

Python Documentation Standards

This book is part of the PostgreSQL 9.0 documentation collection (up-to-date & full), published by Fultus Corporation. PostgreSQL 9.0 includes built-in, binary replication, and over a dozen other major features which will appeal to everyone from web developers to database hackers.

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.

This introductory book on programming introduces computer programming using C and Python programming languages on Microsoft Windows and Linux operating systems to beginners. The book assumes no familiarity with programming and teaches the basics of programming to its readers. It helps the readers to write programs to solve problems in computer science, finance, mathematics and physics. Unlike other introductory guides to programming, Write Your First Program focuses on the exact information that beginners are required to apply while creating practical programs. The book is organized in eight chapters—with each chapter introducing a major programming topic, focusing on the concepts and then implementing them in both the languages. This book will teach you to write your first program and progress on to concepts such as working with data, decision making, persistent data storage and implementing mathematical operations. Apart from programming, the book also discusses version control systems and open source projects. The aim of the book is to focus on the programming logic, and then see how the logic can be implemented using two different languages. Thus, it helps the readers to learn two vastly different ways of programming. This book is intended for all those who are interested to learn/sharpen their programming skills. Companion Website The website for this book (www.phindia.com/saha) is an integral part of the book

where you will find: • Extended treatment of certain topics • Additional tips and tutorials • Questions and comments page

Client-Centered Software Development: The CO-FOSS Approach introduces a method to creating a customized software product for a single client, either from scratch or by reusing open source components. The clients are typically non-profit humanitarian, educational, or public service organizations. This approach has been used in undergraduate courses where students learn the principles of software development while implementing a real-world software product. This book provides instructors, students, clients, and professional software developers with detailed guidance for developing a new CO-FOSS product from conceptualization to completion. Features Provides instructors, students, clients, and professional software developers with a roadmap for the development of a new CO-FOSS product from conceptualization to completion Motivates students with real-world projects and community service experiences Teaches all elements of the software process, including requirements gathering, design, collaboration, coding, testing, client communication, refactoring, and writing developer and user documentation Uses source code that can be reused and refitted to suit the needs of future projects, since each CO-FOSS product is free and open source software Provides links to a rich variety of resources for

instructors and students to freely use in their own courses that develop new CO-FOSS products for other non-profits.

The Hitchhiker's Guide to Python Best Practices for Development" O'Reilly Media, Inc."

Google and YouTube use Python because it's highly adaptable, easy to maintain, and allows for rapid development. If you want to write high-quality, efficient code that's easily integrated with other languages and tools, this hands-on book will help you be productive with Python quickly -- whether you're new to programming or just new to Python. It's an easy-to-follow self-paced tutorial, based on author and Python expert Mark Lutz's popular training course. Each chapter contains a stand-alone lesson on a key component of the language, and includes a unique Test Your Knowledge section with practical exercises and quizzes, so you can practice new skills and test your understanding as you go. You'll find lots of annotated examples and illustrations to help you get started with Python 3.0. Learn about Python's major built-in object types, such as numbers, lists, and dictionaries Create and process objects using Python statements, and learn Python's general syntax model Structure and reuse code using functions, Python's basic procedural tool Learn about Python modules: packages of statements, functions, and other tools, organized into larger components

Discover Python's object-oriented programming tool for structuring code Learn about the exception-handling model, and development tools for writing larger programs Explore advanced Python tools including decorators, descriptors, metaclasses, and Unicode processing

Python 3 is the best version of the language yet: It is more powerful, convenient, consistent, and expressive than ever before. Now, leading Python programmer Mark Summerfield demonstrates how to write code that takes full advantage of Python 3's features and idioms. The first book written from a completely "Python 3" viewpoint, *Programming in Python 3* brings together all the knowledge you need to write any program, use any standard or third-party Python 3 library, and create new library modules of your own. Summerfield draws on his many years of Python experience to share deep insights into Python 3 development you won't find anywhere else. He begins by illuminating Python's "beautiful heart": the eight key elements of Python you need to write robust, high-performance programs. Building on these core elements, he introduces new topics designed to strengthen your practical expertise—one concept and hands-on example at a time. This book's coverage includes Developing in Python using procedural, object-oriented, and functional programming paradigms Creating custom packages and modules Writing and reading binary, text, and XML files, including

