Mastering Object Oriented Python By Steven F Lott 2014 04 25

This book presents a
balanced and flexible
approach to the
incorporation of object-
oriented principles in
introductory courses using
Python. Familiarizes readers
with the terminology of
object-oriented programming,
the concept of an object's
underlying state
information, and its menu of
available behaviors.
Includes an exclusive, easy-
to-use custom graphics

library that helps readers grasp both basic and more advanced concepts. Lays the groundwork for transition to other languages such as Java and C++. For those interested in learning more about object-oriented programming using Python. Understand the constructs of the Python programming language and use them to build data science projects Key Features Learn the basics of developing applications with Python and deploy your first data application Take your first steps in Python programming by understanding and using data structures, variables, and loops Delve into

Jupyter, NumPy, Pandas,
SciPy, and sklearn to
explore the data science
ecosystem in Python Book
Description Python is the
most widely used programming
language for building data
science applications.
Complete with step-by-step
instructions, this book
contains easy-to-follow
tutorials to help you learn
Python and develop real-
world data science projects.
The "secret sauce" of the
book is its curated list of
topics and solutions, put
together using a range of
real-world projects,
covering initial data
collection, data analysis,
and production. This Python

book starts by taking you through the basics of programming, right from variables and data types to classes and functions. You'll learn how to write idiomatic code and test and debug it, and discover how you can create packages or use the range of built-in ones. You'll also be introduced to the extensive ecosystem of Python data science packages, including NumPy, Pandas, scikit-learn, Altair, and Datashader. Furthermore, you'll be able to perform data analysis, train models, and interpret and communicate the results. Finally, you'll get to grips with structuring and

scheduling scripts using Luigi and sharing your machine learning models with the world as a microservice. By the end of the book, you'll have learned not only how to implement Python in data science projects, but also how to maintain and design them to meet high programming standards. What you will learn Code in Python using Jupyter and VS Code Explore the basics of coding – loops, variables, functions, and classes Deploy continuous integration with Git, Bash, and DVC Get to grips with Pandas, NumPy, and scikit-learn Perform data visualization with

Matplotlib, Altair, and Datashader Create a package out of your code using poetry and test it with PyTest Make your machine learning model accessible to anyone with the web API Who this book is for If you want to learn Python or data science in a fun and engaging way, this book is for you. You'll also find this book useful if you're a high school student, researcher, analyst, or anyone with little or no coding experience with an interest in the subject and courage to learn, fail, and learn from failing. A basic understanding of how computers work will be

useful.

If you are an undergraduate or graduate student, a beginner to algorithmic development and research, or a software developer in the financial industry who is interested in using Python for quantitative methods in finance, this is the book for you. It would be helpful to have a bit of familiarity with basic Python usage, but no prior experience is required.
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
Python Cookbook
An Agile Primer
Fluent Python
Mastering C++ Programming
Language
Python GUI Programming
Cookbook
Mastering Large Datasets
with Python
Exploit various design patterns
to master the art of solving
problems using Python Key
Features Master the application
design using the core design
patterns and latest features of

Python 3.7 Learn tricks to solve common design and architectural challenges Choose the right plan to improve your programs and increase their productivity Book Description Python is an object-oriented scripting language that is used in a wide range of categories. In software engineering, a design pattern is an elected solution for solving software design problems. Although they have been around for a while, design patterns remain one of the top topics in software engineering, and are a ready source for software developers to solve the problems they face on a

regular basis. This book takes you through a variety of design patterns and explains them with real-world examples. You will get to grips with low-level details and concepts that show you how to write Python code, without focusing on common solutions as enabled in Java and C++. You'll also fnd sections on corrections, best practices, system architecture, and its designing aspects. This book will help you learn the core concepts of design patterns and the way they can be used to resolve software design problems. You'll focus on most of the Gang of Four (GoF) design patterns, which

are used to solve everyday problems, and take your skills to the next level with reactive and functional patterns that help you build resilient, scalable, and robust applications. By the end of the book, you'll be able to effciently address commonly faced problems and develop applications, and also be comfortable working on scalable and maintainable projects of any size. What you will learn Explore Factory Method and Abstract Factory for object creation Clone objects using the Prototype pattern Make incompatible interfaces compatible using the

Adapter pattern Secure an interface using the Proxy pattern Choose an algorithm dynamically using the Strategy pattern Keep the logic decoupled from the UI using the MVC pattern Leverage the Observer pattern to understand reactive programming Explore patterns for cloud-native, microservices, and serverless architectures Who this book is for This book is for intermediate Python developers. Prior knowledge of design patterns is not required to enjoy this book.
Refine your Python programming skills and build professional grade applications

with this comprehensive guide Key FeaturesCreate manageable code that can run in various environments with different sets of dependenciesImplement effective Python data structures and algorithms to write optimized codeDiscover the exciting new features of Python 3.7Book Description Python is a dynamic programming language that's used in a wide range of domains thanks to its simple yet powerful nature. Although writing Python code is easy, making it readable, reusable, and easy to maintain is challenging. Complete with

best practices, useful tools, and standards implemented by professional Python developers, the third edition of Expert Python Programming will help you overcome this challenge. The book will start by taking you through the new features in Python 3.7. You'll then learn the advanced components of Python syntax, in addition to understanding how to apply concepts of various programming paradigms, including object-oriented programming, functional programming, and event-driven programming. This book will also guide you through learning the best

