

Python In A Nutshell A Desktop Quick Reference

An innovative reference reveals the many capabilities of the Python Standard Library, which is a compilation of commonly used procedures that can be pasted into a Python script, by providing over 300 real-world example scripts. Original.

(Intermediate/Advanced)

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

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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. "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

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"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 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!" -

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Daniel Meyer, Sr. Desktop Administrator at Tesla Inc.

Get your guided tour through the Python 3.9 interpreter: Unlock the inner workings of the Python language, compile the Python interpreter from source code, and participate in the development of CPython. Are there certain parts of Python that just seem like magic? This book explains the concepts, ideas, and technicalities of the Python interpreter in an approachable and hands-on fashion. Once you see how Python works at the interpreter level, you can optimize your applications and fully leverage the power of Python. By the End of the Book You'll Be Able To: Read and navigate the CPython 3.9 interpreter source code. You'll deeply comprehend and appreciate the inner workings of concepts like lists, dictionaries, and generators. Make changes to the Python syntax and compile your own version of CPython, from scratch. You'll customize the Python core data types with new functionality and run CPython's automated test suite. Master Python's memory management capabilities and scale your Python code with parallelism and concurrency. Debug C and Python code like a true professional. Profile and benchmark the performance of your Python code and the runtime. Participate in the development of CPython and know how to contribute to future versions of the Python interpreter and standard library. How great would it feel to give back

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to the community as a "Python Core Developer?"

With this book you'll cover the critical concepts behind the internals of CPython and how they work with visual explanations as you go along. Each page in the book has been carefully laid out with beautiful typography, syntax highlighting for code examples.

What Python Developers Say About The Book: "It's the book that I wish existed years ago when I started my Python journey. [...] After reading this book your skills will grow and you will be able solve even more complex problems that can improve our world." -

Carol Willing, CPython Core Developer & Member of the CPython Steering Council "CPython Internals is a great (and unique) resource for anybody looking to take their knowledge of Python to a deeper level." -

Dan Bader, Author of Python Tricks "There are a ton of books on Python which teach the language, but I haven't really come across anything that would go about explaining the internals to those curious minded." - Milan Patel, Vice President at (a major investment bank)

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

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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

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

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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

Details a variety of front-end technologies and techniques and reviews Web design fundamentals while explaining how to work with HTML, graphics, and multimedia and interactive applications.

Python in a NutshellA Desktop Quick Reference"O'Reilly Media, Inc."

Praise for Core Python Programming The Complete Developer's Guide to Python New to Python? The definitive guide to Python development for experienced programmers Covers core language features thoroughly, including those found in the latest Python releases—learn more than just the syntax! Learn advanced topics such as regular expressions, networking, multithreading, GUI, Web/CGI, and Python extensions Includes brand-new material on databases, Internet clients, Java/Jython, and Microsoft Office, plus Python 2.6 and 3 Presents hundreds of code snippets, interactive examples, and practical exercises to strengthen your Python skills Python is an agile, robust, expressive, fully object-oriented, extensible, and scalable programming language. It combines the power of compiled languages with the simplicity

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and rapid development of scripting languages. In *Core Python Programming, Second Edition*, leading Python developer and trainer Wesley Chun helps you learn Python quickly and comprehensively so that you can immediately succeed with any Python project. Using practical code examples, Chun introduces all the fundamentals of Python programming: syntax, objects and memory management, data types, operators, files and I/O, functions, generators, error handling and exceptions, loops, iterators, functional programming, object-oriented programming and more. After you learn the core fundamentals of Python, he shows you what you can do with your new skills, delving into advanced topics, such as regular expressions, networking programming with sockets, multithreading, GUI development, Web/CGI programming and extending Python in C. This edition reflects major enhancements in the Python 2.x series, including 2.6 and tips for migrating to 3. It contains new chapters on database and Internet client programming, plus coverage of many new topics, including new-style classes, Java and Jython, Microsoft Office (Win32 COM Client) programming, and much more. Learn professional Python style, best practices, and good programming habits Gain a deep understanding of Python's objects and memory model as well as its OOP features, including those found in Python's new-style classes Build more

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effective Web, CGI, Internet, and network and other client/server applications Learn how to develop your own GUI applications using Tkinter and other toolkits available for Python Improve the performance of your Python applications by writing extensions in C and other languages, or enhance I/O-bound applications by using multithreading Learn about Python's database API and how to use a variety of database systems with Python, including MySQL, Postgres, and SQLite Features appendices on Python 2.6 & 3, including tips on migrating to the next generation!

