

# Fluent Python

This workbook is designed to help those learning and teaching Computer Science at secondary school level. The aim of the book is to help students build fluency in their Python programming. The book would suit students who have already been introduced to the three basic programming constructs of structured programming, namely sequence, selection and iteration. The learning curve for programming can be quite steep and this book aims to ease this transition by encouraging practise and gradually introducing more complex concepts such as lists and 2D lists and file writing. Originally, the book was written for 14-16 year old students studying for their GCSE Computer Science programming exam. However, a wide range of students and teachers will find this book useful. The Little Book of Algorithms concisely presents eighteen problems which computer science students will commonly encounter. These problems are solved efficiently using programs written using Python. However, reading these programs is not enough, so this new version of the book now comes with 48 challenges so that you can apply what you have learnt in various ways: Writing your own programs Solving Parson's puzzles Completing quizzes Tracing Gap fills This range of exercises will help you to become more fluent in Python and ensure that you are comfortable with any question format in a programming exam. Solutions are provided in the back and a series of video tutorials is also provided so that you can code along with the author, hearing his thought processes as he programs. After finishing this book, you should feel more familiar with: While loops and For loops Concatenating different data types Using procedures and functions Working with 1D and 2D lists and arrays File reading and writing This book will show you how to write better Python

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programs and will expose you to the key skills that are required to do well in any secondary school programming assignment or exam

Python for Software Design is a concise introduction to software design using the Python programming language. The focus is on the programming process, with special emphasis on debugging. The book includes a wide range of exercises, from short examples to substantial projects, so that students have ample opportunity to practice each new concept.

Python Essential Reference is the definitive reference guide to the Python programming language — the one authoritative handbook that reliably untangles and explains both the core Python language and the most essential parts of the Python library. Designed for the professional programmer, the book is concise, to the point, and highly accessible. It also includes detailed information on the Python library and many advanced subjects that is not available in either the official Python documentation or any other single reference source. Thoroughly updated to reflect the significant new programming language features and library modules that have been introduced in Python 2.6 and Python 3, the fourth edition of Python Essential Reference is the definitive guide for programmers who need to modernize existing Python code or who are planning an eventual migration to Python 3. Programmers starting a new Python project will find detailed coverage of contemporary Python programming idioms. This fourth edition of Python Essential Reference features numerous improvements, additions, and updates: Coverage of new language features, libraries, and modules Practical coverage of Python's more advanced features including generators, coroutines, closures, metaclasses, and decorators Expanded coverage of library modules related to concurrent programming including threads, subprocesses, and the new multiprocessing module Up-to-the-minute coverage of

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how to use Python 2.6's forward compatibility mode to evaluate code for Python 3  
compatibility Improved organization for even faster answers and better usability Updates to reflect modern Python programming style and idioms Updated and improved example code  
Deep coverage of low-level system and networking library modules — including options not covered in the standard documentation

Get a comprehensive, in-depth introduction to the core Python language with this hands-on book. Based on author Mark Lutz's popular training course, this updated fifth edition will help you quickly write efficient, high-quality code with Python. It's an ideal way to begin, whether you're new to programming or a professional developer versed in other languages. Complete with quizzes, exercises, and helpful illustrations, this easy-to-follow, self-paced tutorial gets you started with both Python 2.7 and 3.3— the latest releases in the 3.X and 2.X lines—plus all other releases in common use today. You'll also learn some advanced language features that recently have become more common in Python code. Explore Python's major built-in object types such as numbers, lists, and dictionaries Create and process objects with Python statements, and learn Python's general syntax model Use functions to avoid code redundancy and package code for reuse Organize statements, functions, and other tools into larger components with modules Dive into classes: Python's object-oriented programming tool for structuring code Write large programs with Python's exception-handling model and development tools Learn advanced Python tools, including decorators, descriptors, metaclasses, and Unicode processing

Discover the power of one of the fastest growing programming languages in the world with this insightful new resource The Python Book delivers an essential introductory guide to learning

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Python for anyone who works with data but does not have experience in programming. The experienced data scientist, Python programmer, and author shows readers how to use Python for data analysis, exploration, cleaning, and wrangling. Readers will learn what in the Python language is important for data analysis and why and remain focused on those skills. The book assists budding programmers to gradually increase their skills as they move through the book, always with an understanding of what they are covering and why it is useful. The Python Book offers readers a thorough and comprehensive introduction to a language that is both simple enough to be ideal for a novice programmer, yet robust enough to be useful for those more experienced in the language. Used by major companies like Google, Facebook, Instagram, Spotify, and more, Python promises to remain central to the programming landscape for years to come. Readers will also learn from:

