
Python Cookbook Alex Martelli

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[Python in a Nutshell](#) "O'Reilly Media, Inc."
Life scientists today urgently need training in bioinformatics skills. Too many bioinformatics programs are poorly written and barely maintained--usually by students and researchers who've never learned basic programming skills. This practical guide shows postdoc bioinformatics professionals and students how to exploit the best parts of Python to solve problems in biology while creating documented, tested, reproducible software. Ken Youens-Clark, author of *Tiny Python Projects* (Manning), demonstrates not only

how to write effective Python code but also how to use tests to write and refactor scientific programs. You'll learn the latest Python features and tools--including linters, formatters, type checkers, and tests--to create documented and tested programs. You'll also tackle 14 challenges in Rosalind, a problem-solving platform for learning bioinformatics and programming. Create command-line Python programs to document and validate parameters Write tests to verify refactor programs and confirm they're correct Address bioinformatics ideas using Python data structures and modules such as Biopython Create reproducible shortcuts and workflows using makefiles Parse essential bioinformatics file formats such as FASTA and FASTQ Find patterns of text using regular expressions Use higher-order functions in Python like filter(), map(), and reduce()
Practical Programming Apress
Useful in many roles, from design and prototyping to testing, deployment, and maintenance, Python is consistently ranked among today's most popular programming languages. The third edition of this practical book provides a quick reference to the language--including Python 3.5, 2.7, and highlights of 3.6--commonly used areas of its vast standard library, and some of the most useful third-party modules and packages. Ideal for programmers with some Python experience, and those coming to Python from other programming languages, this book covers a wide range of application areas, including web and network programming,

XML handling, database interactions, and high-speed numeric computing. Discover how Python provides a unique mix of elegance, simplicity, practicality, and sheer power. This edition covers: Python syntax, Object-Oriented Python, standard library modules, and third-party Python packages Python's support for file and text operations, persistence and databases, concurrent execution, and numeric computations Networking basics, event-driven programming, and client-side network protocol modules Python extension modules, and tools for packaging and distributing extensions, modules, and applications

Python Cookbook, 2/E (Covers Python 2.3 & 2.4)
"O'Reilly Media, Inc."

Think about your data intelligently and ask the right questions Key Features Master data cleaning techniques necessary to perform real-world data science and machine learning tasks Spot common problems with dirty data and develop flexible solutions from first principles Test and refine your newly acquired skills through detailed exercises at the

end of each chapter

Book Description Data cleaning is the all-important first step to successful data science, data analysis, and machine learning. If you work with any kind of data, this book is your go-to resource, arming you with the insights and heuristics experienced data scientists had to learn the hard way. In a light-hearted and engaging exploration of different tools, techniques, and datasets real and fictitious, Python veteran David Mertz teaches you the ins and outs of data preparation and the essential questions you should be asking of every piece of data you work with. Using a mixture of Python, R, and common command-line tools, *Cleaning Data for Effective Data Science* follows the data cleaning pipeline from start to end, focusing on helping you understand the principles underlying each step of the process. You'll look at data ingestion of a vast range of tabular, hierarchical, and other data formats, impute missing values, detect unreliable data and statistical anomalies, and generate synthetic features. The long-form exercises at the end of each chapter let you get hands-on with the skills you've acquired along the way, also providing a valuable resource for academic courses. What you will learn

Ingest and work with common data formats like JSON, CSV, SQL and NoSQL databases, PDF, and binary serialized data structures Understand how and why we use tools such as pandas, SciPy, scikit-learn, Tidyverse, and Bash Apply useful rules and heuristics for assessing data quality and detecting bias, like Benford's law and the 68-95-99.7 rule Identify and handle unreliable data and outliers, examining z-score and other statistical properties Impute sensible

values into missing data and use sampling to fix imbalances Use dimensionality reduction, quantization, one-hot encoding, and other feature engineering techniques to draw out patterns in your data Work carefully with time series data, performing de-trending and interpolation

Who this book is for This book is designed to benefit software developers, data scientists, aspiring data scientists, teachers, and students who work with data. If you want to improve your rigor in data hygiene or are looking for a refresher, this book is for you. Basic familiarity with statistics, general concepts in machine learning, knowledge of a programming language (Python or R), and some exposure to data science are helpful.