The book serves as a first introduction to computer programming of scientific applications, using the high-level Python language. The exposition is example and problem-oriented, where the applications are taken from mathematics, numerical calculus, statistics, physics, biology and finance. The book teaches "Matlab-style" and procedural programming as well as object-oriented programming. High school mathematics is a required background and it is advantageous to study classical and numerical one-variable calculus in parallel with reading this book. Besides learning how to program computers, the reader will also learn how to solve mathematical problems, arising in various branches of science and engineering, with the aid of numerical methods and programming. By blending programming, mathematics and scientific applications, the book lays a solid foundation for practicing computational science. From the reviews: Langtangen ... does an excellent job of introducing programming as a set of skills in problem solving. He guides the reader into thinking properly about producing program logic and data structures for modeling real-world problems

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using objects and functions and embracing the object-oriented paradigm. ... Summing Up: Highly recommended. F. H. Wild III, Choice, Vol. 47 (8), April 2010 Those of us who have learned scientific programming in Python ‘on the streets’ could be a little jealous of students who have the opportunity to take a course out of Langtangen’s Primer.” John D. Cook, The Mathematical Association of America, September 2011 This book goes through Python in particular, and programming in general, via tasks that scientists will likely perform. It contains valuable information for students new to scientific computing and would be the perfect bridge between an introduction to programming and an advanced course on numerical methods or computational science. Alex Small, IEEE, CiSE Vol. 14 (2), March /April 2012 “This fourth edition is a wonderful, inclusive textbook that covers pretty much everything one needs to know to go from zero to fairly sophisticated scientific programming in Python...” Joan Horvath, Computing Reviews, March 2015

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

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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

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. This complete guide to the Perl programming language ranges widely through the Perl programmer's universe, gathering together in a convenient form a wealth of information about Perl itself and its application to CGI scripts, XML processing, network programming, database interaction, and graphical user interfaces. The book is an ideal reference for experienced Perl programmers and beginners alike. With more than a million dedicated programmers, Perl is proving to be the best language for the latest trends in computing and business, including network programming and the ability to create and manage web sites. It's a language that every Unix system administrator and serious web developer needs to know. In the past few years, Perl has found its way into complex web applications of multinational banks, the U.S. Federal Reserve, and hundreds of large corporations. In this second edition, Perl in a Nutshell has been expanded to include coverage of Perl 5.8, with information on Unicode processing in Perl, new functions and modules that have been added to the core language, and up-to-date details on running Perl on the Win32 platform. The book also covers Perl modules for recent technologies such as XML and SOAP. Here are just some of the topics contained in this book: Basic Perl reference Quick reference to built-in functions and standard modules CGI.pm and mod_perl

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XML::* modules DBI, the database-independent API for Perl Sockets programming LWP, the library for Web programming in Perl Network programming with the Net modules Perl/Tk, the Tk extension to Perl for graphical interfaces Modules for interfacing with Win32 systems As part of the successful "in a Nutshell" book series from O'Reilly & Associates, Perl in a Nutshell is for readers who want a single reference for all their needs."In a nutshell, Perl is designed to make the easy jobs easy, without making the hard jobs impossible."-- Larry Wall, creator of Perl

During the last couple of decades, we've witnessed a significant growth in the number of programming languages- from the core dominant languages such as C, Fortran, COBOL in the 1960's and the 1970's to object-oriented C++, JavaScript, Java and Golang that we have today. In all these evolutions, Python programming language has stood out from the rest. It's no secret that Python has continued to grow at a fast-paced rate, thanks to its open source nature. Besides, its ability to use succinct and easy-to-learn syntax-which makes it one of the most powerful and very flexible programming language-allows programmers to develop more complex software within a much shorter time compared to other programming languages. So, why should you learn Python programming language? Truth be told-Python programming language is an excellent, easy-to-learn and super-powerful programming language that has ever been developed. As a matter of fact, the language has been used to power some of the most renowned websites applications such as the Google and the YouTube. With several career options that require Python programming, learning Python can be a great asset to land your dream job! Also, you'll boost your career with new programming skills. "An Ultimate Beginner's Guide to Python Programming" provides all the vital programming concepts and skills that you need to create your own software. The

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eBook will walk you through comprehensive step-by-step guidelines that are necessary to make you an efficient Python programmer. Contents: 1. Getting Started with Python 2. Variables and Types 3. Types and Casting 4. Programming Operators 5. Decision-Making and Repetition Structures 6. Functions And Much, Much More!!! Purchase Now to start your python programming journey.