optional compression, random access, and text and XML parsing Leveraging advanced data types, collections, control structures, and functions Spreading program workloads across multiple processes and threads Programming SQL databases and key-value DBM files Utilizing Python's regular expression mini-language and module Building usable, efficient, GUI-based applications Advanced programming techniques, including generators, function and class decorators, context managers, descriptors, abstract base classes, metaclasses, and more Programming in Python 3 serves as both tutorial and language reference, and it is accompanied by extensive downloadable example code—all of it tested with the final version of Python 3 on Windows, Linux, and Mac OS X. Take full creative control of your web applications with Flask, the Python-based microframework. With this hands-on book, you'll learn Flask from the ground up by developing a complete social blogging application step-by-step. Author Miguel Grinberg walks you through the framework's core functionality, and shows you how to extend applications with advanced web techniques such as database migration and web service communication. Rather than impose development guidelines as other frameworks do, Flask leaves the business of extensions up to you. If you have Python experience, this book shows you how to take advantage of that creative freedom. Learn Flask's basic application structure and write an

example app Work with must-have components—templates, databases, web forms, and email support Use packages and modules to structure a large application that scales Implement user authentication, roles, and profiles Build a blogging feature by reusing templates, paginating item lists, and working with rich text Use a Flask-based RESTful API to expose app functionality to smartphones, tablets, and other third-party clients Learn how to run unit tests and enhance application performance Explore options for deploying your web app to a production server

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

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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. For many researchers, Python is a first-class tool mainly because of its libraries for storing, manipulating, and gaining insight from data. Several resources exist for individual pieces of this data science stack, but only with the Python Data Science Handbook do you get them all—IPython, NumPy, Pandas, Matplotlib, Scikit-Learn, and other related tools. Working scientists and data crunchers familiar with reading and writing Python code will find this comprehensive desk reference ideal for tackling day-to-day issues: manipulating, transforming, and cleaning data; visualizing different types of data; and using data to build statistical or machine learning models. Quite simply, this is the must-have reference for scientific computing in Python. With this handbook, you'll learn how to use:

- IPython and Jupyter: provide computational environments for data scientists using Python
- NumPy: includes the ndarray for efficient storage and manipulation of dense data arrays in Python
- Pandas: features the DataFrame for efficient storage and manipulation of labeled/columnar data in Python
- Matplotlib: includes capabilities for a flexible range of data visualizations in Python
- Scikit-Learn: for efficient and clean Python implementations of the most important and established machine learning algorithms

Looks at the principles and clean code, includes case studies showcasing the practices of

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writing clean code, and contains a list of heuristics and "smells" accumulated from the process of writing clean code.

Python is currently used in many different areas. In all of these areas, experienced professionals can find examples of inefficiency, problems, and other perils, as a result of bad code. After reading this book, readers will understand these problems, and more importantly, understand how to correct them.

"This book is a collection of research on privacy protection technologies and their application in business organizations"--Provided by publisher.

Fundamental testing methodologies applied to the popular Python language Testing Python; Applying Unit Testing, TDD, BDD and Acceptance Testing is the most comprehensive book available on testing for one of the top software programming languages in the world. Python is a natural choice for new and experienced developers, and this hands-on resource is a much needed guide to enterprise-level testing development methodologies. The book will show you why Unit Testing and TDD can lead to cleaner, more flexible programs. Unit Testing and Test-Driven Development (TDD) are increasingly must-have skills for software developers, no matter what language they work in. In enterprise settings, it's critical for developers to ensure they always have working code, and that's what makes testing methodologies so attractive. This book will teach you the most widely used testing strategies and will introduce to you still others, covering performance testing, continuous testing, and more. Learn Unit Testing and TDD—important development methodologies that lie at the heart of Agile development Enhance your ability to work with Python to develop powerful, flexible applications with clean code Draw on the expertise of author David Sale, a leading UK developer and tech commentator Get

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ahead of the crowd by mastering the underappreciated world of Python testing. Knowledge of software testing in Python could set you apart from Python developers using outmoded methodologies. Python is a natural fit for TDD and Testing Python is a must-read text for anyone who wants to develop expertise in Python programming.