naming practices, writing your own distributable Python packages, and getting up to speed with automated ways of deploying your software on remote servers. You'll discover how to create useful Python extensions with C, C++, Cython, and CFFI. Furthermore, studying about code management tools, writing clear documentation, and exploring test-driven development will help you write clean code. By the end of the book, you will have become an expert in writing efficient and maintainable Python code. What you will learnExplore modern ways of

setting up repeatable and consistent development environmentsPackage Python code effectively for community and production useLearn modern syntax elements of Python programming such as f-strings, enums, and lambda functionsDemystify metaprogramming in Python with metaclassesWrite concurrent code in PythonExtend Python with code written in different languagesIntegrate Python with code written in different languagesWho this book is for This book will appeal to you if you're a programmer looking to take your Python knowledge

to the next level by writing efficient code and learning the latest features of version 3.7 and above.

Become an expert at using Python for advanced statistical analysis of data using real-world examples About This Book Clean, format, and explore data using graphical and numerical summaries Leverage the IPython environment to efficiently analyze data with Python Packed with easy-to-follow examples to develop advanced computational skills for the analysis of complex data Who This Book Is For If you are a competent Python developer

who wants to take your data analysis skills to the next level by solving complex problems, then this advanced guide is for you. Familiarity with the basics of applying Python libraries to data sets is assumed. What You Will Learn Read, sort, and map various data into Python and Pandas Recognise patterns so you can understand and explore data Use statistical models to discover patterns in data Review classical statistical inference using Python, Pandas, and SciPy Detect similarities and differences in data with clustering Clean your data to make it useful Work in Jupyter Notebook to produce

publication ready figures to be included in reports In Detail Python, a multi-paradigm programming language, has become the language of choice for data scientists for data analysis, visualization, and machine learning. Ever imagined how to become an expert at effectively approaching data analysis problems, solving them, and extracting all of the available information from your data? Well, look no further, this is the book you want! Through this comprehensive guide, you will explore data and present results and conclusions from statistical analysis in a

meaningful way. You'll be able to quickly and accurately perform the hands-on sorting, reduction, and subsequent analysis, and fully appreciate how data analysis methods can support business decision-making. You'll start off by learning about the tools available for data analysis in Python and will then explore the statistical models that are used to identify patterns in data. Gradually, you'll move on to review statistical inference using Python, Pandas, and SciPy. After that, we'll focus on performing regression using computational tools and you'll get to understand the problem

of identifying clusters in data in an algorithmic way. Finally, we delve into advanced techniques to quantify cause and effect using Bayesian methods and you'll discover how to use Python's tools for supervised machine learning. Style and approach This book takes a step-by-step approach to reading, processing, and analyzing data in Python using various methods and tools. Rich in examples, each topic connects to real-world examples and retrieves data directly online where possible. With this book, you are given the knowledge and tools to explore any data on your own,

encouraging a curiosity befitting all data scientists. Summary Modern data science solutions need to be clean, easy to read, and scalable. In Mastering Large Datasets with Python, author J.T. Wolohan teaches you how to take a small project and scale it up using a functionally influenced approach to Python coding. You'll explore methods and built-in Python tools that lend themselves to clarity and scalability, like the high-performing parallelism method, as well as distributed technologies that allow for high data throughput. The abundant hands-on exercises in this

practical tutorial will lock in these essential skills for any large-scale data science project. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Programming techniques that work well on laptop-sized data can slow to a crawl—or fail altogether—when applied to massive files or distributed datasets. By mastering the powerful map and reduce paradigm, along with the Python-based tools that support it, you can write data-centric applications that scale efficiently without requiring

codebase rewrites as your requirements change. About the book Mastering Large Datasets with Python teaches you to write code that can handle datasets of any size. You'll start with laptop-sized datasets that teach you to parallelize data analysis by breaking large tasks into smaller ones that can run simultaneously. You'll then scale those same programs to industrial-sized datasets on a cluster of cloud servers. With the map and reduce paradigm firmly in place, you'll explore tools like Hadoop and PySpark to efficiently process massive distributed datasets, speed up

decision-making with machine learning, and simplify your data storage with AWS S3. What's inside An introduction to the map and reduce paradigm Parallelization with the multiprocessing module and pathos framework Hadoop and Spark for distributed computing Running AWS jobs to process large datasets About the reader For Python programmers who need to work faster with more data. About the author J. T. Wolohan is a lead data scientist at Booz Allen Hamilton, and a PhD researcher at Indiana University, Bloomington. Table of Contents: PART 1 1 ¦