The Hitchhiker's Guide to Python
Pearson Education

Learn how to develop your own applications to monitor or control instrumentation hardware. Whether you need to acquire data from a device or automate its functions, this practical book shows you how to use Python's rapid development capabilities to build interfaces that include everything from software to wiring. You get step-by-step instructions, clear examples, and hands-on tips for interfacing a PC to a variety of devices. Use the book's hardware survey to identify the interface type for your particular device, and then follow detailed examples to develop an interface with

Python and C. Organized by interface type, data processing activities, and user interface implementations, this book is for anyone who works with instrumentation, robotics, data acquisition, or process control. Understand how to define the scope of an application and determine the algorithms necessary, and why it's important. Learn how to use industry-standard interfaces such as RS-232, RS-485, and GPIB. Create low-level extension modules in C to interface Python with a variety of hardware and test instruments. Explore the console, curses, TkInter, and wxPython for graphical and text-based user interfaces. Use open source software tools and libraries to reduce costs and avoid implementing functionality from scratch.

Head First Python Packt Publishing Ltd
This book provides a quick reference to the language, including Python 3.5, 2.7 and highlights of 3.6. It covers a wide range of application areas, including web and network programming, XML handling, database interactions, and high-speed numeric computing.

Modern Python Cookbook Pearson Education

Over 60 recipes to help you learn digital forensics and leverage Python scripts to amplify your examinations. About This Book Develop code that extracts vital information from everyday forensic acquisitions. Increase the quality and efficiency of your forensic analysis. Leverage the latest resources and capabilities available to the forensic community. Who This Book Is For If you are a digital forensics examiner, cyber security specialist, or analyst at heart, understand the basics of Python, and want to take it to the next level, this is the book for you. Along the way, you will be introduced to a number of libraries suitable for parsing forensic artifacts. Readers will be able to use and build upon the scripts we develop to elevate their analysis. What You Will Learn Understand how Python can enhance digital forensics and investigations. Learn to access the contents of, and process, forensic evidence containers. Explore malware through automated static analysis. Extract and review message contents from a variety of email formats. Add depth and context to discovered IP addresses and domains through various Application Program

Interfaces (APIs) Delve into mobile forensics and recover deleted messages from SQLite databases. Index large logs into a platform to better query and visualize datasets. In Detail Technology plays an increasingly large role in our daily lives and shows no sign of stopping. Now, more than ever, it is paramount that an investigator develops programming expertise to deal with increasingly large datasets. By leveraging the Python recipes explored throughout this book, we make the complex simple, quickly extracting relevant information from large datasets. You will explore, develop, and deploy Python code and libraries to provide meaningful results that can be immediately applied to your investigations. Throughout the Python Digital Forensics Cookbook, recipes include topics such as working with forensic evidence containers, parsing mobile and desktop operating system artifacts, extracting embedded metadata from documents and executables, and identifying indicators of compromise. You will also learn to integrate scripts with Application Program Interfaces (APIs) such as VirusTotal and PassiveTotal, and tools such as Axiom, Cellebrite, and EnCase. By the

end of the book, you will have a sound understanding of Python and how you can use it to process artifacts in your investigations. Style and approach Our succinct recipes take a no-frills approach to solving common challenges faced in investigations. The code in this book covers a wide range of artifacts and data sources. These examples will help improve the accuracy and efficiency of your analysis—no matter the situation.

Python Parallel Programming Cookbook
Packt Publishing Ltd

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

Introducing Python "O'Reilly Media, Inc." The Python Cookbook is a collection of problems, solutions, and practical examples for Python programmers, written by Python programmers. Over the past year, members of the Python community have contributed material to an online repository of Python recipes hosted by ActiveState. This book contains the best of those recipes, accompanied by overviews and background material by key Python figures.

Python Pocket Reference "O'Reilly Media, Inc."

Get a hands-on introduction to the Chef, the configuration management tool for solving operations issues in enterprises large and small. Ideal for developers and sysadmins new to configuration management, this guide shows you to automate the packaging and delivery of

applications in your infrastructure. You ' ll be able to build (or rebuild) your infrastructure ' s application stack in minutes or hours, rather than days or weeks. After teaching you how to write Ruby-based Chef code, this book walks you through different Chef tools and configuration management concepts in each chapter, using detailed examples throughout. All you need to get started is command-line experience and familiarity with basic system administration. Configure your Chef development environment and start writing recipes Create Chef cookbooks with recipes for each part of your infrastructure Use Test Kitchen to manage sandbox testing environments Manage single nodes with Chef client, and multiple nodes with Chef Server Use data bags for storing shared global data between nodes Simulate production Chef Server environments with Chef Zero Classify different types of services in your infrastructure with roles Model life stages of your application, including development, testing, staging, and production

Python For Dummies No Starch Press

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. Python in a Nutshell "O'Reilly Media, Inc."

