

Dive Into Python

Let Over Lambda is one of the most hardcore computer programming books out there. Starting with the fundamentals, it describes the most advanced features of the most advanced language: Common Lisp. Only the top percentile of programmers use lisp and if you can understand this book you are in the top percentile of lisp programmers. If you are looking for a dry coding manual that re-hashes common-sense techniques in whatever langue du jour, this book is not for you. This book is about pushing the boundaries of what we know about programming. While this book teaches useful skills that can help solve your programming problems today and now, it has also been designed to be entertaining and inspiring. If you have ever wondered what lisp or even programming itself is really about, this is the book you have been looking for.

Learn basic Python programming to create functional and effective visualizations from earth observation satellite data sets Thousands of satellite datasets are freely available online, but scientists need the right tools to efficiently analyze data and share results. Python has easy-to-learn syntax and thousands of libraries to perform common Earth science programming tasks. Earth Observation Using Python: A Practical Programming Guide presents an example-driven collection of basic methods, applications, and visualizations to process satellite data sets for Earth science research. Gain Python fluency using real data and case studies Read and write common scientific data formats, like netCDF, HDF, and GRIB2 Create 3-dimensional maps of dust, fire, vegetation indices and more Learn to adjust satellite imagery resolution, apply quality control, and handle big files Develop useful workflows and learn to share code using version control Acquire skills using online interactive code available for all examples in the book The American Geophysical Union promotes discovery in Earth and space science for the benefit of humanity. Its publications disseminate scientific knowledge and provide resources for researchers, students, and professionals. Find out more about this book from this Q&A with the Author

The official book on the Rust programming language, written by the Rust development team at the Mozilla Foundation, fully updated for Rust 2018. The Rust Programming Language is the official book on Rust: an open source systems programming language that helps you write faster, more reliable software. Rust offers control over low-level details (such as memory usage) in combination with high-level ergonomics, eliminating the hassle traditionally associated with low-level languages. The authors of The Rust Programming Language, members of the Rust Core Team, share their knowledge and experience to show you how to take full advantage of Rust's features--from installation to creating robust and scalable programs. You'll begin with basics like creating functions, choosing data types, and binding variables and then move on to more advanced concepts, such as:

- Ownership and borrowing, lifetimes, and traits
- Using Rust's memory safety guarantees to build fast, safe programs
- Testing, error handling, and effective refactoring
- Generics, smart pointers, multithreading, trait objects, and advanced pattern matching
- Using Cargo, Rust's built-in package manager, to build, test, and document your code and manage dependencies
- How best to use Rust's advanced compiler with compiler-led programming techniques

You'll find plenty of code examples throughout the book, as well as three chapters dedicated to building complete projects to test your learning: a number guessing game, a Rust implementation of a command line tool, and a multithreaded server. New to this edition: An extended section on Rust macros, an expanded chapter on modules, and appendixes on Rust development tools and editions.

A scientific explanation of addiction by a leading neuroscientist looks at how and why people become addicts and discusses advances in prevention and treatment.