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*Object-oriented analysis
and design (OOAD) has
over the years, become a
vast field, encompassing*

such diverse topics as design process and principles, documentation tools, refactoring, and design and architectural patterns. For most students the learning experience is incomplete without implementation. This new textbook provides a comprehensive introduction to OOAD. The salient points of its coverage are: • A sound footing on object-oriented concepts such as classes, objects, interfaces, inheritance, polymorphism, dynamic

linking, etc. • A good introduction to the stage of requirements analysis. • Use of UML to document user requirements and design. • An extensive treatment of the design process. • Coverage of implementation issues. • Appropriate use of design and architectural patterns. • Introduction to the art and craft of refactoring. • Pointers to resources that further the reader's knowledge. All the main case-studies used for this book have

been implemented by the authors using Java. The text is liberally peppered with snippets of code, which are short and fairly self-explanatory and easy to read. Familiarity with a Java-like syntax and a broad understanding of the structure of Java would be helpful in using the book to its full potential.
This book follows a standard tutorial approach with approximately 750 code samples spread through the 19 chapters. This

amounts to over 5,900 lines of code that illustrate each concept. This book is aimed at programmers who have already learned the basics of object-oriented Python and need to write more sophisticated, flexible code that integrates seamlessly with the rest of Python. This book assumes a computer science background, with experience of common Python design patterns. Gain comprehensive insights into programming practices,

and code portability and reuse to build flexible and maintainable apps using object-oriented principles Key Features Extend core OOP techniques to increase integration of classes created with Python Explore various Python libraries for handling persistence and object serialization Learn alternative approaches for solving programming problems with different attributes to address your problem domain Book Description Object-oriented programming

(OOP) is a relatively complex discipline to master, and it can be difficult to see how general principles apply to each language's unique features. With the help of the latest edition of Mastering Objected-Oriented Python, you'll be shown how to effectively implement OOP in Python, and even explore Python 3.x. Complete with practical examples, the book guides you through the advanced concepts of OOP in Python, and demonstrates how you

can apply them to solve complex problems in OOP. You will learn how to create high-quality Python programs by exploring design alternatives and determining which design offers the best performance. Next, you'll work through special methods for handling simple object conversions and also learn about hashing and comparison of objects. As you cover later chapters, you'll discover how essential it is to locate the best

algorithms and optimal data structures for developing robust solutions to programming problems with minimal computer processing. Finally, the book will assist you in leveraging various Python features by implementing object-oriented designs in your programs. By the end of this book, you will have learned a number of alternate approaches with different attributes to confidently solve programming problems in Python. What you will

learn Explore a variety of different design patterns for the __init__() method Learn to use Flask to build a RESTful web service Discover SOLID design patterns and principles Use the features of Python 3's abstract base Create classes for your own applications Design testable code using pytest and fixtures Understand how to design context managers that leverage the 'with' statement Create a new type of collection using standard

library and design techniques Develop new number types above and beyond the built-in classes of numbers Who this book is for This book is for developers who want to use Python to create efficient programs. A good understanding of Python programming is required t...
Learn how to write Python code that's more robust, efficient, maintainable, and elegant--whether you're new to the language or you've been coding for

years. Python Programming with Design Patterns combines a clear, modern introduction to modern Python with visual, example-driven explanations of 23 proven patterns for writing outstanding object-oriented code. Through these patterns and examples, best-selling patterns author James W. Cooper introduces modern techniques for creating Python objects that interact effectively to make powerful, flexible

programs. Cooper's wide-ranging coverage includes abstract classes, multiple inheritance, GUI programming and widgets, graphical classes, drawing and plotting, math libraries, database programming, Python decorators, images, threads, iterators, creating executable code from Python programs, and much more. He covers the use of six leading Python development environments, and provides complete

downloadable code on Github for every example program. Throughout, Cooper's informal, visual presentation makes patterns easier than ever to understand and use--so you can confidently build large, complex programs that benefit from everything Python has to offer.
Mastering Machine Learning with Python in Six Steps
A Very Simple Introduction to the Terrifyingly Beautiful World of Computers and

Code

A Practical Implementation Guide to Predictive Data Analytics Using Python

Mastering GUI Programming with Python

Mastering Python for Finance

Develop impressive cross-platform GUI applications with PyQt

Object-oriented programming (OOP) is a relatively complex discipline to master, and it can be difficult to see how general principles apply to each language's unique features. With the help of the latest edition of Mastering

Objected-Oriented Python, you'll be shown how to effectively implement OOP in Python, and even explore Python 3.x. Complete with practical examples, the book guides you through the advanced concepts of OOP in Python, and demonstrates how you can apply them to solve complex problems in OOP. You will learn how to create high-quality Python programs by exploring design alternatives and determining which design offers the best performance. Next, you'll work through special methods for handling simple object conversions and also learn about hashing and comparison of objects. As you cover later chapters, you'll discover how essential it is to locate the best algorithms and optimal data structures for developing robust

solutions to programming problems with minimal computer processing. Finally, the book will assist you in leveraging various Python features by implementing object-oriented designs in your programs. By the end of this book, you will have learned a number of alternate approaches with different attributes to confidently solve programming problems in Python. 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
This book is for Python programmers with an intermediate background and

an interest in design patterns implemented in idiomatic Python. Programmers of other languages who are interested in Python can also benefit from this book, but it would be better if they first read some introductory materials that explain how things are done in Python.