- A thorough discussion of Python programming topics like variables, equalities and comparisons, tuple and dictionary data types, while and for loops, and if statements
- An exploration of highly useful Python programming libraries, including Pandas and Matplotlib
- An analysis of how to write Python functions, and classes
- A treatment of Python scripts and how to write and use them
- An exploration of dealing with different data types within Python

Perfect for statisticians, computer scientists, software programmers, and practitioners working in private industry and medicine, The Python Book will also be of interest to students in any of the aforementioned fields. Because it assumes no programming experience or knowledge, the book is ideal for those who work with data but lack ability with Python.

Fluent Python: Clear, Concise, and Effective Programming"O'Reilly Media, Inc."

What will you learn from this book? It's no secret the world around you is becoming more

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connected, more configurable, more programmable, more computational. You can remain a passive participant, or you can learn to code. With *Head First Learn to Code* you'll learn how to think computationally and how to write code to make your computer, mobile device, or anything with a CPU do things for you. Using the Python programming language, you'll learn step by step the core concepts of programming as well as many fundamental topics from computer science, such as data structures, storage, abstraction, recursion, and modularity. Why does this book look so different? Based on the latest research in cognitive science and learning theory, *Head First Learn to Code* 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.

**Praise for *Linear Models with R*:** This book is a must-have tool for anyone interested in understanding and applying linear models. The logical ordering of the chapters is well thought out and portrays Faraway's wealth of experience in teaching and using linear models. ... It lays down the material in a logical and intricate manner and makes linear modeling appealing to researchers from virtually all fields of study. -*Biometrical Journal* Throughout, it gives plenty of insight ... with comments that even the seasoned practitioner will appreciate. Interspersed with R code and the output that it produces one can find many little gems of what I think is sound statistical advice, well epitomized with the examples chosen...I read it with delight and think that the same will be true with anyone who is engaged in the use or teaching of linear models. -*Journal of the Royal Statistical Society* Like its widely praised, best-selling companion version, *Linear Models with R*, this book replaces R with Python to seamlessly give a coherent

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exposition of the practice of linear modeling. Linear Models with Python offers up-to-date insight on essential data analysis topics, from estimation, inference and prediction to missing data, factorial models and block designs. Numerous examples illustrate how to apply the different methods using Python. Features: Python is a powerful, open source programming language increasingly being used in data science, machine learning and computer science. Python and R are similar, but R was designed for statistics, while Python is multi-talented. This version replaces R with Python to make it accessible to a greater number of users outside of statistics, including those from Machine Learning. A reader coming to this book from an ML background will learn new statistical perspectives on learning from data. Topics include Model Selection, Shrinkage, Experiments with Blocks and Missing Data. Includes an Appendix on Python for beginners. Linear Models with Python explains how to use linear models in physical science, engineering, social science and business applications. It is ideal as a textbook for linear models or linear regression courses.

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. Discover the right way to code in Python. This book provides the tips and techniques you need to produce cleaner, error-free, and eloquent Python projects. Your journey to better code starts with understanding the importance of

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formatting and documenting your code for maximum readability, utilizing built-in data structures and Python dictionary for improved maintainability, and working with modules and meta-classes to effectively organize your code. You will then dive deep into the new features of the Python language and learn how to effectively utilize them. Next, you will decode key concepts such as asynchronous programming, Python data types, type hinting, and path handling. Learn tips to debug and conduct unit and integration tests in your Python code to ensure your code is ready for production. The final leg of your learning journey equips you with essential tools for version management, managing live code, and intelligent code completion. After reading and using this book, you will be proficient in writing clean Python code and successfully apply these principles to your own Python projects.

**What You'll Learn**

- Use the right expressions and statements in your Python code
- Create and assess Python Dictionary
- Work with advanced data structures in Python
- Write better modules, classes, functions, and metaclasses
- Start writing asynchronous Python immediately
- Discover new features in Python

**Who This Book Is For**

Readers with a basic Python programming knowledge who want to improve their Python programming skills by learning right way to code in Python.