Learning Python

Black-Belt Advice on Deployment, Scalability, Testing, and More

Python for Data Analysis

Data Science from Scratch

A Complete Introduction to the Python Language

The Next Step for New Python Programmers

Dive Into Deep Learning

Make the Leap From Beginner to Intermediate in Python... Python Basics: A Practical Introduction to Python 3 Your Complete Python Curriculum-With Exercises, Interactive Quizzes, and Sample Projects What should you learn about Python in the beginning to get a strong foundation? With Python Basics, you'll not only cover the core concepts you really need to know, but you'll also learn them in the most efficient order with the help of practical exercises and interactive quizzes. You'll know enough to be dangerous with Python, fast! Who Should Read This Book If you're new to Python, you'll get a practical, step-by-step roadmap on developing your foundational skills. You'll be introduced to each concept and language feature in a logical order. Every step in this curriculum is explained and illustrated with short, clear code samples. Our goal with this book is to educate, not to impress or intimidate. If you're familiar with some basic programming concepts, you'll get a clear and well-tested introduction to Python. This is a practical introduction to Python that jumps right into the meat and potatoes without sacrificing substance. If you have prior experience with languages like VBA, PowerShell, R, Perl, C, C++, C#, Java, or Swift the numerous exercises within each chapter will fast-track your progress. If you're a seasoned developer, you'll get a Python 3 crash course that brings you up to speed with modern Python programming. Mix and match the chapters that interest you the most and use the interactive quizzes and review exercises to check your learning progress as you go along. If you're a self-starter completely new to coding, you'll get practical and motivating examples. You'll begin by installing Python and setting up a coding environment on your computer from scratch, and then continue from there. We'll get you coding right away so that you become competent and knowledgeable enough to solve real-world problems, fast. Develop a passion for programming by solving interesting problems with Python every day! If you're looking to break into a coding or data-science career, you'll pick up the practical foundations with this book. We won't just dump a boat load of theoretical information on you so you can "sink or swim"-instead you'll learn from hands-on, practical examples one step at a time. Each concept is broken down for you so you'll always know what you can do with it in practical terms. If you're interested in teaching others "how to Python," this will be your guidebook. If you're looking to stoke the coding flame in your coworkers, kids, or relatives-use our material to teach them. All the sequencing has been done for you so you'll always know what to cover next and how to explain it. What Python Developers Say About The Book: "Go forth and learn this amazing language using this great book." - Michael Kennedy, Talk Python "The wording is casual, easy to understand, and makes the information flow well." - Thomas Wong, Pythonista "I floundered for a long time trying to teach myself. I slogged through dozens of incomplete online tutorials. I snoozed through hours of boring screencasts. I gave up on countless cruffy books from big-time publishers. And then I found Real Python. The easy-to-follow, step-by-step instructions break the big concepts down into bite-sized chunks written in plain English. The authors never forget their audience and are consistently thorough and detailed in their explanations. I'm up and running now, but I constantly refer to the material for guidance." - Jared Nielsen, Pythonista

Dive Into Algorithms is a broad introduction to algorithms using the Python Programming Language. Dive Into Algorithms is a wide-ranging, Pythonic tour of many of the world's most interesting algorithms. With little more than a bit of computer programming experience and basic high-school math, you'll explore standard computer science algorithms for searching, sorting, and optimization; human-based algorithms that help us determine how to catch a baseball or eat the right amount at a buffet; and advanced algorithms like ones used in machine learning and artificial intelligence. You'll even explore how ancient Egyptians and Russian peasants used algorithms to multiply numbers, how the ancient Greeks used them to find greatest common divisors, and how Japanese scholars in the age of samurai designed algorithms capable of generating magic squares. You'll explore algorithms that are useful in pure mathematics and learn how mathematical ideas can improve algorithms. You'll learn about an algorithm for generating continued fractions, one for quick calculations of square roots, and another for generating seemingly random sets of numbers. You'll also learn how to:

- Use algorithms to debug code, maximize revenue, schedule tasks, and create decision trees
- Measure the efficiency and speed of algorithms
- Generate Voronoi diagrams for use in various geometric applications
- Use algorithms to build a simple chatbot, win at board games, or solve sudoku puzzles
- Write code for gradient ascent and descent algorithms that can find the maxima and minima of functions
- Use simulated annealing to perform global optimization
- Build a decision tree to predict happiness based on a person's characteristics

Once you've finished this book you'll understand how to code and implement important algorithms as well as how to measure and optimize their performance, all while learning the nitty-gritty details of today's most powerful algorithms.

Are you a... Systems administrator frustrated by the deficiencies of your existing tools? Web site creator wanting to produce more dynamic content? Computer user with a desire to know what's going on inside the box? Then "Learn to Program Using Python" is the book for you. You will find this book to be an ideal starting point for learning the essentials of computer programming. Assuming no prior knowledge (other than basic computer operation), this unimimidating and clearly written guide introduces you to programming terminology, fundamental concepts, and techniques for writing actual code. Python is ideal for novice programmers: it is available for free; it has simple syntax but powerful features; it supports lots of programming styles; it runs on many platforms; it has a friendly and helpful user community. This book uses the Python language to teach you the fundamentals of computer programming. Once you master the basic techniques and concepts you learn in this book, you can apply them to any language you choose to work with. "Learn to Program Using Python" is based on a popular on-line tutorial that has been expanded and enhanced for this book. It takes you step-by-step through all the essential programming topics. You will learn about: Sequences, branching, and looping Data types and variables Input and output Modular programming Handling files and text Errors Recursion Namespaces Object-oriented programming Event-driven programming Regular expressions Debugging In addition, the book introduces elements of programming style and offers a look at the thinking and steps involved in designing a software solution. Several sample applications illustrate techniques and ideas in action.