If you're considering R for statistical computing and data visualization, this book provides a quick and practical guide to just about everything you can do with the open source R language and software environment. You'll learn how to write R functions and use R packages to help you prepare, visualize, and analyze data. Author Joseph Adler illustrates each process with a wealth of examples from medicine, business, and sports. Updated for R 2.14 and 2.15, this second edition includes new and expanded chapters on R performance, the ggplot2 data visualization package, and parallel R computing with Hadoop. Get started quickly with an R tutorial and hundreds of examples Explore R syntax, objects, and other language details Find thousands of user-contributed R packages online, including Bioconductor Learn how to use R to prepare data for analysis Visualize your data with R's graphics, lattice, and ggplot2 packages Use R to calculate statistical tests, fit models, and compute probability distributions Speed up intensive computations by writing parallel R programs for Hadoop Get a complete desktop reference to R

Hardcore Programming for Mechanical Engineers is for intermediate programmers who want to write good applications that solve tough engineering problems – from scratch. This book will teach you how to solve engineering problems with Python. The “hardcore” approach means that you will learn to get the correct results by coding everything from scratch. Forget relying on third-party software – there

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are no shortcuts on the path to proficiency. Instead, using familiar concepts from linear algebra, geometry and physics, you'll write your own libraries, draw your own primitives, and build your own applications. Author Angel Sola covers core programming techniques mechanical engineers need to know, with a focus on high-quality code and automated unit testing for error-free implementations. After basic primers on Python and using the command line, you'll quickly develop a geometry toolbox, filling it with lines and shapes for diagramming problems. As your understanding grows chapter-by-chapter, you'll create vector graphics and animations for dynamic simulations; you'll code algorithms that can do complex numerical computations; and you'll put all of this knowledge together to build a complete structural analysis application that solves a 2D truss problem – similar to the software projects conducted by real-world mechanical engineers. You'll learn:

- How to use geometric primitives, like points and polygons, and implement matrices
- Best practices for clean code, including unit testing, encapsulation, and expressive names
- Processes for drawing images to the screen and creating animations inside Tkinter's Canvas widget
- How to write programs that read from a file, parse the data, and produce vector images
- Numerical methods for solving large systems of linear equations, like the Cholesky decomposition algorithm

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.

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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 About Book Python programming language book. This book contains every details regarding python basic knowledge. From installation of Python software in computer to Data file handling in Python. Every topic is covered. Pictorial explanation is also provided. Solved programs, unsolved questions for reader is also given. Every topic is explained in best possible way. content is from scratch to database handling.

You've learned the basics of Python, but how do you take your skills to the next stage? Even if you know enough to be productive, there are a number of features that can take you

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to the next level in Python. Pro Python, Second Edition explores concepts and features normally left to experimentation, allowing you to be even more productive and creative. In addition to pure code concerns, Pro Python develops your programming techniques and approaches, which will help make you a better Python programmer. This book will improve not only your code but also your understanding and interaction with the many established Python communities. This book takes your Python knowledge and coding skills to the next level. It shows you how to write clean, innovative code that will be respected by your peers. With this book, make your code do more with introspection and meta-programming. And learn and later use the nuts and bolts of an application, tier-by-tier as a complex case study along the way. For more information, including a link to the source code referenced in the book, please visit <http://propython.com/>.

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

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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

Portable, powerful, and a breeze to use, Python is the popular open source object-oriented programming language used for both standalone programs and scripting applications. It is now being used by an increasing number of major organizations, including NASA and Google. Updated for Python 2.4, *The Python Cookbook, 2nd Edition* offers a wealth of useful code for all Python programmers, not just advanced practitioners. Like its predecessor, the new edition provides solutions to problems that Python programmers face everyday. It now includes over 200 recipes that range from simple tasks, such as working with dictionaries and list comprehensions, to complex tasks, such as monitoring a network and building a templating system. This revised version also includes new chapters on topics such as time, money, and metaprogramming. Here's a list of additional topics covered: Manipulating text Searching and sorting Working with files and the filesystem Object-oriented programming Dealing with threads and processes System administration Interacting with databases Creating user interfaces Network and web programming Processing XML Distributed programming Debugging and testing Another advantage of *The Python Cookbook, 2nd Edition* is its trio of authors--three well-known Python programming experts, who are highly visible on email lists and in newsgroups, and speak often at Python conferences. With scores of practical examples and pertinent background information, *The Python Cookbook, 2nd Edition* is the one source you need if you're looking to build efficient, flexible, scalable, and well-integrated systems.