**Summary** This third revision of Manning's popular *The Quick Python Book* offers

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a clear, crisp updated introduction to the elegant Python programming language and its famously easy-to-read syntax. Written for programmers new to Python, this latest edition includes new exercises throughout. It covers features common to other languages concisely, while introducing Python's comprehensive standard functions library and unique features in detail. Foreword by Nicholas Tollervey, Python Software Foundation. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Initially Guido van Rossum's 1989 holiday project, Python has grown into an amazing computer language. It's a joy to learn and read, and powerful enough to handle everything from low-level system resources to advanced applications like deep learning. Elegantly simple and complete, it also boasts a massive ecosystem of libraries and frameworks. Python programmers are in high demand/—;you can't afford not to be fluent! About the Book The Quick Python Book, Third Edition is a comprehensive guide to the Python language by a Python authority, Naomi Ceder. With the personal touch of a skilled teacher, she beautifully balances details of the language with the insights and advice you need to handle any task. Extensive, relevant examples and learn-by-doing exercises help you master each important concept the first time through. Whether you're scraping websites or playing around with nested tuples, you'll appreciate



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this book's clarity, focus, and attention to detail. What's Inside Clear coverage of Python 3 Core libraries, packages, and tools In-depth exercises Five new data science-related chapters About the Reader Written for readers familiar with programming concepts--no Python experience assumed. About the Author Naomi Ceder is chair of the Python Software Foundation. She has been learning, using, and teaching Python since 2001. Table of Contents PART 1 - STARTING OUT 1. About Python 2. Getting started 3. The Quick Python overview PART 2 - THE ESSENTIALS 4. The absolute basics 5. Lists, tuples, and sets 6. Strings 7. Dictionaries 8. Control flow 9. Functions 10. Modules and scoping rules 11. Python programs 12. Using the filesystem 13. Reading and writing files 14. Exceptions PART 3 - ADVANCED LANGUAGE FEATURES 15. Classes and object-oriented programming 16. Regular expressions 17. Data types as objects 18. Packages 19. Using Python libraries PART 4 - WORKING WITH DATA 20. Basic file wrangling 21. Processing data files 22. Data over the network 23. Saving data 24. Exploring data

Do you want to become a master at python programming? Knowing how to write beautiful python code is a super valuable skill. It's useful in almost any field of work and any company. It's said that programming for geeks, but that's all a myth. This book, Book 3 in the Hacking For Beginners Series presents python

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programming in a serious and fun way. It includes: The basics of Python The classes and objects The if statements Working with inheritance codes How to handle exceptions in your code How loops can save you time Using the operators in your code How to file input and output work And much more! Are you ready to become a python programming master? You can start now. The "Writing Idiomatic Python" book is finally here! Chock full of code samples, you'll learn the "Pythonic" way to accomplish common tasks. Each idiom comes with a detailed description, example code showing the "wrong" way to do it, and code for the idiomatic, "Pythonic" alternative. \*This version of the book is for Python 3.3+. There is also a Python 2.7.3+ version available.\* "Writing Idiomatic Python" contains the most common and important Python idioms in a format that maximizes identification and understanding. Each idiom is presented as a recommendation to write some commonly used piece of code. It is followed by an explanation of why the idiom is important. It also contains two code samples: the "Harmful" way to write it and the "Idiomatic" way. \* The "Harmful" way helps you identify the idiom in your own code. \* The "Idiomatic" way shows you how to easily translate that code into idiomatic Python. This book is perfect for you: \* If you're coming to Python from another programming language \* If you're learning Python as a first programming language \* If you're looking to increase the

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readability, maintainability, and correctness of your Python code What is "Idiomatic" Python? Every programming language has its own idioms. Programming language idioms are nothing more than the generally accepted way of writing a certain piece of code. Consistently writing idiomatic code has a number of important benefits:

- \* Others can read and understand your code easily
- \* Others can maintain and enhance your code with minimal effort
- \* Your code will contain fewer bugs
- \* Your code will teach others to write correct code without any effort on your part

Violent Python shows you how to move from a theoretical understanding of offensive computing concepts to a practical implementation. Instead of relying on another attacker's tools, this book will teach you to forge your own weapons using the Python programming language. This book demonstrates how to write Python scripts to automate large-scale network attacks, extract metadata, and investigate forensic artifacts. It also shows how to write code to intercept and analyze network traffic using Python, craft and spoof wireless frames to attack wireless and Bluetooth devices, and how to data-mine popular social media websites and evade modern anti-virus. Demonstrates how to write Python scripts to automate large-scale network attacks, extract metadata, and investigate forensic artifacts Write code to intercept and analyze network traffic using