Python Essential Reference, 3rd Edition, is a comprehensive reference to the Python programming language. The focus of this latest edition is to add coverage of significant new features and new library modules added to the language over the past five years. Clearly written with concise organization, the new features covered include new style classes, unification of types and classes, xmlrpclib, intertools, bz2 and optparse, making it the most up-to-date Python book on the market.

Basic computer programming can be intimidating to anyone who has ever attempted to write their first line of code. Idiot's Guides: Basic Programming takes the fear out of learning programming by teaching readers the basics of programming with Python, an open-source (free) environment which is considered one of the easiest languages to learn for beginners. Python has consistent syntax, a solid standardized library, and a simplicity that isn't always present in other languages. Readers will learn not only the "how" of programming but the "why" so that they not only know how to write code, but why that code works, and how it relates to other languages and forms of programming. Readers will learn how to program through simple projects that help them to learn how basic programming works, while encouraging them to be creative and enabling them to see the tangible results of their coding.

This invaluable resource offers tutorials and real-world examples as well as thorough language references for Web markup languages (HTML/XHTML and CSS), and popular scripting

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languages (JavaScript, Perl, and PHP) Examines the role of JavaScript, CGI (with examples in Perl and Python), and PHP on the Web and shows how to best use them all Includes a valuable reference section on each technology that can be used for review and consultation This book has two objectives--to provide a comprehensive reference on using XML with Python; and to illustrate the practical applications of these technologies in an enterprise environment with examples.

In computational science, reproducibility requires that researchers make code and data available to others so that the data can be analyzed in a similar manner as in the original publication. Code must be available to be distributed, data must be accessible in a readable format, and a platform must be available for widely distributing the data and code. In addition, both data and code need to be licensed permissively enough so that others can reproduce the work without a substantial legal burden. Implementing Reproducible Research covers many of the elements necessary for conducting and distributing reproducible research. It explains how to accurately reproduce a scientific result. Divided into three parts, the book discusses the tools, practices, and dissemination platforms for ensuring reproducibility in computational science. It describes: Computational tools, such as Sweave, knitr, VisTrails, Sumatra, CDE, and the Declaratron system Open source practices, good programming practices, trends in open science, and the role of cloud computing in reproducible research Software and methodological platforms, including open source software packages, RunMyCode platform, and open access journals Each part presents contributions from leaders who have developed software and other products that have advanced the field. Supplementary material is available at www.ImplementingRR.org.

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"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 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.

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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 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.

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

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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

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

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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.

Tiny Python Projects takes you from amateur to Pythonista as you create 22 bitesize programs. Each tiny project teaches you a new programming concept, from the basics of lists and strings right through to regular expressions and randomness. Summary A long journey is really a lot of little steps. The same is true when you're learning Python, so you may as well have some fun along the way! Written in a lighthearted style with entertaining exercises that build powerful skills, Tiny Python Projects takes you from amateur to Pythonista as you create 22 bitesize programs. Each tiny project teaches you a new programming concept, from the basics of lists and strings right through to regular expressions and randomness. Along the way you'll also discover how testing can make you a better programmer in any language. About the technology Who says learning to program has to be boring? The 21 activities in this book teach Python fundamentals through puzzles and games. Not only will you be entertained with every exercise, but you'll learn about text manipulation, basic algorithms, and lists and dictionaries as you go. It's the ideal way for any Python newbie to gain confidence and experience. About the book The projects are tiny, but the rewards are big: each chapter in Tiny Python Projects challenges you with a new Python program, including a password creator, a word rhymer, and a Shakespearean insult generator. As you complete these entertaining exercises, you'll graduate from a Python beginner to a confident programmer—and you'll have a good time doing it! What's inside Write command-line Python programs Manipulate Python