Scripting with Python makes you productive and increases the reliability of your scientific work. Here, the author teaches you how to develop tailored, flexible, and efficient working environments built from small programs (scripts) written in Python. The focus is on examples and applications of relevance to computational science: gluing existing applications and tools, e.g. for automating simulation, data analysis, and visualization; steering simulations and computational experiments; equipping programs with graphical user interfaces; making computational Web services; creating interactive interfaces with a Maple/Matlab-like syntax to numerical applications in C/C++ or Fortran; and building flexible object-oriented programming interfaces to existing C/C++ or Fortran libraries.

Pro Python

Effective Python

Powerful Object-Oriented Programming

Master the Basics to Write Faster Code

59 Specific Ways to Write Better Python

Python Scripting for Computational Science

Linear Models with Python

Dive Into Python 3Apress

*"It's easy to start writing code with Python: that's why the language is so immensely popular. However, Python has unique strengths, charms, and expressivity that can be hard to grasp at first -- as well as hidden pitfalls that can easily trip you up if you aren't aware of them. Effective Python will help you harness the full power of Python to write exceptionally robust, efficient, maintainable, and well-performing code. Utilizing the concise, scenario-driven style pioneered in Scott Meyers's best-selling Effective C++, Brett Slatkin brings together 53 Python best practices, tips, shortcuts, and realistic code examples from expert programmers. Through realistic examples, Slatkin uncovers little-known Python quirks, intricacies, and idioms that powerfully impact code behavior and performance. You'll learn how to choose the most efficient and effective way to accomplish key tasks when multiple options exist, and how to write code that's easier to understand, maintain, and improve. Drawing on his deep understanding of Python's capabilities, Slatkin offers practical advice for each major area of development with both Python 3.x and Python 2.x. Coverage includes: * Algorithms * Objects * Concurrency * Collaboration * Built-in modules * Production techniques * And more Each section contains specific, actionable guidelines organized into items, each with carefully worded advice supported by detailed technical arguments and illuminating examples. Using Effective Python, you can systematically improve all the Python code you write: not by blindly following rules or mimicking incomprehensible idioms, but by gaining a deep understanding of the technical reasons why they make sense."--[Source inconnue].*

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.

** Quick start to learning python—very example oriented approach * Book has its own Web site established by the author: <http://diveintopython.org/> Author is well known in the Open Source community and the book has a unique quick approach to learning an object oriented language.*

A Tutorial for Hobbyists, Self-starters, and All who Want to Learn the Art of Computer Programming

Clear, Concise, and Effective Programming

A Gentle Introduction to Computer Systems

Simple, Rapid, Effective, and Scalable

Adobe Photoshop Lightroom Classic For Dummies

Non-Programmers Tutorial For Python 2 and 3

First Principles with Python

How can you take advantage of the Django framework to integrate complex client-side interactions and real-time features into your web applications? Through a series of rapid application development projects, this hands-on book shows experienced Django developers how to include REST APIs, WebSockets, and client-side MVC frameworks such as Backbone.js into new or existing projects. Learn how to make the most of Django's decoupled design by choosing the components you need to build the lightweight applications you want. Once you finish this book, you'll know how to build single-page applications that respond to interactions in real time. If you're familiar with Python and JavaScript, you're good to go. Learn a lightweight approach for starting a new Django project Break reusable applications into smaller services that communicate with one another Create a static, rapid prototyping site as a scaffold for websites and applications Build a REST API with django-rest-framework Learn how to use Django with the Backbone.js MVC framework Create a single-page web application on top of your REST API Integrate real-time features with WebSockets and the Tornado networking library Use the book's code-driven examples in your own projects

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.

Summary Hello! Python fully covers the building blocks of Python programming and gives you a gentle introduction to more advanced topics such as object-oriented programming, functional programming, network programming, and program design. New (or nearly new) programmers will learn most of what they need to know to start using Python immediately. About this Book Programmers love Python because it's fast and efficient. Shouldn't learning Python be just the same? Hello! Python starts quickly and simply, with a line of Python code. You'll learn the basics the right way--by writing your own programs. Along the way, you'll get a gentle introduction to more advanced concepts and new programming styles.> No experience with Python needed. Exposure to another programming language is helpful but not required. 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. What Makes Hello! Python special Learn Python fast Even if you've never written a line of code before, you'll be writing real Python apps in just an hour or two. Great examples There's something new in every chapter, including games, web programming with Django, databases, and more. User Friendly guides Using lots of illustrations and a down-to-earth writing style, this book invites you to explore Python along with half-a-dozen traveling companions from the User Friendly cartoon strip. =====?== Table of Contents Why Python? Hunt the Wumpus Interacting with theWorld Getting Organized Business-Oriented Programming Classes and Object-oriented Programming Sufficiently Advanced Technology Django! Gaming with Pyglet Twisted Networking Django Revisted! Where to from Here?