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Python. Craft and spoof wireless frames to attack wireless and Bluetooth devices  
Data-mine popular social media websites and evade modern anti-virus  
Expand your computer and IT skills and earn more money by learning the world's  
most popular programming language - Python! Become even more computer  
savvy and rise above the competition when applying to jobs with proficient  
Python programming skills. Python programming provides you with a sustainable  
foundation in computer programming that is easy to build upon and specialize  
your skills. This results in becoming a better candidate for job openings and  
increasing your salary! With this guide in your hands, you will: Learn the Python  
programming language from scratch with little to no experience required  
Specialize in a computer language and make yourself more valuable to a  
company Open the door to new job opportunities after learning and implementing  
Python Study 3 complete books in one to build on your skills Become more  
desirable when applying for jobs, especially in the startup community Plus Much  
More! Right now Python is one of the most popular and useful languages  
programmers should know. With absolutely no experience required, you could  
learn the foundations of this language and easily build on your skills to increase  
your income and open the door to incredible job opportunities. Are you ready to  
make more money and learn an essential programming language from scratch?

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...Then Order Your Complete Guide and Start Learning Today!

Demonstrates the programming language's strength as a Web development tool, covering syntax, data types, built-ins, the Python standard module library, and real world examples.

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 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.

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

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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.

Master the art of writing beautiful and powerful Python by using all of the features that Python 3.5 offers About This Book Become familiar with the most important and advanced parts of the Python code style Learn the trickier aspects of Python and put it in a structured context for deeper understanding of the language Offers an expert's-eye overview of how these advanced tasks fit together in Python as a whole along with practical examples Who This Book Is For Almost anyone can learn to write working script and create high quality code but they might lack a structured understanding of what it means to be 'Pythonic'. If you are a Python programmer who wants to code efficiently by getting the syntax and usage of a few intricate Python techniques exactly right, this book is for you. What You Will Learn Create a virtualenv and start a new project Understand how and when to use the functional programming paradigm Get familiar with the different ways the

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decorators can be written in Understand the power of generators and coroutines without digressing into lambda calculus Create metaclasses and how it makes working with Python far easier Generate HTML documentation out of documents and code using Sphinx Learn how to track and optimize application performance, both memory and cpu Use the multiprocessing library, not just locally but also across multiple machines Get a basic understanding of packaging and creating your own libraries/applications In Detail Python is a dynamic programming language. It is known for its high readability and hence it is often the first language learned by new programmers. Python being multi-paradigm, it can be used to achieve the same thing in different ways and it is compatible across different platforms. Even if you find writing Python code easy, writing code that is efficient, easy to maintain, and reuse is not so straightforward. This book is an authoritative guide that will help you learn new advanced methods in a clear and contextualised way. It starts off by creating a project-specific environment using venv, introducing you to different Pythonic syntax and common pitfalls before moving on to cover the functional features in Python. It covers how to create different decorators, generators, and metaclasses. It also introduces you to functools.wraps and coroutines and how they work. Later on you will learn to use asyncio module for asynchronous clients and servers. You will also get familiar

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with different testing systems such as `py.test`, `doctest`, and `unittest`, and debugging tools such as Python debugger and `faulthandler`. You will learn to optimize application performance so that it works efficiently across multiple machines and Python versions. Finally, it will teach you how to access C functions with a simple Python call. By the end of the book, you will be able to write more advanced scripts and take on bigger challenges. **Style and Approach** This book is a comprehensive guide that covers advanced features of the Python language, and communicate them with an authoritative understanding of the underlying rationale for how, when, and why to use them.

"I don't even feel like I've scratched the surface of what I can do with Python" With *Python Tricks: The Book* you'll discover Python's best practices and the power of beautiful & Pythonic code with simple examples and a step-by-step narrative. You'll get one step closer to mastering Python, so you can write beautiful and idiomatic code that comes to you naturally. Learning the ins and outs of Python is difficult-and with this book you'll be able to focus on the practical skills that really matter. Discover the "hidden gold" in Python's standard library and start writing clean and Pythonic code today. **Who Should Read This Book:** If you're wondering which lesser known parts in Python you should know about, you'll get a roadmap with this book. Discover cool (yet practical!) Python



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tricks and blow your coworkers' minds in your next code review. If you've got experience with legacy versions of Python, the book will get you up to speed with modern patterns and features introduced in Python 3 and backported to Python 2. If you've worked with other programming languages and you want to get up to speed with Python, you'll pick up the idioms and practical tips you need to become a confident and effective Pythonista. If you want to make Python your own and learn how to write clean and Pythonic code, you'll discover best practices and little-known tricks to round out your knowledge. What Python Developers Say About The Book: "I kept thinking that I wished I had access to a book like this when I started learning Python many years ago." - Mariatta Wijaya, Python Core Developer "This book makes you write better Python code!" - Bob Belderbos, Software Developer at Oracle "Far from being just a shallow collection of snippets, this book will leave the attentive reader with a deeper understanding of the inner workings of Python as well as an appreciation for its beauty." - Ben Felder, Pythonista "It's like having a seasoned tutor explaining, well, tricks!" - Daniel Meyer, Sr. Desktop Administrator at Tesla Inc.