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data structures Use and control randomness Write and run tests for programs and functions Download testing suites for each project About the reader For readers with beginner programming skills. About the author Ken Youens-Clark is a Senior Scientific Programmer at the University of Arizona. He has an MS in Biosystems Engineering and has been programming for over 20 years. Table of Contents 1 How to write and test a Python program 2 The crow's nest: Working with strings 3 Going on a picnic: Working with lists 4 Jump the Five: Working with dictionaries 5 Howler: Working with files and STDOUT 6 Words count: Reading files and STDIN, iterating lists, formatting strings 7 Gashlycrumb: Looking items up in a dictionary 8 Apples and Bananas: Find and replace 9 Dial-a-Curse: Generating random insults from lists of words 10 Telephone: Randomly mutating strings 11 Bottles of Beer Song: Writing and testing functions 12 Ransom: Randomly capitalizing text 13 Twelve Days of Christmas: Algorithm design 14 Rhymer: Using regular expressions to create rhyming words 15 The Kentucky Friar: More regular expressions 16 The Scrambler: Randomly reordering the middles of words 17 Mad Libs: Using regular expressions 18 Gematria: Numeric encoding of text using ASCII values 19 Workout of the Day: Parsing CSV files, creating text table output 20 Password strength: Generating a secure and memorable password 21 Tic-Tac-Toe: Exploring state 22 Tic-Tac-Toe redux: An interactive version with type hints

Web Standards: Mastering HTML5, CSS3, and XML provides solutions to the most common web design problems, and gives you a deep understanding of web standards and how they can be implemented to improve your web sites. You will learn how to develop fully standards-compliant, mobile-friendly, and search engine-optimized web

sites that are robust, fast, and easy to update while providing excellent user experience and interoperability. The book covers all major web standards for markup, style sheets, web typography, web syndication, semantic annotations, and accessibility. This edition has been fully updated with the latest in web standards, including the finalized HTML5 vocabulary and the full list of CSS3 properties. *Web Standards: Mastering HTML5, CSS3, and XML* is also a comprehensive guide to current and future standards for the World Wide Web, demonstrating the implementation of new technologies to address the constantly growing user expectations. *Web Standards: Mastering HTML5, CSS3, and XML* presents step-by-step guides based on solid design principles and best practices, and shows the most common web development tools and web design frameworks. You will master HTML5 and its XML serialization, XHTML5, the new structuring and multimedia elements, the most important HTML5 APIs, and understand the standardization process of HTML 5.1, HTML 5.2, and future HTML5 versions. This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Master the Powerful Python 3 Standard Library through Real Code Examples “The genius of Doug’s approach is that with 15 minutes per week, any motivated programmer can learn the Python Standard Library. Doug’s guided tour will help you flip the switch to fully power-up Python’s batteries.” –Raymond Hettinger, Distinguished Python Core Developer The Python 3 Standard Library contains hundreds of modules for interacting

with the operating system, interpreter, and Internet—all extensively tested and ready to jump-start application development. Now, Python expert Doug Hellmann introduces every major area of the Python 3.x library through concise source code and output examples. Hellmann's examples fully demonstrate each feature and are designed for easy learning and reuse. You'll find practical code for working with text, data structures, algorithms, dates/times, math, the file system, persistence, data exchange, compression, archiving, crypto, processes/threads, networking, Internet capabilities, email, developer and language tools, the runtime, packages, and more. Each section fully covers one module, with links to additional resources, making this book an ideal tutorial and reference. The Python 3 Standard Library by Example introduces Python 3.x's new libraries, significant functionality changes, and new layout and naming conventions. Hellmann also provides expert porting guidance for moving code from 2.x Python standard library modules to their Python 3.x equivalents. Manipulate text with string, textwrap, re (regular expressions), and difflib Use data structures: enum, collections, array, heapq, queue, struct, copy, and more Implement algorithms elegantly and concisely with functools, itertools, and contextlib Handle dates/times and advanced mathematical tasks Archive and data compression Understand data exchange and persistence, including json, dbm, and sqlite Sign and verify messages cryptographically Manage concurrent operations with processes and threads Test, debug, compile, profile, language, import, and package tools Control interaction at runtime with