Unlike some guides that give you just the basics that you need to get started, this book teaches you everything you need to know about using Python, including what you can use it for. Python is a diverse language and is the foundation of much of what we use in the world today. The reader will be happy to know that this programming language is relatively easy to learn. The book is divided into five sections to make the journey easy for the student:

? Part 1 - Data Structures and
Algorithms ? Part 2 - Machine
Learning ? Part 3 - Django ? Part 4 -
ArcGIS Programming ? Part 5 -
Software Development and Testing
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Applications
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Second Edition
Object-Oriented Analysis and Design
Master OOP by Building Games and
GUIs
An Effective Project Based Approach
Including Web Development, Data
Structures, GUI Programming and
Object Oriented Programming
(Beginner to Advanced)
Learning Python

Unleash the power of Python 3 objects About This Book Stop writing scripts and start architecting programs Learn the latest Python syntax and libraries A practical, hands-on tutorial that teaches you all about abstract design patterns and how to implement them in Python 3 Who This Book Is For If you're new to object-oriented programming techniques, or if you have basic Python skills and wish to learn in depth how and when to correctly apply object-oriented programming in Python to design software, this is the book for you. What You Will Learn Implement objects in Python by creating

**classes and defining methods
Separate related objects into a
taxonomy of classes and describe
the properties and behaviors of
those objects via the class
interface Extend class
functionality using inheritance
Understand when to use object-
oriented features, and more
importantly when not to use them
Discover what design patterns are
and why they are different in
Python Uncover the simplicity of
unit testing and why it's so
important in Python Grasp
common concurrency techniques
and pitfalls in Python 3 Exploit
object-oriented programming in
key Python technologies such as**

Kivy and Django. Object-oriented programming concurrently with asyncio In Detail Python 3 is more versatile and easier to use than ever. It runs on all major platforms in a huge array of use cases. Coding in Python minimizes development time and increases productivity in comparison to other languages. Clean, maintainable code is easy to both read and write using Python's clear, concise syntax. Object-oriented programming is a popular design paradigm in which data and behaviors are encapsulated in such a way that they can be manipulated together. Many modern programming

languages utilize the powerful concepts behind object-oriented programming and Python is no exception. Starting with a detailed analysis of object-oriented analysis and design, you will use the Python programming language to clearly grasp key concepts from the object-oriented paradigm. This book fully explains classes, data encapsulation, inheritance, polymorphism, abstraction, and exceptions with an emphasis on when you can use each principle to develop well-designed software. You'll get an in-depth analysis of many common object-oriented design patterns that are more

suitable to Python's unique style. This book will not just teach Python syntax, but will also build your confidence in how to program. You will also learn how to create maintainable applications by studying higher level design patterns. Following this, you'll learn the complexities of string and file manipulation, and how Python distinguishes between binary and textual data. Not one, but two very powerful automated testing systems will be introduced in the book. After you discover the joy of unit testing and just how easy it can be, you'll study higher level libraries such as database connectors and GUI

toolkits and learn how they uniquely apply object-oriented principles. You'll learn how these principles will allow you to make greater use of key members of the Python eco-system such as Django and Kivy. This new edition includes all the topics that made Python 3 Object-oriented Programming an instant Packt classic. It's also packed with updated content to reflect recent changes in the core Python library and covers modern third-party packages that were not available on the Python 3 platform when the book was first published. Style and approach Throughout the book you will learn key object-

oriented programming techniques demonstrated by comprehensive case studies in the context of a larger project.

Deep learning is often viewed as the exclusive domain of math PhDs and big tech companies. But as this hands-on guide demonstrates, programmers comfortable with Python can achieve impressive results in deep learning with little math background, small amounts of data, and minimal code. How? With fastai, the first library to provide a consistent interface to the most frequently used deep learning applications. Authors Jeremy Howard and Sylvain

Gugger, the creators of fastai, show you how to train a model on a wide range of tasks using fastai and PyTorch. You'll also dive progressively further into deep learning theory to gain a complete understanding of the algorithms behind the scenes. Train models in computer vision, natural language processing, tabular data, and collaborative filtering Learn the latest deep learning techniques that matter most in practice Improve accuracy, speed, and reliability by understanding how deep learning models work Discover how to turn your models into web applications Implement deep learning algorithms from

scratch Consider the ethical implications of your work Gain insight from the foreword by PyTorch cofounder, Soumith Chintala

Build sophisticated web applications by mastering the art of Object-Oriented Javascript About This Book Learn popular Object-Oriented programming (OOP) principles and design patterns to build robust apps Implement Object-Oriented concepts in a wide range of frontend architectures Capture objects from real-world elements and create object-oriented code that represents them Learn the latest ES6 features and how to test

and debug issues with JavaScript code using various modern mechanisms Who This Book Is For JavaScript developers looking to enhance their web developments skills by learning object-oriented programming. What You Will Learn Get acquainted with the basics of JavaScript language constructs along with object-oriented programming and its application. Learn to build scalable server application in JavaScript using Node.js Generate instances in three programming languages: Python, JavaScript, and C# Work with a combination of access modifiers, prefixes, properties,

fields, attributes, and local variables to encapsulate and hide data Master DOM manipulation, cross-browser strategies, and ES6 Identify and apply the most common design patterns such as Singleton, Factory, Observer, Model-View-Controller, and Mediator Patterns Design applications using a modular architecture based on SOLID principles In Detail JavaScript is the behavior, the third pillar in today's paradigm that looks at web pages as something that consists of : content (HTML), presentation (CSS), and behavior (JavaScript). Using JavaScript, you can create interactive web

pages along with desktop widgets, browser, and application extensions, and other pieces of software. Object-oriented programming, which is popularly known as OOP, is basically based on the concept of objects rather than actions. The first module will help you master JavaScript and build futuristic web applications. You will start by getting acquainted with the language constructs and how to organize code easily. You develop concrete understanding of variable scoping, loops, and best practices on using types and data structures, as well as the coding style and recommended code