Does it seem like your Python projects are getting bigger and bigger? Are you feeling the pain as your codebase expands and gets tougher to debug and maintain? Python is an easy language to learn and use, but that also means

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systems can quickly grow beyond comprehension. Thankfully, Python has features to help developers overcome maintainability woes. In this practical book, author Patrick Viafore shows you how to use Python's type system to the max. You'll look at user-defined types, such as classes and enums, and Python's type hinting system. You'll also learn how to make Python extensible and how to use a comprehensive testing strategy as a safety net. With these tips and techniques, you'll write clearer and more maintainable code. Learn why types are essential in modern development ecosystems Understand how type choices such as classes, dictionaries, and enums reflect specific intents Make Python extensible for the future without adding bloat Use popular Python tools to increase the safety and robustness of your codebase Evaluate current code to detect common maintainability gotchas Build a safety net around your codebase with linters and tests

Updated for both Python 3.4 and 2.7, this convenient pocket guide is the perfect on-the-job quick reference. You'll find concise, need-to-know information on Python types and statements, special method names, built-in functions and exceptions, commonly used standard library modules, and other prominent Python tools. The handy index lets you pinpoint exactly what you need. Written by Mark Lutz—widely recognized as the world's leading Python trainer—Python

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Pocket Reference is an ideal companion to O'Reilly's classic Python tutorials, *Learning Python* and *Programming Python*, also written by Mark. This fifth edition covers:

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

"It's easy to start writing code with Python: that's why the language is so immensely popular. However, Python has unique strengths, charms, and expressivity that can be hard to grasp at first -- as well as hidden pitfalls that can easily trip you up if you aren't aware of them. *Effective Python* will help you harness the full power of Python to write exceptionally robust, efficient, maintainable, and well-performing code. Utilizing the concise, scenario-driven style pioneered in Scott Meyers's best-selling *Effective C++*, Brett Slatkin brings together 53 Python best practices, tips, shortcuts, and realistic code examples from expert programmers. Through realistic examples, Slatkin uncovers little-known Python quirks, intricacies, and idioms that powerfully impact code

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behavior and performance. You'll learn how to choose the most efficient and effective way to accomplish key tasks when multiple options exist, and how to write code that's easier to understand, maintain, and improve. Drawing on his deep understanding of Python's capabilities, Slatkin offers practical advice for each major area of development with both Python 3.x and Python 2.x. Coverage includes: \* Algorithms \* Objects \* Concurrency \* Collaboration \* Built-in modules \* Production techniques \* And more Each section contains specific, actionable guidelines organized into items, each with carefully worded advice supported by detailed technical arguments and illuminating examples. Using Effective Python, you can systematically improve all the Python code you write: not by blindly following rules or mimicking incomprehensible idioms, but by gaining a deep understanding of the technical reasons why they make sense."--[Source inconneue].

Best-selling author Al Sweigart shows you how to easily build over 80 fun programs with minimal code and maximum creativity. If you've mastered basic Python syntax and you're ready to start writing programs, you'll find The Big Book of Small Python Projects both enlightening and fun. This collection of 81 Python projects will have you making digital art, games, animations, counting pro- grams, and more right away. Once you see how the code works, you'll

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practice re-creating the programs and experiment by adding your own custom touches. These simple, text-based programs are 256 lines of code or less. And whether it's a vintage screensaver, a snail-racing game, a clickbait headline generator, or animated strands of DNA, each project is designed to be self-contained so you can easily share it online. You'll create:

- Hangman, Blackjack, and other games to play against your friends or the computer
- Simulations of a forest fire, a million dice rolls, and a Japanese abacus
- Animations like a virtual fish tank, a rotating cube, and a bouncing DVD logo screensaver
- A first-person 3D maze game
- Encryption programs that use ciphers like ROT13 and Vigenère to conceal text

If you're tired of standard step-by-step tutorials, you'll love the learn-by-doing approach of *The Big Book of Small Python Projects*. It's proof that good things come in small programs!