interpreters or the environment

Designed to provide an insight into the SQL and MySQL database concepts using python DESCRIPTION Python is becoming increasingly popular among data scientists. However, analysis and visualization tools need to interact with the data stored in various formats such as relational and NOSQL databases. This book aims to make the reader proficient in interacting with databases such as MySQL, SQLite, MongoDB, and Cassandra. This book assumes that the reader has no prior knowledge of programming. Hence, basic programming concepts, key concepts of OOP, serialization and data persistence have been explained in such a way that it is easy to understand. NOSQL is an emerging technology. Using MongoDB and Cassandra, the two widely used NOSQL databases are explained in detail. The knowhow of handling databases using Python will certainly be helpful for readers pursuing a career in Data Science. KEY FEATURES A practical approach Ample code examples A Quick Start Guide to Python for beginners WHAT WILL YOU LEARN Python basics and programming fundamentals Serialization libraries pickle, CSV, JSON, and XML DB-AP and, SQLAlchemy Python with Excel documents Python with MongoDB and Cassandra WHO THIS BOOK IS FOR Students and professionals who want to become proficient at database tools for a successful career in data science. Table of Contents 1. Getting Started 2. Program Flow Control 3. Structured Python 4. Python OOP 5. File IO 6. Object Serialization 7. RDBMS Concepts 8. Python

DB-API 9. Python SQLAlchemy 10. Python and Excel 11. Python PyMongo 12. Python Cassandra

This book combines elementary theory from computer science with real-world challenges in global geodetic observation, based on examples from the Geodetic Observatory Wettzell, Germany. It starts with a step-by-step introduction to developing stable and safe scientific software to run successful software projects. The use of software toolboxes is another essential aspect that leads to the application of generative programming. An example is a generative network middleware that simplifies communication. One of the book's main focuses is on explaining a potential strategy involving autonomous production cells for space geodetic techniques. The complete software design of a satellite laser ranging system is taken as an example. Such automated systems are then combined for global interaction using secure communication tunnels for remote access. The network of radio telescopes is used as a reference. Combined observatories form coordinated multi-agent systems and offer solutions for operational aspects of the Global Geodetic Observing System (GGOS) with regard to "Industry 4.0".

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

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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

A demonstration of Python's basic technologies showcases the programming

language's possibilities as a Windows development and administration tool. Jython is an open source implementation of the high-level, dynamic, object-oriented scripting language Python seamlessly integrated with the Java platform. The predecessor to Jython, JPython, is certified as 100% Pure Java. Jython is freely available for both commercial and noncommercial use and is distributed with source code. Jython is complementary to Java. The Definitive Guide to Jython, written by the official Jython team leads, covers Jython 2.5 (or 2.5.x)—from the basics to more advanced features. This book begins with a brief introduction to the language and then journeys through Jython's different features and uses. The Definitive Guide to Jython is organized for beginners as well as advanced users of the language. The book provides a general overview of the Jython language itself, but it also includes intermediate and advanced topics regarding database, web, and graphical user interface (GUI) applications; Web services/SOA; and integration, concurrency, and parallelism, to name a few.

Leverage the power of Ansible to gain complete control over your systems and automate application deployment Key Features Use Ansible 2.9 to automate and control your infrastructure Delve into advanced functionality such as plugins and custom modules in Ansible Automate and orchestrate major cloud platforms such as OpenStack, AWS, and Azure using Ansible Book Description Ansible enables you to automate software provisioning, configuration management, and application roll-outs,

and can be used as a deployment and orchestration tool. While Ansible provides simple yet powerful features to automate multi-layer environments using agentless communication, it can also solve other critical IT challenges, such as ensuring continuous integration and continuous deployment (CI/CD) with zero downtime. In this book, you'll work with Ansible 2.9 and learn to solve complex issues quickly with the help of task-oriented scenarios. You'll start by installing and configuring Ansible on Linux and macOS to automate monotonous and repetitive IT tasks and get to grips with concepts such as playbooks, inventories, and network modules. As you progress, you'll gain insight into the YAML syntax and learn how to port between Ansible versions. In addition to this, you'll also understand how Ansible enables you to orchestrate multi-layer environments such as networks, containers, and the cloud. By the end of this Ansible book, you'll be well - versed in writing playbooks and other related Ansible code to overcome just about all of your IT challenges, from infrastructure-as-code provisioning to application deployments, and even handling the mundane day-to-day maintenance tasks that take up so much valuable time. What you will learn