organization patterns in JavaScript. The book will also teach you how to use arrays and objects as data structures. By the end of the book, you will understand how reactive JavaScript is going to be the new paradigm. The second module is an easy-to-follow course, which includes hands-on examples of solutions to common problems with object-oriented code. It will help to identify objects from real-life scenarios, to protect and hide data with the data encapsulation features of Python, JavaScript, and C#. You will discover the advantage of duck typing in both Python and JavaScript, while you

work with interfaces and generics in C#. With a fair understanding of interfaces, multiple inheritance, and composition, you will move on to refactor existing code and to organize your source for easy maintenance and extension. The third module takes you through all the in-depth and exciting futures hidden behind the facade. You should read through this course if you want to be able to take your JavaScript skills to a new level of sophistication. Style and approach This course is a comprehensive guide where each chapter consists of best practices, constructive advice, and few easy-to-follow examples that will build

up your skills as you advance through the book. Get object oriented with this course, which takes you on a journey to get acquainted with few useful hands-on tools, features, and ways to enhance your productivity using OOP techniques. It will also act as a reference guide with useful examples on resolving problems with object-oriented code in Python, JavaScript, and C#. Create succinct and expressive implementations with functional programming in Python Key Features Learn how to choose between imperative and functional approaches based on expressiveness, clarity, and

performance Get familiar with complex concepts such as monads, concurrency, and immutability Apply functional Python to common Exploratory Data Analysis (EDA) programming problems Book Description If you're a Python developer who wants to discover how to take the power of functional programming (FP) and bring it into your own programs, then this book is essential for you, even if you know next to nothing about the paradigm. Starting with a general overview of functional concepts, you'll explore common functional features such as first-class and higher-order functions, pure

functions, and more. You'll see how these are accomplished in Python 3.6 to give you the core foundations you'll build upon. After that, you'll discover common functional optimizations for Python to help your apps reach even higher speeds. You'll learn FP concepts such as lazy evaluation using Python's generator functions and expressions. Moving forward, you'll learn to design and implement decorators to create composite functions. You'll also explore data preparation techniques and data exploration in depth, and see how the Python standard library fits the

functional programming model. Finally, to top off your journey into the world of functional Python, you'll at look at the PyMonad project and some larger examples to put everything into perspective. What you will learn Use Python's generator functions and generator expressions to work with collections in a non-strict (or lazy) manner Utilize Python library modules including itertools, functools, multiprocessing, and concurrent features to ensure efficient functional programs Use Python strings with object-oriented suffix notation and prefix notation Avoid stateful classes with

families of tuples Design and implement decorators to create composite functions Use functions such as max(), min(), map(), filter(), and sorted() Write higher-order functions Who this book is for This book is for Python developers who would like to perform Functional programming with Python. Python Programming knowledge is assumed.

Mastering Data-Driven Finance Python Programming with Design Patterns

Parallelize and Distribute Your Python Code

Build Powerful Applications with Reusable Code Using OOP Design

Patterns and Python 3.7, Second Edition

Learn Python 3 the Hard Way
A guide to creating smart, efficient, and reusable software, 2nd Edition

You Will Learn Python 3! Zed Shaw has perfected the world's best system for learning Python 3. Follow it and you will succeed—just like the millions of beginners Zed has taught to date! You bring the discipline, commitment, and persistence; the author supplies everything else. In Learn Python 3 the Hard Way, you'll learn Python by working through 52 brilliantly crafted exercises. Read them. Type

their code precisely. (No copying and pasting!) Fix your mistakes. Watch the programs run. As you do, you'll learn how a computer works; what good programs look like; and how to read, write, and think about code. Zed then teaches you even more in 5+ hours of video where he shows you how to break, fix, and debug your code—live, as he's doing the exercises. Install a complete Python environment Organize and write code Fix and break code Basic mathematics Variables Strings and text Interact with users Work with files Looping and logic Data structures using lists and

dictionaries Program design Object-oriented programming Inheritance and composition Modules, classes, and objects Python packaging Automated testing Basic game development Basic web development 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 know one of the world's most powerful, popular programming languages. You'll be a Python programmer. This Book Is Perfect For Total beginners with zero programming experience Junior developers

who know one or two languages Returning professionals who haven't written code in years Seasoned professionals looking for a fast, simple, crash course in Python 3 The Complete Guide to Writing More Maintainable, Manageable, Pleasing, and Powerful Ruby Applications Ruby's widely admired ease of use has a downside: Too many Ruby and Rails applications have been created without concern for their long-term maintenance or evolution. The Web is awash in Ruby code that is now virtually impossible to change or extend. This text

helps you solve that problem
by using powerful real-world
object-oriented design
techniques, which it
thoroughly explains using
simple and practical Ruby
examples. Sandi Metz has
distilled a lifetime of
conversations and
presentations about object-
oriented design into a set of
Ruby-focused practices for
crafting manageable,
extensible, and pleasing code.
She shows you how to build
new applications that can
survive success and repair
existing applications that have
become impossible to change.
Each technique is illustrated

with extended examples, all downloadable from the companion Web site,poodr.info. The first title to focus squarely on object-oriented Ruby application design, Practical Object-Oriented Design in Ruby will guide you to superior outcomes, whatever your previous Ruby experience. Novice Ruby programmers will find specific rules to live by; intermediate Ruby programmers will find valuable principles they can flexibly interpret and apply; and advanced Ruby programmers will find a common language they can

use to lead development and guide their colleagues. This guide will help you Understand how object-oriented programming can help you craft Ruby code that is easier to maintain and upgrade Decide what belongs in a single Ruby class Avoid entangling objects that should be kept separate Define flexible interfaces among objects Reduce programming overhead costs with duck typing Successfully apply inheritance Build objects via composition Design cost-effective tests Solve common problems associated with poorly designed Ruby code