A practical approach to using regression and computation to solve real-world problems of estimation, prediction, and causal inference.

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,

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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

**BRIDGE THE GAP BETWEEN NOVICE AND PROFESSIONAL** You've completed a basic Python programming tutorial or finished Al Sweigart's bestseller, *Automate the Boring Stuff with Python*. What's the next step toward becoming a capable, confident software developer? Welcome to *Beyond the Basic Stuff with Python*. More than a mere collection of advanced syntax and masterful tips for writing clean code, you'll learn how to advance your Python programming skills by using the command line and other professional tools like code formatters, type checkers, linters, and version control. Sweigart takes you through best practices for setting up your development environment, naming variables, and improving readability, then tackles documentation, organization and performance measurement, as well as object-oriented design and the Big-O algorithm analysis commonly used in coding interviews. The skills you learn will boost your ability to program--not just in Python but in any language. You'll learn:

- Coding style, and how to use Python's Black auto-formatting tool for

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cleaner code • Common sources of bugs, and how to detect them with static analyzers • How to structure the files in your code projects with the Cookiecutter template tool • Functional programming techniques like lambda and higher-order functions • How to profile the speed of your code with Python's built-in `timeit` and `cProfile` modules • The computer science behind Big-O algorithm analysis • How to make your comments and docstrings informative, and how often to write them • How to create classes in object-oriented programming, and why they're used to organize code

Toward the end of the book you'll read a detailed source-code breakdown of two classic command-line games, the Tower of Hanoi (a logic puzzle) and Four-in-a-Row (a two-player tile-dropping game), and a breakdown of how their code follows the book's best practices. You'll test your skills by implementing the program yourself. Of course, no single book can make you a professional software developer. But *Beyond the Basic Stuff with Python* will get you further down that path and make you a better programmer, as you learn to write readable code that's easy to debug and perfectly Pythonic

Requirements: Covers Python 3.6 and higher

*Creative Coding in Python* presents over 30 creative projects that teach kids how to code in the easy and intuitive programming language, Python. *Creative Coding in Python* teaches the fundamentals of computer programming and demonstrates how to code 30+ fun, creative projects using Python, a free, intuitive, open-source programming language that's one of the top five most popular worldwide and one of the most popular Google search terms in the U.S. Computer science educator Sheena Vaidyanathan helps kids understand the fundamental ideas of computer programming and the process of computational thinking using illustrations, flowcharts, and pseudocode, then shows how to apply those essentials to code exciting

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projects in Python: Chatbots: Discover variables, strings, integers, and more to design conversational programs. Geometric art: Use turtle graphics to create original masterpieces. Interactive fiction: Explore booleans and conditionals to invent "create your own adventure" games. Dice games: Reuse code to devise games of chance. Arcade games and apps: Understand GUI (graphical user interfaces) and create your own arcade games and apps. What's next? Look at exciting ways to use your powerful new skills and expand your knowledge of coding in Python. Creative Coding in Python gives kids the tools they need to create their own computer programs.

Winner of the 2014 Jolt Award for "Best Book" "Whether you are an experienced programmer or are starting your career, Python in Practice is full of valuable advice and example to help you improve your craft by thinking about problems from different perspectives, introducing tools, and detailing techniques to create more effective solutions." --Doug Hellmann, Senior Developer, DreamHost If you're an experienced Python programmer, Python in Practice will help you improve the quality, reliability, speed, maintainability, and usability of all your Python programs. Mark Summerfield focuses on four key themes: design patterns for coding elegance, faster processing through concurrency and compiled Python (Cython), high-level networking, and graphics. He identifies well-proven design patterns that are useful in Python, illuminates them with expert-quality code, and explains why some object-oriented design patterns are irrelevant to Python. He also explodes several counterproductive myths about Python programming--showing, for example, how Python can take full advantage of multicore hardware. All examples, including three complete case studies, have been tested with Python 3.3 (and, where possible, Python 3.2 and 3.1) and crafted to maintain compatibility with future