Become familiar with the fundamentals of the Ansible framework
Set up role-based variables and dependencies
Avoid common mistakes and pitfalls when writing automation code in Ansible
Extend Ansible by developing your own modules and plugins
Contribute to the Ansible project by submitting your own code
Follow best practices for working with cloud environment inventories
Troubleshoot issues triggered during Ansible playbook

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runs Who this book is for If you are a DevOps engineer, administrator, or any IT professional looking to automate IT tasks using Ansible, this book is for you. Prior knowledge of Ansible is not necessary.

Today, anyone in a scientific or technical discipline needs programming skills. Python is an ideal first programming language, and Introduction to Programming in Python is the best guide to learning it. Princeton University's Robert Sedgewick, Kevin Wayne, and Robert Dondero have crafted an accessible, interdisciplinary introduction to programming in Python that emphasizes important and engaging applications, not toy problems. The authors supply the tools needed for students to learn that programming is a natural, satisfying, and creative experience. This example-driven guide focuses on Python's most useful features and brings programming to life for every student in the sciences, engineering, and computer science. Coverage includes Basic elements of programming: variables, assignment statements, built-in data types, conditionals, loops, arrays, and I/O, including graphics and sound Functions, modules, and libraries: organizing programs into components that can be independently debugged, maintained, and reused Object-oriented programming and data abstraction: objects, modularity, encapsulation, and more Algorithms and data structures: sort/search algorithms, stacks, queues, and symbol tables Examples from applied math, physics, chemistry, biology, and computer science—all compatible with Python 2 and 3 Drawing on their extensive classroom experience, the authors provide Q&As, exercises, and

opportunities for creative practice throughout. An extensive amount of supplementary information is available at introcs.cs.princeton.edu/python. With source code, I/O libraries, solutions to selected exercises, and much more, this companion website empowers people to use their own computers to teach and learn the material.

A guide to completing Python projects for those ready to take their skills to the next level Python Projects is the ultimate resource for the Python programmer with basic skills who is ready to move beyond tutorials and start building projects. The preeminent guide to bridge the gap between learning and doing, this book walks readers through the "where" and "how" of real-world Python programming with practical, actionable instruction. With a focus on real-world functionality, Python Projects details the ways that Python can be used to complete daily tasks and bring efficiency to businesses and individuals alike. Python Projects is written specifically for those who know the Python syntax and lay of the land, but may still be intimidated by larger, more complex projects. The book provides a walk-through of the basic set-up for an application and the building and packaging for a library, and explains in detail the functionalities related to the projects. Topics include: *How to maximize the power of the standard library modules *Where to get third party libraries, and the best practices for utilization *Creating, packaging, and reusing libraries within and across projects *Building multi-layered functionality including networks, data, and user interfaces *Setting up development environments and using virtualenv, pip, and more Written by veteran Python trainers,

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the book is structured for easy navigation and logical progression that makes it ideal for individual, classroom, or corporate training. For Python developers looking to apply their skills to real-world challenges, Python Projects is a goldmine of information and expert insight.

With hands-on tutorials based on real-world scenarios, this useful guide goes beyond the basics to teach beginner- and intermediate-level Python programmers the little-known tools and constructs that build concise, maintainable code. --

This second edition of Foundations of Python Network Programming targets Python 2.5 through Python 2.7, the most popular production versions of the language. Python has made great strides since Apress released the first edition of this book back in the days of Python 2.3. The advances required new chapters to be written from the ground up, and others to be extensively revised. You will learn fundamentals like IP, TCP, DNS and SSL by using working Python programs; you will also be able to familiarize yourself with infrastructure components like memcached and message queues. You can also delve into network server designs, and compare threaded approaches with asynchronous event-based solutions. But the biggest change is this edition's expanded treatment of the web. The HTTP protocol is covered in extensive detail, with each feature accompanied by sample Python code. You can use your HTTP protocol expertise by studying an entire chapter on screen scraping and you can then test lxml and BeautifulSoup against a real-world web site. The chapter on web application