Python was recently ranked as today's most popular programming language on the TIOBE index, thanks to its broad applicability to design and prototyping to testing, deployment, and maintenance. With this updated fourth edition, you'll learn how to get the most out of Python, whether you're a professional programmer or someone who needs this language to solve problems in a particular field.

Carefully curated by recognized experts in Python, this new edition focuses on version 3.10, bringing this seminal work on the Python language fully up to date on five version releases, including preview coverage of upcoming 3.11 features. This handy guide will help you: Learn how Python represents data and program as objects Understand the value and uses of type annotations Examine which language features appeared in which recent versions Discover how to use modern Python idiomatically Learn ways to structure Python projects appropriately Understand how to debug Python code

[Blueprints for Text Analytics Using Python](#) Packt Publishing Ltd

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 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

Python Cookbook Packt Publishing Ltd 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 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 with different testing systems such as py.test, doctest, and unittest, and debugging tools such as Python debugger and fault handler. 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. A Hands-On Introduction to Using Python in the Atmospheric and Oceanic Sciences Packt Publishing Ltd Python is fast becoming the programming language of choice for hackers, reverse

engineers, and software testers because it's easy to write quickly, and it has the low-level support and libraries that make hackers happy. But until now, there has been no real manual on how to use Python for a variety of hacking tasks. You had to dig through forum posts and man pages, endlessly tweaking your own code to get everything working. Not anymore. Gray Hat Python explains the concepts behind hacking tools and techniques like debuggers, trojans, fuzzers, and emulators. But author Justin Seitz goes beyond theory, showing you how to harness existing Python-based security tools—and how to build your own when the pre-built ones won't cut it. You'll learn how to:

- Automate tedious reversing and security tasks
- Design and program your own debugger
- Learn how to fuzz Windows drivers and create powerful fuzzers from scratch
- Have fun with code and library injection, soft and hard hooking techniques, and other software trickery
- Sniff secure traffic out of an encrypted web browser session
- Use PyDBG, Immunity Debugger, Sulley, IDAPython, PyEMU, and more

The world's best hackers are using Python to do their handiwork. Shouldn't you? Python in a Nutshell "O'Reilly Media, Inc." Gain the techniques and tools that enable a smooth and efficient software development process

in this quick and practical guide on Python continuous integration (CI) and continuous delivery (CD). Based on example applications, this book introduces various kinds of testing and shows you how to set up automated systems that run these tests, and install applications in different environments in controlled ways. Python Continuous Integration and Delivery tackles the technical problems related to software development that are typically glossed over in pure programming texts. After reading this book, you'll see that in today's fast-moving world, no software project can afford to go through development, then an integration phase of unpredictable length and complexity, and finally be shipped to the customer -- just to find out that the resulting application didn't quite fill their need. Instead, you'll discover that practicing continuous integration and continuous delivery reduces the risks by keeping changes small and automating otherwise painful processes. What You Will Learn Carry out various kinds of testing, including unit testing and continuous integration testing, of your Python code using Jenkins Build packages and manage repositories Incorporate Ansible and Go for automated packaging and other deployments Manage more complex and robust deployments Who This Book Is For Python programmers and operating staff that work with Python applications. Python Essential Reference Packt Publishing Ltd The latest in modern Python recipes for the

busy modern programmer About This Book Develop succinct, expressive programs in Python Learn the best practices and common idioms through carefully explained and structured recipes Discover new ways to apply Python for the new age of development Who This Book Is For The book is for web developers, programmers, enterprise programmers, engineers, big data scientist, and so on. If you are a beginner, Python Cookbook will get you started. If you are experienced, it will expand your knowledge base. A basic knowledge of programming would help. What You Will Learn See the intricate details of the Python syntax and how to use it to your advantage Improve your code readability through functions in Python Manipulate data effectively using built-in data structures Get acquainted with advanced programming techniques in Python Equip yourself with functional and statistical programming features Write proper tests to be sure a program works as advertised Integrate application software using Python In Detail Python is the preferred choice of developers, engineers, data scientists, and hobbyists everywhere. It is a great scripting language