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, highquality 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-tofollow, 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
Explore fundamental to
advanced Python 3 topics in
six steps, all designed to make
you a worthy practitioner. This
updated version's approach is
based on the "six degrees of
separation" theory, which
states that everyone and
everything is a maximum of six
steps away and presents each
topic in two parts: theoretical
concepts and practical

implementation using suitable Python 3 packages. You'll start with the fundamentals of Python 3 programming language, machine learning history, evolution, and the system development frameworks. Key data mining/analysis concepts, such as exploratory analysis, feature dimension reduction, regressions, time series forecasting and their efficient implementation in Scikit-learn are covered as well. You'll also learn commonly used model diagnostic and tuning techniques. These include optimal probability cutoff point for class creation, variance,

bias, bagging, boosting, ensemble voting, grid search, random search, Bayesian optimization, and the noise reduction technique for IoT data. Finally, you'll review advanced text mining techniques, recommender systems, neural networks, deep learning, reinforcement learning techniques and their implementation. All the code presented in the book will be available in the form of iPython notebooks to enable you to try out these examples and extend them to your advantage. What You'll Learn Understand machine learning development and

frameworksAssess model
diagnosis and tuning in
machine learningExamine text
mining, natuarl language
processing (NLP), and
recommender systemsReview
reinforcement learning and
CNN Who This Book Is For
Python developers, data
engineers, and machine
learning engineers looking to
expand their knowledge or
career into machine learning
area.
Python for Finance
Machine Learning, Data
Structures, Django, Object
Oriented Programming and
Software Engineering
(Including Programming

Interview Questions) [2nd
Edition]
Mastering Python for
Networking and Security
Mastering Python Design
Patterns
Expert Python Programming
Become a master in Python by
learning coding best practices
and advanced programming
concepts in Python 3.7, 3rd
Edition
Gain a thorough understanding of
operating in a Python development
environment, and some of the most
important advanced topics with Daniel
Arbuckle. This dynamic, concise book is
full of real-world solutions for Python 3.6
problems, and advanced-level concepts
such as reactive programming,
microservices, ctypes and Cython. About

This Book Covers the latest and advanced concepts of Python such as parallel processing with Python 3.6 Explore the Python language from its basic installation and setup to concepts such as reactive programming and microservices Get introduced to the mechanism for rewriting code in a compiled language along with ctypes and Cython tools Who This Book Is For If you are a programmer and are familiar with the basics of Python, and you want to broaden your knowledge base to develop projects better and faster, this book is for you. Even if you are not familiar with Python, Daniel Arbuckle's Mastering Python starts with the basics and takes you on a journey to become an expert in the technology. What You Will Learn Get to grips with the basics of operating in a Python development environment Build Python packages to efficiently create reusable code Become

proficient at creating tools and utility programs in Python Use the Git version control system to protect your development environment from unwanted changes Harness the power of Python to automate other software Distribute computational tasks across multiple processors Handle high I/O loads with asynchronous I/O to get a smoother performance Take advantage of Python's metaprogramming and programmable syntax features Get acquainted with the concepts behind reactive programming and RxPy In Detail Daniel Arbuckle's Mastering Python covers the basics of operating in a Python development environment, before moving on to more advanced topics. Daniel presents you with real-world solutions to Python 3.6 and advanced-level concepts, such as reactive programming, microservices, ctypes, and Cython tools. You don't need to be

familiar with the Python language to use this book, as Daniel starts with a Python primer. Throughout, Daniel highlights the major aspects of managing your Python development environment, shows you how to handle parallel computation, and helps you to master asynchronous I/O with Python 3.6 to improve performance. Finally, Daniel will teach you the secrets of metaprogramming and unit testing in Python, helping you acquire the perfect skillset to be a Python expert. Daniel will get you up to speed on everything from basic programming practices to high-end tools and techniques, things that will help set you apart as a successful Python programmer. Style and Approach Daniel Arbuckle's Mastering Python covers basic to advanced-level concepts in computer science. If you are a beginner, then Daniel will help you get started. If you are experienced, he will expand your

Over 80 object-oriented recipes to help you create mind-blowing GUIs in Python About This Book Use object-oriented programming to develop amazing GUIs in Python Create a working GUI project as a central resource for developing your Python GUIs Packed with easy-to-follow recipes to help you develop code using the latest released version of Python Who This Book Is For If you are a Python programmer with intermediate level knowledge of GUI programming and want to learn how to create beautiful, effective, and responsive GUIs using the freely available Python GUI frameworks, this book is for you. What You Will Learn Create amazing GUIs with Python's built-in Tkinter module Customize the GUIs by using layout managers to arrange the GUI widgets Advance to an object-oriented programming style using Python Develop