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Python 3.x versions. All code has been tested on Linux, and most code has also been tested on OS X and Windows. All code may be downloaded at [www.qtrac.eu/pipbook.html](http://www.qtrac.eu/pipbook.html). Coverage includes Leveraging Python's most effective creational, structural, and behavioral design patterns Supporting concurrency with Python's multiprocessing, threading, and concurrent.futures modules Avoiding concurrency problems using thread-safe queues and futures rather than fragile locks Simplifying networking with high-level modules, including xmlrpclib and RPyC Accelerating Python code with Cython, C-based Python modules, profiling, and other techniques Creating modern-looking GUI applications with Tkinter Leveraging today's powerful graphics hardware via the OpenGL API using pyglet and PyOpenGL Python's simplicity lets you become productive quickly, but often this means you aren't using everything it has to offer. With the updated edition of this hands-on guide, you'll learn how to write effective, modern Python 3 code by leveraging its best ideas. Don't waste time bending Python to fit patterns you learned in other languages. Discover and apply idiomatic Python 3 features beyond your past experience. Author Luciano Ramalho guides you through Python's core language features and libraries and teaches you how to make your code shorter, faster, and more readable. Featuring major updates throughout the book, *Fluent Python*, second edition, covers:

- Special methods: The key to the consistent behavior of Python objects
- Data structures: Sequences, dicts, sets, Unicode, and data classes
- Functions as objects: First-class functions, related design patterns, and type hints in function declarations
- Object-oriented idioms: Composition, inheritance, mixins, interfaces, operator overloading, static typing and protocols
- Control flow: Context managers, generators, coroutines, `async/await`, and `thread/process` pools
- Metaprogramming: Properties, attribute descriptors, class decorators,

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and new class metaprogramming hooks that are simpler than metaclasses.

If you need help writing programs in Python 3, or want to update older Python 2 code, this book is just the ticket. Packed with practical recipes written and tested with Python 3.3, this unique cookbook is for experienced Python programmers who want to focus on modern tools and idioms. Inside, you'll find complete recipes for more than a dozen topics, covering the core Python language as well as tasks common to a wide variety of application domains. Each recipe contains code samples you can use in your projects right away, along with a discussion about how and why the solution works. Topics include: Data Structures and Algorithms Strings and Text Numbers, Dates, and Times Iterators and Generators Files and I/O Data Encoding and Processing Functions Classes and Objects Metaprogramming Modules and Packages Network and Web Programming Concurrency Utility Scripting and System Administration Testing, Debugging, and Exceptions C Extensions

Python's simplicity lets you become productive quickly, but often this means you aren't using everything it has to offer. With the updated edition of this hands-on guide, you'll learn how to write effective, modern Python 3 code by leveraging its best ideas. Don't waste time bending Python to fit patterns you learned in other languages. Discover and apply idiomatic Python 3 features beyond your past experience. Author Luciano Ramalho guides you through Python's core language features and libraries and teaches you how to make your code shorter, faster, and more readable. Featuring major updates throughout the book, *Fluent Python*, second edition, covers: Special methods: The key to the consistent behavior of Python objects Data structures: Sequences, dicts, sets, Unicode, and data classes Functions as objects: First-class functions, related design patterns, and type hints in function declarations Object-oriented

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idioms: Composition, inheritance, mixins, interfaces, operator overloading, static typing and protocols  
Control flow: Context managers, generators, coroutines, async/await, and thread/process pools  
Metaprogramming: Properties, attribute descriptors, class decorators, and new class metaprogramming hooks that are simpler than metaclasses

Unleash the power of the Android OS and build the kinds of brilliant, innovative apps users love to use. If you already know your way around the Android OS and can build a simple Android app in under an hour, this book is for you. If you're itching to see just how far you can push it and discover what Android is really capable of, it's for you. And if you're ready to learn how to build advanced, intuitive, innovative apps that are a blast to use, this book is definitely for you. From custom views and advanced multi-touch gestures, to integrating online web services and exploiting the latest geofencing and activity recognition features, ace Android developer, Erik Hellman, delivers expert tips, tricks and little-known techniques for pushing the Android envelope so you can:

- Optimize your components for the smoothest user experience possible
- Create your own custom Views
- Push the boundaries of the Android SDK
- Master Android Studio and Gradle
- Make optimal use of the Android audio, video and graphics APIs
- Program in Text-To-Speech and Speech Recognition
- Make the most of the new Android maps and location API
- Use Android connectivity technologies to communicate with remote devices
- Perform background processing
- Use Android cryptography APIs
- Find and safely use hidden Android APIs
- Cloud-enable your applications with Google Play Services
- Distribute and sell your applications on Google Play Store

Learn how to unleash the power of Android and transform your apps from good to great in *Android Programming: Pushing the Limits*.