The leading experts in system change and learning, with their school-based partners around the world, have created this essential companion to their runaway best-seller, *Deep Learning: Engage the World Change the World*. This hands-on guide provides a roadmap for building capacity in teachers, schools, districts, and systems to design deep learning, measure progress, and assess conditions needed to activate and sustain innovation. *Dive Into Deep Learning: Tools for Engagement* is rich with resources educators need to construct and drive meaningful deep learning experiences in order to develop the kind of mindset and know-how that is crucial to becoming a problem-solving change agent in our global society. Designed in full color, this easy-to-use guide is loaded with tools, tips, protocols, and real-world examples. It includes:

- A framework for deep learning that provides a pathway to develop the six global competencies needed to

flourish in a complex world — character, citizenship, collaboration, communication, creativity, and critical thinking. • Learning progressions to help educators analyze student work and measure progress. • Learning design rubrics, templates and examples for incorporating the four elements of learning design: learning partnerships, pedagogical practices, learning environments, and leveraging digital. • Conditions rubrics, teacher self-assessment tools, and planning guides to help educators build, mobilize, and sustain deep learning in schools and districts. Learn about, improve, and expand your world of learning. Put the joy back into learning for students and adults alike. Dive into deep learning to create learning experiences that give purpose, unleash student potential, and transform not only learning, but life itself.

The Quick Python Book

Learn More Python 3 the Hard Way

Exploring Data in Python 3

Tools for Engagement

Let Over Lambda

CPython Internals

Data Wrangling with Pandas, NumPy, and IPython

Python for Everybody is designed to introduce students to programming and software development through the lens of exploring data. You can think of the Python programming language as your tool to solve data problems that are beyond the capability of a spreadsheet. Python is an easy to use and easy to learn programming language that is freely available on Macintosh, Windows, or Linux computers. So once you learn Python you can use it for the rest of your career without needing to purchase any software. This book uses the Python 3 language. The earlier Python 2 version of this book is titled "Python for Informatics: Exploring Information". There are free downloadable electronic copies of this book in various formats and supporting materials for the book at www.pythonlearn.com. The course materials are available to you under a Creative Commons License so you can adapt them to teach your own Python course.

Edit, organize, store, and share photos Whether you are brand new to photography, a devoted enthusiast, or a seasoned pro, there's a version of Lightroom for you. Lightroom For Dummies is the book to help you learn which version of Lightroom is right for your needs. The main focus of the book is on using Lightroom Classic, but also includes an introduction to Lightroom CC. All with the goal of helping you get started on the right foot toward taking your photographic workflow to the next level. The book is a great starting place to help you improve your family photos or add advanced Lightroom skills that aid your career. Look inside to find the steps to navigating the software and getting top-notch results. Deciding which version of Lightroom is the best fit Take control of your photo library with Lightroom Classic Importing, organizing, and finding photos Editing and sharing your photos Producing a slideshow, book, print, or web gallery Gain a foundation for getting started with Lightroom CC Get ready to spend less time in front of the computer and more time behind the lens! 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 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/>.

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

Python for Everybody

Fast Python

Lightweight Django

Dive Into Systems

Why We Abuse Drugs, Alcohol, and Nicotine

Using Psychology to Design Better Products & Services Dive Into Python

Mark Pilgrim's Dive Into Python 3 is a hands-on guide to Python 3 (the latest version of the Python language) and its differences from Python 2. As in the original book, Dive Into Python, each chapter starts with a real, complete code sample, proceeds to pick it apart and explain the pieces, and then puts it all back together in a summary at the end. Dive Into Python 3 is a Python book for experienced programmers.