Creating robust software requires the use of efficient

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algorithms, but programmers seldom think about them until a problem occurs. Algorithms in a Nutshell describes a large number of existing algorithms for solving a variety of problems, and helps you select and implement the right algorithm for your needs -- with just enough math to let you understand and analyze algorithm performance. With its focus on application, rather than theory, this book provides efficient code solutions in several programming languages that you can easily adapt to a specific project. Each major algorithm is presented in the style of a design pattern that includes information to help you understand why and when the algorithm is appropriate. With this book, you will: Solve a particular coding problem or improve on the performance of an existing solution Quickly locate algorithms that relate to the problems you want to solve, and determine why a particular algorithm is the right one to use Get algorithmic solutions in C, C++, Java, and Ruby with implementation tips Learn the expected performance of an algorithm, and the conditions it needs to perform at its best Discover the impact that similar design decisions have on different algorithms Learn advanced data structures to improve the efficiency of algorithms With Algorithms in a Nutshell, you'll learn how to improve the performance of key algorithms essential for the success of your software applications.

ASP in a Nutshell provides the high-quality reference documentation that web application developers really need to create effective Active Server Pages. It focuses on how features are used in a real application and highlights little-known or undocumented features. This book also includes an overview of the interaction between the latest release of Internet Information Server (version 5) and ASP 3.0, with an introduction to the IIS object model and the objects it comprises. The examples shown in this section and throughout the book are illustrated in VBScript. The main

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components of this book are: Active Server Pages Introduction. Brief overview of the ASP application paradigm with examples in VBScript. Also included is an introduction to Microsoft's Internet Information Server 5.0, the IIS object model, and the objects that it comprises. Object Reference. Each object is discussed in the following manner: descriptions, properties, collections, methods, events, accessory files/required DLLs, and remarks, including real-world uses, tips and tricks, and author's experience (where applicable). The objects--Application, Response, Request, Server, Session, ObjectContext, and ASPError, as well as ASP Directives, Global.ASA, and Server-Side Includes--all follow this paradigm. Component Reference. This section follows the same paradigm found in Object Reference. The discussion covers all of the additional components included with IIS, such as ActiveX Data Objects, the Ad Rotator, the Browser capabilities component, the File System Object, and more. Appendixes. Gives examples in one or two objects and components using Perl, REXX, and Python in ASP. Like other books in the "In a Nutshell" series this book offers the facts, including critical background information, in a no-nonsense manner that users will refer to again and again. It is a detailed reference that enables even experienced web developers to advance their ASP applications to new levels. To-the-point, authoritative, no-nonsense solutions have always been a trademark of O'Reilly books. The In a Nutshell books have earned a solid reputation in the field as the well-thumbed references that sit beside the knowledgeable developer's keyboard. C++ in a Nutshell lives up to the In a Nutshell promise. C++ in a Nutshell is a lean, focused reference that offers practical examples for the most important, most often used, aspects of C++.C++ in a Nutshell packs an enormous amount of information on C++ (and the many libraries used with it) in an indispensable quick

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reference for those who live in a deadline-driven world and need the facts but not the frills. The book's language reference is organized first by topic, followed by an alphabetical reference to the language's keywords, complete with syntax summaries and pointers to the topic references. The library reference is organized by header file, and each library chapter and class declaration presents the classes and types in alphabetical order, for easy lookup. Cross-references link related methods, classes, and other key features. This is an ideal resource for students as well as professional programmers. When you're programming, you need answers to questions about language syntax or parameters required by library routines quickly. What, for example, is the C++ syntax to define an alias for a namespace? Just how do you create and use an iterator to work with the contents of a standard library container? C++ in a Nutshell is a concise desktop reference that answers these questions, putting the full power of this flexible, adaptable (but somewhat difficult to master) language at every C++ programmer's fingertips. This book offers Python programmers one place to look when they need help remembering or deciphering the syntax of this open source language and its many powerful but scantily documented modules. This comprehensive reference guide makes it easy to look up the most frequently needed information--not just about the Python language itself, but also the most frequently used parts of the standard library and the most important third-party extensions. Ask any Python aficionado and you'll hear that Python programmers have it all: an elegant object-oriented language with readable and maintainable syntax, that allows for easy integration with components in C, C++, Java, or C#, and an enormous collection of pre-coded standard library and third-party extension modules. Moreover, Python is easy to learn, yet powerful enough to take on the most ambitious