beautiful charts using the free Matplotlib
Python module Use threading in a
networked environment to make the GUIs
responsive Discover ways to connect the
GUIs to a database Understand how unit
tests can be created and internationalize
the GUI Extend the GUIs with free Python
frameworks using best practices In Detail
Python is a multi-domain, interpreted
programming language. It is a widely used
general-purpose, high-level programming
language. It is often used as a scripting
language because of its forgiving syntax
and compatibility with a wide variety of
different eco-systems. Its flexible syntax
enables developers to write short scripts
while at the same time, they can use object-
oriented concepts to develop very large
projects. Python GUI Programming
Cookbook follows a task-based approach
to help you create beautiful and very
effective GUIs with the least amount of

code necessary. This book uses the simplest programming style, using the fewest lines of code to create a GUI in Python, and then advances to using object-oriented programming in later chapters. If you are new to object-oriented programming (OOP), this book will teach you how to take advantage of the OOP coding style in the context of creating GUIs written in Python. Throughout the book, you will develop an entire GUI application, building recipe upon recipe, connecting the GUI to a database. In the later chapters, you will explore additional Python GUI frameworks, using best practices. You will also learn how to use threading to ensure your GUI doesn't go unresponsive. By the end of the book, you will be an expert in Python GUI programming to develop a common set of GUI applications. Style and approach Every recipe in this programming

cookbook solves a problem you might encounter in your programming career. At the same time, most of the recipes build on each other to create an entire, real-life GUI application.

Nowadays, configuring a network and automating security protocols are quite difficult to implement. However, using Python makes it easy to automate this whole process. This book explains the process of using Python for building networks, detecting network errors, and performing different security protocols using Python Scripting.

Being familiar with object-oriented design is an essential part of programming in Python. This new edition includes all the topics that made Python Object-Oriented Programming an instant Packt classic. Moreover, it's packed with updated content to reflect more recent changes in the core Python libraries and cover

modern third-party packages.
A fun, project-based guide to learning
Python 3 while building real-world apps
Javascript: Object Oriented Programming
Clear, Concise, and Effective
Programming
Mastering Python
Practical Object-oriented Design in Ruby
Mastering Object-Oriented Programming
with Python
Become an expert in
implementing advanced,
network-related tasks with
Python. About This Book
Build the skills to
perform all networking
tasks using Python with
ease Use Python for
network device automation,
DevOps, and software-
defined networking Get

practical guidance to networking with Python Who This Book Is For If you are a network engineer or a programmer who wants to use Python for networking, then this book is for you. A basic familiarity with networking-related concepts such as TCP/IP and a familiarity with Python programming will be useful. What You Will Learn Review all the fundamentals of Python and the TCP/IP suite Use Python to execute commands when the device does not support the API or programmatic interaction

with the device Implement
automation techniques by
integrating Python with
Cisco, Juniper, and Arista
eAPI Integrate Ansible
using Python to control
Cisco, Juniper, and Arista
networks Achieve network
security with Python Build
Flask-based web-service
APIs with Python Construct
a Python-based migration
plan from a legacy to
scalable SDN-based
network. In Detail This
book begins with a review
of the TCP/ IP protocol
suite and a refresher of
the core elements of the
Python language. Next, you

will start using Python and supported libraries to automate network tasks from the current major network vendors. We will look at automating traditional network devices based on the command-line interface, as well as newer devices with API support, with hands-on labs. We will then learn the concepts and practical use cases of the Ansible framework in order to achieve your network goals. We will then move on to using Python for DevOps, starting with using open source tools to

test, secure, and analyze your network. Then, we will focus on network monitoring and visualization. We will learn how to retrieve network information using a polling mechanism, ?ow-based monitoring, and visualizing the data programmatically. Next, we will learn how to use the Python framework to build your own customized network web services. In the last module, you will use Python for SDN, where you will use a Python-based controller with OpenFlow in a hands-on lab

to learn its concepts and applications. We will compare and contrast OpenFlow, OpenStack, OpenDaylight, and NFV. Finally, you will use everything you've learned in the book to construct a migration plan to go from a legacy to a scalable SDN-based network. Style and approach An easy-to-follow guide packed with hands-on examples of using Python for network device automation, DevOps, and SDN.

While other books only touch on the subject, this book is designed to

provide in-depth guidance so that the reader can become a java master. There are lots of examples as this book guides the reader from a beginner to advanced level. The reader will learn: Chapter 1: Java Basics Chapter 2: Java Data Structures and Algorithms Chapter 3: Java Web Development Chapter 4: Java GUI Programming Chapter 5: Object-Oriented Programming Chapter 6: Java Interview Questions Build robust and maintainable applications with object-oriented programming in Python

About This Video Write
your own logging classes
and documentation and unit-
test your code Use
Python's special methods
to integrate seamlessly
with built-in features and
the Standard library
Design classes to support
object persistence in
JSON, YAML, Pickle, CSV,
XML, Shelve, and SQL In
Detail Object-oriented
programming--combined with
Python's flexibility and
power and accompanied by
improvements in design,
coding, and software
maintenance--makes
difficult tasks much more

manageable. This course offers deep insights into object-oriented programming (OOP) to help you develop expert-level, object-oriented Python skills. Starting with a detailed analysis of object-oriented analysis and design, you will quickly master classes, data encapsulation, inheritance, polymorphism, abstraction, and exceptions. We show you how to use JSON, YAML, Pickle, CSV, XML, Shelve, and SQL to create persistent objects and transmit objects between