Whether you're an experienced programmer looking to get into Python 3 or grizzled Python veteran who remembers the days when you had to import the string module, Dive Into Python 3 is your 'desert island' Python 3 book. If you've never programmed before, Python 3 is an excellent language to learn modern programming techniques. But this book should not be your starting point. Get "How to Think Like a Computer Scientist: Learning with Python" by Allen Downey, Jeffrey Elkner, Chris Meyers and learn the basics. Then dive into this book. Dive Into PYTHON 3 was written by Mark Pilgram, and this edition is distributed under the terms of the Creative Commons Attribution Share-Alike License 3.0. * Money raised from the sale of this book supports the development of free software and documentation. About the Author: By day, Mark Pilgrim is a developer advocate for open source and open standards. By night, he is a husband and father who lives in North Carolina with his wife, his two sons, and his big slobbery dog. He spends his copious free time sunbathing, skydiving, and making up autobiographical information.

Dive into Systems is a vivid introduction to computer organization, architecture, and operating systems that is already being used as a classroom textbook at more than 25 universities. This textbook is a crash course in the major hardware and software components of a modern computer system. Designed for use in a wide range of introductory-level computer science classes, it guides readers through the vertical slice of a computer so they can develop an understanding of the machine at various layers of abstraction. Early chapters begin with the basics of the C programming language often used in systems programming. Other topics explore the architecture of modern computers, the inner workings of operating systems, and the assembly languages that translate human-readable instructions into a binary representation that the computer understands. Later chapters explain how to optimize code for various architectures, how to implement parallel computing with shared memory, and how memory management works in multi-core CPUs. Accessible and easy to follow, the book uses images and hands-on exercise to break down complicated topics, including code examples that can be modified and executed.

Mark Pilgrim's Dive Into Python 3 is a hands-on guide to Python 3 and its differences from Python 2. As in the original book, Dive Into Python, each chapter starts with a real, complete code sample, proceeds to pick it apart and explain the pieces, and then puts it all back together in a summary at the end. This book includes: Example programs completely rewritten to illustrate powerful new concepts now available in Python 3: sets, iterators, generators, closures, comprehensions, and much more A detailed case study of porting a major library from Python 2 to Python 3 A comprehensive appendix of all the syntactic and semantic changes in Python 3 This is the perfect resource for you if you need to port applications to Python 3, or if you like to jump into languages fast and get going right away.

Fast Python aggressively rehashes the basics of Python programming in order to dispel myths and misconceptions about how to write fast code. Readers equipped with the lessons from this book will be able to test, diagnose, and optimize out performance bottlenecks in their own work. For each algorithm discussed, readers will walk through numerous progressively faster methods of programming it, all while picking up bits of fundamental knowledge about time complexity, memory efficiency, data structures, multi-threading, and vectorization. As such, this book is relevant to veterans looking refresh their methods and to computer science students navigating Algorithms 101. This book maintains a high standard of reproducibility. All of the graphics, tables, and code profiles contained in this book are fully reproducible and available to anyone in a public GitHub repository.

Python Testing with pytest

Fluent Python

Earth Observation Using Python

A Practical Introduction to Python 3

Programming in Python 3

Python Basics

Hello! Python

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

Master the art of writing beautiful and powerful Python by using all of the features that Python 3.5 offers About This Book Become familiar with the most important and advanced parts of the Python code style Learn the trickier aspects of Python and put it in a structured context for deeper understanding of the language Offers an expert's-eye overview of how these advanced tasks fit together in Python as a whole along with practical examples Who This Book Is For Almost anyone can learn to write working script and create high quality code but they might lack a structured understanding of what it means to be 'Pythonic'. If you are a Python programmer who wants to code efficiently by getting the syntax and usage of a few intricate Python techniques exactly right, this book is for you. What You Will Learn Create a virtualenv and start a new project Understand how and when to use the functional programming paradigm Get familiar with the different ways the decorators can be written in Understand the power of generators and coroutines without digressing into lambda calculus Create metaclasses and how it makes working with Python far easier Generate HTML documentation out of documents and code using Sphinx Learn how to track and optimize application performance, both memory and cpu Use the multiprocessing library, not just locally but also across multiple machines Get a basic understanding of packaging and creating your own libraries/applications In Detail Python is a dynamic programming language. It is known for its high readability and hence it is often the first language learned by new programmers. Python being multi-paradigm, it can be used to achieve the same thing in different ways and it is compatible across different platforms. Even if you find writing