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programming challenges. But what Python programmers used to lack is a concise and clear reference resource, with the appropriate measure of guidance in how best to use Python's great power. Python in a Nutshell fills this need. Python in a Nutshell, Second Edition covers more than the language itself; it also deals with the most frequently used parts of the standard library, and the most popular and important third party extensions. Revised and expanded for Python 2.5, this book now contains the gory details of Python's new subprocess module and breaking news about Microsoft's new IronPython project. Our "Nutshell" format fits Python perfectly by presenting the highlights of the most important modules and functions in its standard library, which cover over 90% of your practical programming needs. This book includes:

- A fast-paced tutorial on the syntax of the Python language
- An explanation of object-oriented programming in Python
- Coverage of iterators, generators, exceptions, modules, packages, strings, and regular expressions
- A quick reference for Python's built-in types and functions and key modules
- Reference material on important third-party extensions, such as Numeric and Tkinter
- Information about extending and embedding Python

Python in a Nutshell provides a solid, no-nonsense quick reference to information that programmers rely on the most. This book will immediately earn its place in any Python programmer's library. Praise for the First Edition: "In a nutshell, Python in a Nutshell serves one primary goal: to act as an immediately accessible goal for the Python language. True, you can get most of the same core information that is presented within the covers of this volume online, but this will invariably be broken into multiple files, and in all likelihood lacking the examples or the exact syntax description necessary to truly understand a command."

--Richard Cobbett, Linux Format "O'Reilly has several good books, of which Python in a Nutshell by Alex Martelli is

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probably the best for giving you some idea of what Python is about and how to do useful things with it." --Jerry Pournelle, Byte Magazine

"We finally have the definitive treatise on PyTorch! It covers the basics and abstractions in great detail. I hope this book becomes your extended reference document." —Soumith Chintala, co-creator of PyTorch

Key Features Written by PyTorch's creator and key contributors

- Develop deep learning models in a familiar Pythonic way
- Use PyTorch to build an image classifier for cancer detection
- Diagnose problems with your neural network and improve training with data augmentation

Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

About The Book Every other day we hear about new ways to put deep learning to good use: improved medical imaging, accurate credit card fraud detection, long range weather forecasting, and more. PyTorch puts these superpowers in your hands. Instantly familiar to anyone who knows Python data tools like NumPy and Scikit-learn, PyTorch simplifies deep learning without sacrificing advanced features. It's great for building quick models, and it scales smoothly from laptop to enterprise.

Deep Learning with PyTorch teaches you to create deep learning and neural network systems with PyTorch. This practical book gets you to work right away building a tumor image classifier from scratch. After covering the basics, you'll learn best practices for the entire deep learning pipeline, tackling advanced projects as your PyTorch skills become more sophisticated. All code samples are easy to explore in downloadable Jupyter notebooks.

What You Will Learn

- Understanding deep learning data structures such as tensors and neural networks
- Best practices for the PyTorch Tensor API, loading data in Python, and visualizing results
- Implementing modules and loss functions
- Utilizing pretrained models from PyTorch Hub

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Methods for training networks with limited inputs Sifting through unreliable results to diagnose and fix problems in your neural network Improve your results with augmented data, better model architecture, and fine tuning This Book Is Written For For Python programmers with an interest in machine learning. No experience with PyTorch or other deep learning frameworks is required. About The Authors Eli Stevens has worked in Silicon Valley for the past 15 years as a software engineer, and the past 7 years as Chief Technical Officer of a startup making medical device software. Luca Antiga is co-founder and CEO of an AI engineering company located in Bergamo, Italy, and a regular contributor to PyTorch. Thomas Viehmann is a Machine Learning and PyTorch speciality trainer and consultant based in Munich, Germany and a PyTorch core developer. Table of Contents PART 1 - CORE PYTORCH 1 Introducing deep learning and the PyTorch Library 2 Pretrained networks 3 It starts with a tensor 4 Real-world data representation using tensors 5 The mechanics of learning 6 Using a neural network to fit the data 7 Telling birds from airplanes: Learning from images 8 Using convolutions to generalize PART 2 - LEARNING FROM IMAGES IN THE REAL WORLD: EARLY DETECTION OF LUNG CANCER 9 Using PyTorch to fight cancer 10 Combining data sources into a unified dataset 11 Training a classification model to detect suspected tumors 12 Improving training with metrics and augmentation 13 Using segmentation to find suspected nodules 14 End-to-end nodule analysis, and where to go next PART 3 - DEPLOYMENT 15 Deploying to production

