guide to more efficient applications development.

**Head First Python** Paul Barry 2016-11-21 Want to learn the Python language without slogging your way through how-to manuals? With Head First Python, you'll quickly grasp Python's fundamentals, working

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with the built-in data structures and functions. Then you'll move on to building your very own webapp, exploring database management, exception handling, and data wrangling. If you're intrigued by what you can do with context managers, decorators, comprehensions, and generators, it's all here. This second edition is a complete learning experience that will help you become a bonafide Python programmer in no time. Why does this book look so different? Based on the latest research in cognitive science and learning theory, *Head First Python* uses a visually rich format to engage your mind, rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multi-sensory learning experience is designed for the way your brain really works.

*Introducing Python* Bill Lubanovic 2019-11-06 Easy to understand and fun to read, this updated edition of *Introducing Python* is ideal for beginning programmers as well as those new to the language. Author Bill Lubanovic takes you from the basics to more involved and varied topics, mixing tutorials with cookbook-style code recipes to explain concepts in Python 3. End-of-chapter exercises help you practice what you've learned. You'll gain a strong foundation in the language, including best practices for testing, debugging, code reuse, and other development tips. This book also shows you how to use Python for applications in business, science, and the arts, using various Python tools and open source packages.

**Reinforcement Learning, second edition** Richard S. Sutton 2018-11-13 The significantly expanded and updated new edition of a widely used text on reinforcement learning, one of the most active research areas in artificial intelligence. Reinforcement learning, one of the most active research areas in artificial intelligence, is a computational approach to learning whereby an agent tries to maximize the total amount of reward it receives while interacting with a complex, uncertain environment. In *Reinforcement Learning*, Richard Sutton and Andrew Barto provide a clear and simple account of the field's key ideas and algorithms. This second edition has been significantly expanded and updated, presenting new topics and updating coverage of other topics. Like the first edition, this second edition focuses on core online learning algorithms, with the more mathematical material set off in shaded boxes. Part I covers as much of reinforcement learning as possible without going beyond the tabular case for which exact solutions can be found. Many algorithms presented in this part are new to the second edition, including UCB, Expected Sarsa, and Double Learning. Part II extends these ideas to function approximation, with new sections on such topics as artificial neural networks and the Fourier basis, and offers expanded treatment of off-policy learning and policy-gradient methods. Part III has new chapters on reinforcement learning's relationships to psychology and neuroscience, as well as an updated case-studies chapter including AlphaGo and AlphaGo Zero, Atari game playing, and IBM Watson's wagering strategy. The final chapter discusses the future societal impacts of reinforcement learning.

**Code Check Complete** Redwood Kardon 2012 Provides an all-in-one guide to the most commonly cited code violations encountered by building inspectors.

**Exploring Arduino** Jeremy Blum 2019-10-24 The bestselling beginner Arduino guide, updated with new projects! *Exploring Arduino* makes electrical engineering and embedded software accessible. Learn step by step everything you need to know about electrical engineering, programming, and human-computer interaction through a series of increasingly complex projects. Arduino guru Jeremy Blum walks you through each build, providing code snippets and schematics that will remain useful for future projects. Projects are accompanied by downloadable source code, tips and tricks, and video tutorials to help you master Arduino. You'll gain the skills you need to develop your own microcontroller projects! This new 2nd edition has been updated to cover the rapidly-expanding Arduino ecosystem, and includes new full-color graphics for easier reference. Servo motors and stepper motors are covered in richer detail, and you'll find more excerpts about technical details behind the topics covered in the book. Wireless

connectivity and the Internet-of-Things are now more prominently featured in the advanced projects to reflect Arduino's growing capabilities. You'll learn how Arduino compares to its competition, and how to determine which board is right for your project. If you're ready to start creating, this book is your ultimate guide! Get up to date on the evolving Arduino hardware, software, and capabilities Build projects that interface with other devices—wirelessly! Learn the basics of electrical engineering and programming Access downloadable materials and source code for every project Whether you're a first-timer just starting out in electronics, or a pro looking to mock-up more complex builds, Arduino is a fantastic tool for building a variety of devices. This book offers a comprehensive tour of the hardware itself, plus in-depth introduction to the various peripherals, tools, and techniques used to turn your little Arduino device into something useful, artistic, and educational. Exploring Arduino is your roadmap to adventure—start your journey today!

**Clean Code in Python** Mariano Anaya 2021-01-06 Tackle inefficiencies and errors the Pythonic way Key Features Enhance your coding skills using the new features introduced in Python 3.9 Implement the refactoring techniques and SOLID principles in Python Apply microservices to your legacy systems by implementing practical techniques Book Description Experienced professionals in every field face several instances of disorganization, poor readability, and testability due to unstructured code. With updated code and revised content aligned to the new features of Python 3.9, this second edition of Clean Code in Python will provide you with all the tools you need to overcome these obstacles and manage your projects successfully. The book begins by describing the basic elements of writing clean code and how it plays a key role in Python programming. You will learn about writing efficient and readable code using the Python standard library and best practices for software design. The book discusses object-oriented programming in Python and shows you how to use objects with descriptors and generators. It will also show you the design principles of software testing and how to resolve problems by implementing software design patterns in your code. In the concluding chapter, we break down a monolithic application into a microservices-based one starting from the code as the basis for a solid platform. By the end of this clean code book, you will be proficient in applying industry-approved coding practices to design clean, sustainable, and readable real-world Python code. What you will learn Set up a productive development environment by leveraging automatic tools Leverage the magic methods in Python to write better code, abstracting complexity away and encapsulating details Create advanced object-oriented designs using unique features of Python, such as descriptors Eliminate duplicated code by creating powerful abstractions using software engineering principles of object-oriented design Create Python-specific solutions using decorators and descriptors Refactor code effectively with the help of unit tests Build the foundations for solid architecture with a clean code base as its cornerstone Who this book is for This book is designed to benefit new as well as experienced programmers. It will appeal to team leads, software architects and senior software engineers who would like to write Pythonic code to save on costs and improve efficiency. The book assumes that you have a strong understanding of programming

**Code Craft** Pete Goodliffe 2007 A guide to writing computer code covers such topics as variable naming, presentation style, error handling, and security.

*Game Coding Complete* Mike McShaffry 2005 Takes programmers through the complete process of developing a professional quality game, covering a range of topics such as the key "gotcha" issues that could trip up even a veteran programmer, game interface design, game audio, and game engine technology

**Code Complete** Steve McConnell 2004-06-09 Widely considered one of the best practical guides to programming, Steve McConnell's original CODE COMPLETE has been helping developers write better

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software for more than a decade. Now this classic book has been fully updated and revised with leading-edge practices—and hundreds of new code samples—illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking—and help you build the highest quality code. Discover the timeless techniques and strategies that help you: Design for minimum complexity and maximum creativity Reap the benefits of collaborative development Apply defensive programming techniques to reduce and flush out errors Exploit opportunities to refactor—or evolve—code, and do it safely Use construction practices that are right-weight for your project Debug problems quickly and effectively Resolve critical construction issues early and correctly Build quality into the beginning, middle, and end of your project