Python code easy, writing code that is efficient, easy to maintain, and reuse is not so straightforward. This book is an authoritative guide that will help you learn new advanced methods in a clear and contextualised way. It starts off by creating a project-specific environment using venv, introducing you to different Pythonic syntax and common pitfalls before moving on to cover the functional features in Python. It covers how to create different decorators, generators, and metaclasses. It also introduces you to functools.wraps and coroutines and how they work. Later on you will learn to use asyncio module for asynchronous clients and servers. You will also get familiar with different testing systems such as py.test, doctest, and unittest, and debugging tools such as Python debugger and faulthandler. You will learn to optimize application performance so that it works efficiently across multiple machines and Python versions. Finally, it will teach you how to access C functions with a simple Python call. By the end of the book, you will be able to write more advanced scripts and take on bigger challenges. Style and Approach This book is a comprehensive guide that covers advanced features of the Python language, and communicate them with an authoritative understanding of the underlying rationale for how, when, and why to use them.

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

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

Your Guide to the Python 3 Interpreter

Dive Into Python 3

A Brain-Friendly Guide

A Pythonic Adventure for the Intrepid Beginner

Learn to Program Using Python

Serious Python

The Addicted Brain

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

An indispensable collection of practical tips and real-world advice for tackling common Python problems and taking your code to the next level. Features interviews with high-profile Python developers who share their tips, tricks, best practices, and real-world advice gleaned from years of experience. Sharpen your Python skills as you dive deep into the Python programming language with Serious Python. You'll cover a range of advanced topics like multithreading and memorization, get advice from experts on things like designing APIs and dealing with databases, and learn Python internals to help you gain a deeper understanding of the language itself. Written for developers and experienced programmers, Serious

Python brings together over 15 years of Python experience to teach you how to avoid common mistakes, write code more efficiently, and build better programs in less time. As you make your way through the book's extensive tutorials, you'll learn how to start a project and tackle topics like versioning, layouts, coding style, and automated checks. You'll learn how to package your software for distribution, optimize performance, use the right data structures, define functions efficiently, pick the right libraries, build future-proof programs, and optimize your programs down to the bytecode. You'll also learn how to: - Make and use effective decorators and methods, including abstract, static, and class methods - Employ Python for functional programming using generators, pure functions, and functional functions - Extend flake8 to work with the abstract syntax tree (AST) to introduce more sophisticated automatic checks into your programs - Apply dynamic performance analysis to identify bottlenecks in your code - Work with relational databases and effectively manage and stream data with PostgreSQL If you've been looking for a way to take your Python skills from good to great, Serious Python will help you get there. Learn from the experts and get seriously good at Python with Serious Python!

Praise for Linear Models with R: This book is a must-have tool for anyone interested in understanding and applying linear models. The logical ordering of the chapters is well thought out and portrays Faraway's wealth of experience in teaching and using linear models. ... It lays down the material in a logical and intricate manner and makes linear modeling appealing to researchers from virtually all fields of study. -Biometrical Journal Throughout, it gives plenty of insight ... with comments that even the seasoned practitioner will appreciate. Interspersed with R code and the output that it produces one can find many little gems of what I think is sound statistical advice, well epitomized with the examples chosen...I read it with delight and think that the same will be true with anyone who is engaged in the use or teaching of linear models. -Journal of the Royal Statistical Society Like its widely praised, best-selling companion version, Linear Models with R, this book replaces R with Python to seamlessly give a coherent exposition of the practice of linear modeling. Linear Models with Python offers up-to-date insight on essential data analysis topics, from estimation, inference and prediction to missing data, factorial models and block designs. Numerous examples illustrate how to apply the different methods using Python. Features: Python is a powerful, open source programming language increasingly being used in data science, machine learning and computer science. Python and R are similar, but R was designed for statistics, while Python is multi-talented. This version replaces R with Python to make it accessible to a greater number of users outside of statistics, including those from Machine Learning. A reader coming to this book from an ML background will learn new statistical perspectives on learning from data. Topics include Model Selection, Shrinkage, Experiments with Blocks and Missing Data. Includes an Appendix on Python for beginners. Linear Models with Python explains how to use linear models in physical science, engineering, social science and business applications. It is ideal as a textbook for linear models or linear regression courses.