Summary: Professional developers know the many benefits of writing application code that's

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clean, well-organized, and easy to maintain. By learning and following established patterns and best practices, you can take your code and your career to a new level. With *Practices of the Python Pro*, you'll learn to design professional-level, clean, easily maintainable software at scale using the incredibly popular programming language, Python. You'll find easy-to-grok examples that use pseudocode and Python to introduce software development best practices, along with dozens of instantly useful techniques that will help you code like a pro. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Professional-quality code does more than just run without bugs. It's clean, readable, and easy to maintain. To step up from a capable Python coder to a professional developer, you need to learn industry standards for coding style, application design, and development process. That's where this book is indispensable. About the book *Practices of the Python Pro* teaches you to design and write professional-quality software that's understandable, maintainable, and extensible. Dane Hillard is a Python pro who has helped many dozens of developers make this step, and he knows what it takes. With helpful examples and exercises, he teaches you when, why, and how to modularize your code, how to improve quality by reducing complexity, and much more. Embrace these core principles, and your code will become easier for you and others to read, maintain, and reuse. What's inside

- Organizing large Python projects
- Achieving the right levels of abstraction
- Writing clean, reusable code
- Inheritance and composition
- Considerations for testing and performance

About the reader For readers familiar with the basics of Python, or another OO language. About the author Dane Hillard has spent the majority of his development career using Python to build web applications. Table of Contents: PART 1 WHY IT ALL MATTERS 1 | The bigger picture

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PART 2 FOUNDATIONS OF DESIGN 2 | Separation of concerns 3 | Abstraction and encapsulation 4 | Designing for high performance 5 | Testing your software PART 3 NAILING DOWN LARGE SYSTEMS 6 | Separation of concerns in practice 7 | Extensibility and flexibility 8 | The rules (and exceptions) of inheritance 9 | Keeping things lightweight 10 | Achieving loose coupling PART 4 WHAT'S NEXT? 11 | Onward and upward

The Hitchhiker's Guide to Python takes the journeyman Pythonista to true expertise. More than any other language, Python was created with the philosophy of simplicity and parsimony. Now 25 years old, Python has become the primary or secondary language (after SQL) for many business users. With popularity comes diversity—and possibly dilution. This guide, collaboratively written by over a hundred members of the Python community, describes best practices currently used by package and application developers. Unlike other books for this audience, The Hitchhiker's Guide is light on reusable code and heavier on design philosophy, directing the reader to excellent sources that already exist.

Providing a hands-on introduction to the ABC computer language, this title includes many programming examples along with a users guide and a complete definition of the language.

The language is available free to run on PCs, Macs and UNIX. (Computer Books)

Your Python code may run correctly, but you need it to run faster. Updated for Python 3, this expanded edition shows you how to locate performance bottlenecks and significantly speed up your code in high-data-volume programs. By exploring the fundamental theory behind design choices, High Performance Python helps you gain a deeper understanding of Python's implementation. How do you take advantage of multicore architectures or clusters? Or build a system that scales up and down without losing reliability? Experienced Python programmers

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will learn concrete solutions to many issues, along with war stories from companies that use high-performance Python for social media analytics, productionized machine learning, and more. Get a better grasp of NumPy, Cython, and profilers Learn how Python abstracts the underlying computer architecture Use profiling to find bottlenecks in CPU time and memory usage Write efficient programs by choosing appropriate data structures Speed up matrix and vector computations Use tools to compile Python down to machine code Manage multiple I/O and computational operations concurrently Convert multiprocessing code to run on local or remote clusters Deploy code faster using tools like Docker

Python Crash Course is a fast-paced, thorough introduction to Python that will have you writing programs, solving problems, and making things that work in no time. In the first half of the book, you'll learn about basic programming concepts, such as lists, dictionaries, classes, and loops, and practice writing clean and readable code with exercises for each topic. You'll also learn how to make your programs interactive and how to test your code safely before adding it to a project. In the second half of the book, you'll put your new knowledge into practice with three substantial projects: a Space Invaders–inspired arcade game, data visualizations with Python's super-handly libraries, and a simple web app you can deploy online. As you work through Python Crash Course you'll learn how to:

- Use powerful Python libraries and tools, including matplotlib, NumPy, and Pygal
- Make 2D games that respond to keypresses and mouse clicks, and that grow more difficult as the game progresses
- Work with data to generate interactive visualizations
- Create and customize Web apps and deploy them safely online
- Deal with mistakes and errors so you can solve your own programming problems

If you've been thinking seriously about digging into programming, Python Crash Course will get you up

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to speed and have you writing real programs fast. Why wait any longer? Start your engines and code! Uses Python 2 and 3

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