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programming now covers both the WSGI standard for component interoperability, as well as modern web frameworks like Django. Finally, all of the old favorites from the first edition are back: E-mail protocols like SMTP, POP, and IMAP get full treatment, as does XML-RPC. You can still learn how to code Python network programs using the Telnet and FTP protocols, but you are likely to appreciate the power of more modern alternatives like the paramiko SSH2 library. If you are a Python programmer who needs to learn the network, this is the book that you want by your side.

Leverage Python and Raspberry Pi to create complex IoT applications capable of creating and detecting movement and measuring distance, light, and a host of other environmental conditions

Key Features Learn the fundamentals of electronics and how to integrate them with a Raspberry Pi Understand how to build RESTful APIs, WebSocket APIs, and MQTT-based applications Explore alternative approaches to structuring IoT applications with Python

Book Description The age of connected devices is here, be it fitness bands or smart homes. It's now more important than ever to understand how hardware components interact with the internet to collect and analyze user data. The Internet of Things (IoT), combined with the popular open source language Python, can be used to build powerful and intelligent IoT systems with intuitive interfaces. This book consists of three parts, with the first focusing on the "Internet" component of IoT. You'll get to grips with end-to-end IoT app development to control an LED over the internet, before learning how to build RESTful APIs,

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WebSocket APIs, and MQTT services in Python. The second part delves into the fundamentals behind electronics and GPIO interfacing. As you progress to the last part, you'll focus on the "Things" aspect of IoT, where you will learn how to connect and control a range of electronic sensors and actuators using Python. You'll also explore a variety of topics, such as motor control, ultrasonic sensors, and temperature measurement. Finally, you'll get up to speed with advanced IoT programming techniques in Python, integrate with IoT visualization and automation platforms, and build a comprehensive IoT project. By the end of this book, you'll be well-versed with IoT development and have the knowledge you need to build sophisticated IoT systems using Python. What you will learn

- Understand electronic interfacing with Raspberry Pi from scratch
- Gain knowledge of building sensor and actuator electronic circuits
- Structure your code in Python using Async IO, pub/sub models, and more
- Automate real-world IoT projects using sensor and actuator integration
- Integrate electronics with ThingSpeak and IFTTT to enable automation
- Build and use RESTful APIs, WebSockets, and MQTT with sensors and actuators
- Set up a Raspberry Pi and Python development environment for IoT projects

Who this book is for This IoT Python book is for application developers, IoT professionals, or anyone interested in building IoT applications using the Python programming language. It will also be particularly helpful for mid to senior-level software engineers who are experienced in desktop, web, and mobile development, but have little to no experience of electronics, physical computing,

and IoT.

- * Covers low-level networking in Python —essential for writing a new networked application protocol.
- * Many working examples demonstrate concepts in action -- and can be used as starting points for new projects.
- * Networked application security is demystified.
- * Exhibits and explains multitasking network servers using several models, including forking, threading, and non-blocking sockets.
- * Features extensive coverage of Web and E-mail. Describes Python's database APIs.

Create Python packages to share your code in a scalable and maintainable way. Improve team productivity, publish helpful libraries, or even start your own open source project following the latest Python packaging standards. Publishing Python Packages teaches you how to easily share your Python code with your team and the outside world. Learn a repeatable and highly automated process for package maintenance that's based on the best practices, tools, and standards of Python packaging. Publishing Python Packages book walks you through creating a complete package, including a C extension, and guides you all the way to publishing on the Python Package Index. You'll get hands-on experience with the latest packaging tools, and learn the ins-and-outs of package testing and continuous integration. Whether you're entirely new to Python packaging or looking for optimal ways to maintain and scale your packages, this fast-paced and engaging guide is for you. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

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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.

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