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 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)

A ModernDive Into R and the Tidyverse

The Rust Programming Language (Covers Rust 2018)

Python Cookbook

Head First Python

A Practical Programming Guide

Mastering Python

An understanding of psychology—specifically the psychology behind how users behave and interact with digital interfaces—is perhaps the single most valuable nondesign skill a designer can have. The most elegant design can fail if it forces users to conform to the design rather than working within the "blueprint" of how humans perceive and process the world around them. This practical guide explains how you can apply key principles in psychology to build products and experiences that are more intuitive and human-centered. Author Jon Yablonski deconstructs familiar apps and experiences to provide clear examples of how UX designers can build experiences that adapt to how users perceive and process digital interfaces. You'll learn: How aesthetically pleasing design

creates positive responses The principles from psychology most useful for designers How these psychology principles relate to UX heuristics Predictive models including Fitts's law, Jakob's law, and Hick's law Ethical implications of using psychology in design A framework for applying these principles Introduces the programming language's syntax, control flow, and basic data structures and covers its interaction with applications and management of large collections of code.

Transform Your Ideas into High-Quality Python Code! Zed Shaw has perfected the world's best system for becoming a truly effective Python 3.x developer. Follow it and you will succeed—just like the tens of millions of programmers he's already taught. You bring the discipline, commitment, and persistence; the author supplies everything else. In *Learn Python 3 the Hard Way*, Zed Shaw taught you the basics of Programming with Python 3. Now, in *Learn More Python 3 the Hard Way*, you'll go far beyond the basics by working through 52 brilliantly crafted projects. Each one helps you build a key practical skill, combining demos to get you started and challenges to deepen your understanding. Zed then teaches you even more in 12 hours of online videos, where he shows you how to break, fix, and debug your code. First, you'll discover how to analyze a concept, idea, or problem to implement in software. Then, step by step, you'll learn to design solutions based on your analyses and implement them as simply and elegantly as possible. Throughout, Shaw stresses process so you can get started and build momentum, creativity to solve new problems, and quality so you'll build code people can rely on. Manage complex projects with a programmer's text editor Leverage the immense power of data structures Apply algorithms to process your data structures Master indispensable text parsing and processing techniques Use SQL to efficiently and logically model stored data Learn powerful command-line tools and skills Combine multiple practices in complete projects It'll be hard at first. But soon, you'll just get it—and that will feel great! This course will reward you for every minute you put into it. Soon, you'll go beyond merely writing code that runs: you'll craft high-quality Python code that solves real problems. You'll be a serious Python programmer. Perfect for Everyone Who's Already Started Working with Python, including Junior Developers and Seasoned Python Programmers Upgrading to Python 3.6+ Register your product at informit.com/register for convenient access to downloads, updates, and/or corrections as they become available.

"Statistical Inference via Data Science: A Modern Dive into R and the Tidyverse provides a pathway for learning about statistical inference using data science tools widely used in industry, academia, and government. It introduces the tidyverse suite of R packages, including the ggplot2 package for data visualization, and the dplyr package for data wrangling. After equipping readers with just enough of these data science tools to perform effective exploratory data analyses, the book covers traditional introductory statistics topics like confidence intervals, hypothesis testing, and multiple regression modeling, while focusing on visualization throughout"--
50 Years of Lisp

Recipes for Mastering Python 3

Laws of UX

Statistical Inference Via Data Science

Dive Into Algorithms

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

Do less work when testing your Python code, but be just as expressive, just as elegant, and just as readable. The pytest testing framework helps you write tests quickly and keep them readable and maintainable - with no boilerplate code. Using a robust yet simple fixture model, it's just as easy to write small tests with pytest as it is to scale up to complex functional testing for applications, packages, and libraries. This book shows you how. For Python-based projects, pytest is the undeniable choice to test your code if you're looking for a full-featured, API-independent, flexible, and extensible testing framework. With a full-bodied fixture model that is unmatched in any other tool, the pytest framework gives you powerful features such as assert rewriting and plug-in capability - with no boilerplate code. With simple step-by-step instructions and sample code, this book gets you up to speed quickly on this easy-to-learn and robust tool. Write short, maintainable tests that elegantly express what you're testing. Add powerful testing features and still speed up test times by distributing tests across multiple processors and running tests in parallel. Use the built-in assert statements to reduce false test failures by separating setup and test failures. Test error conditions and corner cases with expected exception testing, and use one test to run many test cases with parameterized testing. Extend pytest with plugins, connect it to continuous integration systems, and use it in tandem with tox, mock, coverage, unittest, and doctest. Write simple, maintainable tests that elegantly express what you're testing and why. What You Need: The examples in this book are written using Python 3.6 and pytest 3.0. However, pytest 3.0 supports Python 2.6, 2.7, and Python 3.3-3.6.