This book is suitable for use in a university-level first course in computing (CS1), as well as the increasingly popular course known as CS0. It is difficult for many students to master basic concepts in computer science and programming. A large portion of the confusion can be blamed on the complexity of

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fundamentals. What new game will you create with the power of Python? The projects in this book are compatible with Python 3.

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

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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 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.

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Introduces Ruby's object-oriented programming

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capabilities, detailing command-line options, syntax, built-in variables, functions, commonly used classes and modules, environment variables, operators, methods, and security.

Data science libraries, frameworks, modules, and toolkits are great for doing data science, but they're also a good way to dive into the discipline without actually understanding data science. In this book, you'll learn how many of the most fundamental data science tools and algorithms work by implementing them from scratch. If you have an aptitude for mathematics and some programming skills, author Joel Grus will help you get comfortable with the math and statistics at the core of data science, and with hacking skills you need to get started as a data scientist. Today's messy glut of data holds answers to questions no one's even thought to ask. This book provides you with the know-how to dig those answers out. Get a crash course in Python Learn the basics of linear algebra, statistics, and probability—and understand how and when they're used in data science Collect, explore, clean, munge, and manipulate data Dive into the fundamentals of machine learning Implement models such as k-nearest Neighbors, Naive Bayes, linear and logistic regression, decision trees, neural networks, and clustering Explore recommender systems, natural language processing, network analysis, MapReduce, and databases

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Now installed on more than 20 million Internet domains around the world, PHP is an undisputed leader in web programming languages. Database connectivity, powerful extensions, and rich object-orientation are all reasons for its popularity, but nearly everyone would agree that, above all, PHP is one of the easiest languages to learn and use for developing dynamic web applications. The ease of development and simplicity of PHP, combined with a large community and expansive repository of open source PHP libraries, make it a favorite of web designers and developers worldwide. PHP in a Nutshell is a complete reference to the core of the language as well as the most popular PHP extensions. This book doesn't try to compete with or replace the widely available online documentation. Instead, it is designed to provide depth and breadth that can't be found elsewhere. PHP in a Nutshell provides the maximum information density on PHP, without all the fluff and extras that get in the way. The topic grouping, tips, and examples in this book complement the online guide and make this an essential reference for every PHP programmer. This book focuses on the functions commonly used by a majority of developers, so you can look up the information you need quickly. Topics include: Object-oriented PHP Networking String manipulation Working with files Database interaction XML Multimedia creation Mathematics Whether you're just

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getting started or have years of experience in PHP development, PHP in a Nutshell is a valuable addition to your desk library.

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 programs, and more right away. Once you see how the code works, you'll 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*

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Book of Small Python Projects. It's proof that good things come in small programs!

The history of Python kicked off when Guido van Rossum, the founder of Python, started working on it in the late 1980s. Python is the successor of the ABC programming language. The first Python version was released back in 1991 and has only grown exponentially since then. It now has a vast community that releases the latest updates regularly. Guido van Rossum is also known as the "Benevolent Dictator for Life". This title was given to him by the Python community to honor him for his long-term commitment and dedication to the project and for being the project leader for such a long period. Python is a high-level interpreted programming language that is used throughout the world for general-purpose programming. It is an open-source programming language licensed by both the Free Software Foundation (FSF) and Open-Source Initiative (OSI). Like some other programming languages, its source code is also available under the GNU General Public License (GPL). Python 2.x, being the legacy version, was used earlier across the globe. It stopped receiving newer features and security updates after Python 2.7, so people migrated to Python version 3.x. Throughout this book, we will be focusing more on the Python 3.x version, which is the latest and is currently in active development. Before we proceed further, I would like

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to inform you all that the purpose of writing this book is to make your understanding of Python clearer by explaining technical terms in layman's language with the help of code snippets and practical examples. I also wanted to make sure that the reader does not feel bored while reading the book, so I'll be adding some attractive code snippets that are appealing to the eyes.