that can power your applications and provide great speed, safety, and scalability. By exposing Python as a series of simple recipes, you can gain insight into specific language features in a particular context. Having a tangible context helps make the language or standard library feature easier to understand. This book comes with over 100 recipes on the latest version of Python. The recipes will benefit everyone ranging from beginner to an expert. The book is broken down into 13 chapters that build from simple language concepts to more complex applications of the language. The recipes will touch upon all the necessary Python concepts related to data structures, OOP, functional programming, as well as statistical programming. You will get acquainted with the nuances of Python syntax and how to effectively use the advantages that it offers. You will end the book equipped with the knowledge of testing, web services, and configuration and application integration tips and tricks. The recipes take a problem-solution approach to resolve issues commonly faced by Python programmers across the globe. You will be armed with the knowledge of creating

applications with flexible logging, powerful configuration, and command-line options, automated unit tests, and good documentation. Style and approach This book takes a recipe-based approach, where each recipe addresses specific problems and issues. The recipes provide discussions and insights and an explanation of the problems. Python Standard Library Apress

In 2005, Microsoft quietly announced an initiative to bring dynamic languages to the .NET platform. The starting point for this project was a .NET implementation of Python, dubbed IronPython. After a couple years of incubation, IronPython is ready for real-world use. It blends the simplicity, elegance, and dynamism of Python with the power of the .NET framework. IronPython in Action offers a comprehensive, hands-on introduction to Microsoft's exciting new approach for programming the .NET framework. It approaches IronPython as a first class .NET language, fully integrated with the .NET environment, Visual Studio, and even the open-source Mono implementation. You'll learn how IronPython can be embedded as a ready-made scripting language into C# and VB.NET programs, used for writing full applications or for web development with ASP. Even better,

you'll see how IronPython works in Silverlight for client-side web programming. IronPython opens up exciting new possibilities. Because it's a dynamic language, it permits programming paradigms not easily available in VB and C#. In this book, authors Michael Foord and Christian Muirhead explore the world of functional programming, live introspection, dynamic typing and duck typing, metaprogramming, and more. IronPython in Action explores these topics with examples, making use of the Python interactive console to explore the .NET framework with live objects. The expert authors provide a complete introduction for programmers to both the Python language and the power of the .NET framework. The book also shows how to extend IronPython with C#, extending C# and VB.NET applications with Python, using IronPython with .NET 3.0 and Powershell, IronPython as a Windows scripting tool, and much more. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

Mastering Python Addison-Wesley Professional

Python is one of the most powerful, easy-to-read programming languages around, but it does have its limitations. This general

purpose, high-level language that can be extended and embedded is a smart option for many programming problems, but a poor solution to others. Python For Dummies is the quick-and-easy guide to getting the most out of this robust program. This hands-on book will show you everything you need to know about building programs, debugging code, and simplifying development, as well as defining what actions it can perform. You ' ll wrap yourself around all of its advanced features and become an expert Python user in no time. This guide gives you the tools you need to: Master basic elements and syntax Document, design, and debug programs Work with strings like a pro Direct a program with control structures Integrate integers, complex numbers, and modules Build lists, stacks, and queues Create an organized dictionary Handle functions, data, and namespace Construct applications with modules and packages Call, create, extend, and override classes Access the Internet to enhance your library Understand the new features of Python 2.5 Packed with critical idioms and great resources to maximize your productivity,

Python For Dummies is the ultimate one-stop information guide. In a matter of minutes you ' ll be familiar with Python ' s building blocks, strings, dictionaries, and sets; and be on your way to writing the program that you ' ve dreamed about! Rapid GUI Programming with Python and Qt "O'Reilly Media, Inc."

Turning text into valuable information is essential for businesses looking to gain a competitive advantage. With recent improvements in natural language processing (NLP), users now have many options for solving complex challenges. But it's not always clear which NLP tools or libraries would work for a business's needs, or which techniques you should use and in what order. This practical book provides data scientists and developers with blueprints for best practice solutions to common tasks in text analytics and natural language processing. Authors Jens Albrecht, Sidharth Ramachandran, and Christian Winkler provide real-world case studies and detailed code examples in Python to help you get started quickly. Extract data from APIs and web pages Prepare textual data for statistical analysis and machine learning Use machine learning for classification, topic modeling, and summarization Explain AI models and classification results Explore and visualize semantic similarities with word embeddings Identify customer sentiment in product reviews Create a knowledge graph based on named entities and their relations

Mastering Python for Bioinformatics "O'Reilly Media, Inc."

This book is a mini-course for researchers in the atmospheric and oceanic sciences. "We assume readers will already know the basics of programming... in some other language." - Back cover.