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

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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

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 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

Over 80 object-oriented recipes to help you create mind-blowing GUIs in Python About This Book Use object-oriented programming to develop amazing GUIs in Python Create a working GUI project as a central resource for developing your Python GUIs Packed with easy-to-follow recipes to help you develop code using the latest released version of Python

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Who This Book Is For If you are a Python programmer with intermediate level knowledge of GUI programming and want to learn how to create beautiful, effective, and responsive GUIs using the freely available Python GUI frameworks, this book is for you. What You Will Learn Create amazing GUIs with Python's built-in Tkinter module Customize the GUIs by using layout managers to arrange the GUI widgets Advance to an object-oriented programming style using Python Develop beautiful charts using the free Matplotlib Python module Use threading in a networked environment to make the GUIs responsive Discover ways to connect the GUIs to a database Understand how unit tests can be created and internationalize the GUI Extend the GUIs with free Python frameworks using best practices In Detail Python is a multi-domain, interpreted programming language. It is a widely used general-purpose, high-level programming language. It is often used as a scripting language because of its forgiving syntax and compatibility with a wide variety of different ecosystems. Its flexible syntax enables developers to write short scripts while at the same time, they can use object-oriented concepts to develop very large projects. Python GUI Programming Cookbook follows a task-based approach to help you create beautiful and very effective GUIs with the least amount of code necessary. This book uses the simplest programming style, using the fewest lines of code to create a GUI in Python, and then advances to using object-oriented programming in later chapters. If you are new to object-oriented programming (OOP), this book will teach you how to take advantage of the OOP coding style in the context of creating GUIs written in Python. Throughout the book, you will develop an entire GUI application, building recipe upon recipe, connecting the GUI to a database. In the later chapters, you will explore additional Python GUI frameworks, using best practices. You will also learn how to use threading

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to ensure your GUI doesn't go unresponsive. By the end of the book, you will be an expert in Python GUI programming to develop a common set of GUI applications. Style and approach Every recipe in this programming cookbook solves a problem you might encounter in your programming career. At the same time, most of the recipes build on each other to create an entire, real-life GUI application.

This book offers a highly accessible introduction to natural language processing, the field that supports a variety of language technologies, from predictive text and email filtering to automatic summarization and translation. With it, you'll learn how to write Python programs that work with large collections of unstructured text. You'll access richly annotated datasets using a comprehensive range of linguistic data structures, and you'll understand the main algorithms for analyzing the content and structure of written communication. Packed with examples and exercises, Natural Language Processing with Python will help you: Extract information from unstructured text, either to guess the topic or identify "named entities" Analyze linguistic structure in text, including parsing and semantic analysis Access popular linguistic databases, including WordNet and treebanks Integrate techniques drawn from fields as diverse as linguistics and artificial intelligence

This book will help you gain practical skills in natural language processing using the Python programming language and the Natural Language Toolkit (NLTK) open source library. If you're interested in developing web applications, analyzing multilingual news sources, or documenting endangered languages -- or if you're simply curious to have a programmer's perspective on how human language works -- you'll find Natural Language Processing with Python both fascinating and immensely useful.

Jython is an implementation of the Python programming language written in 100% pure Java, so it runs under any

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compliant Java Virtual Machine. The secret to Jython's popularity lies in the combination of Java's libraries and tools with Python's rapid development capabilities. With Jython, you can write Python programs that integrate seamlessly with any Java code. And like Python, Jython can be used interactively, so you can get immediate results as you are programming. Jython Essentials provides a solid introduction to the Python language, offering a brief but thorough tour of the Python concepts you'll need to understand to use Jython effectively. The book makes frequent comparisons between Python and Java, with special emphasis on the different object-oriented semantics of the two languages, so Java programmers can quickly get up to speed with Jython. Jython Essentials also covers the various ways in which Jython and Java can interact. For example, Jython code can create instances of pre-existing Java classes and call methods in those instances. You can write Jython classes that are direct subclasses of existing Java classes and use introspection to discern the capabilities of JavaBeans components. This book provides examples of using Jython with existing Java libraries, including the Swing GUI toolkit, the JDBC database API, the Servlet API, and various XML tools. And finally, the book shows how Jython can be used as a scripting language within a Java program. With Jython Essentials, you have everything you need to start creating applications that mix the best of Python's interactivity and Java's robust libraries. A Python community leader teaches professionals how to integrate web applications with Python.

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