processes. We iterate over collections, using properties and class methods; explore closures and mix-ins; and command-line arguments. By the end of this course, you will find that programming in OOP clears the mind and makes your code reusable, readable, and extendable as well as easy to maintain. Beginning by looking at a range of design patterns for the _init_() method, you will learn how to effectively use a range of Python's special methods to create classes that integrate

with Python's built-in features, and find detailed explorations and demonstrations of callables and contexts, containers and collections, numbers and decorators, and mixins, with a focus on best practices for effective and successful design. The video also features information that demonstrates how to create persistent objects using JSON, YAML, Pickle, CSV, XML, Shelve, and SQL and shows you how to transmit objects between processes. Going further into OOP,

you'll find expert information on logging, warnings, unit testing, and working with the command line. Structured in 3 parts to make OOP's complexity more manageable (Pythonic Classes via Special Methods; Persistence, Serialization, and Testing; and, Debugging, Deploying, and Maintaining), this course provides deep insights into OOP that will help you develop expert-level, object-oriented Python skills. Downloading the example code for this

course: You can download the example code files for this course on GitHub at t...

An advanced guide to creating powerful high-performance GUIs for modern, media-rich applications in various domains such as business and game development Key FeaturesGain comprehensive knowledge of Python GUI development using PyQt 5.12Explore advanced topics including multithreaded programming, 3D animation, and SQL databasesBuild cross-platform GUIs for Windows,

macOS, Linux, and Raspberry PiBook Description PyQt5 has long been the most powerful and comprehensive GUI framework available for Python, yet there is a lack of cohesive resources available to teach Python programmers how to use it. This book aims to remedy the problem by providing comprehensive coverage of GUI development with PyQt5. You will get started with an introduction to PyQt5, before going on to develop stunning GUIs with modern features. You will then

learn how to build forms using QWidgets and learn about important aspects of GUI development such as layouts, size policies, and event-driven programming. Moving ahead, you'll discover PyQt5's most powerful features through chapters on audio-visual programming with QtMultimedia, database-driven software with QtSQL, and web browsing with QtWebEngine. Next, in-depth coverage of multithreading and asynchronous programming will help you run tasks asynchronously and build

high-concurrency processes with ease. In later chapters, you'll gain insights into QOpenGLWidget, along with mastering techniques for creating 2D graphics with QPainter. You'll also explore PyQt on a Raspberry Pi and interface it with remote systems using QtNetwork. Finally, you will learn how to distribute your applications using setuptools and PyInstaller. By the end of this book, you will have the skills you need to develop robust GUI

applications using PyQt.
What you will learnGet to
grips with the inner
workings of PyQt5Learn how
elements in a GUI
application communicate
with signals and
slotsLearn techniques for
styling an
applicationExplore
database-driven
applications with the
QtSQL moduleCreate 2D
graphics with
QPainterDelve into 3D
graphics with
QOpenGLWidgetBuild network
and web-aware applications
with QtNetwork and
QtWebEngineWho this book

is for This book is for programmers who want to create attractive, functional, and powerful GUIs using the Python language. You'll also find this book useful if you are a student, professional, or anyone who wants to start exploring GUIs or take your skills to the next level. Although prior knowledge of the Python language is assumed, experience with PyQt, Qt, or GUI programming is not required.
Functional Python
Programming

Mastering Python Data
Analysis
Mastering Object-oriented
Python
A Beginner's Guide
Mastering Java
The Rust Programming
Language (Covers Rust
2O18)

The financial industry has recently adopted Python at a tremendous rate, with some of the largest investment banks and hedge funds using it to build core trading and risk management systems. Updated for Python 3, the second edition of this hands-on book helps you get started with the language, guiding developers and quantitative

analysts through Python libraries and tools for building financial applications and interactive financial analytics. Using practical examples throughout the book, author Yves Hilpisch also shows you how to develop a full-fledged framework for Monte Carlo simulation-based derivatives and risk analytics, based on a large, realistic case study. Much of the book uses interactive IPython Notebooks.
The latest in modern Python recipes for the busy modern programmer About This Book Develop succinct, expressive programs in Python Learn the best practices and common idioms through carefully

explained and structured recipes Discover new ways to apply Python for the new age of development Who This Book Is For The book is for web developers, programmers, enterprise programmers, engineers, big data scientist, and so on. If you are a beginner, Python Cookbook will get you started. If you are experienced, it will expand your knowledge base. A basic knowledge of programming would help. What You Will Learn See the intricate details of the Python syntax and how to use it to your advantage Improve your code readability through functions in Python Manipulate data effectively

using built-in data structures Get acquainted with advanced programming techniques in Python Equip yourself with functional and statistical programming features Write proper tests to be sure a program works as advertised Integrate application software using Python In Detail Python is the preferred choice of developers, engineers, data scientists, and hobbyists everywhere. It is a great scripting language that can power your applications and provide great speed, safety, and scalability. By exposing Python as a series of simple recipes, you can gain insight into specific language features in a particular

context. Having a tangible context helps make the language or standard library feature easier to understand. This book comes with over 100 recipes on the latest version of Python. The recipes will benefit everyone ranging from beginner to an expert. The book is broken down into 13 chapters that build from simple language concepts to more complex applications of the language. The recipes will touch upon all the necessary Python concepts related to data structures, OOP, functional programming, as well as statistical programming. You will get acquainted with the nuances of Python syntax and how to

effectively use the advantages that it offers. You will end the book equipped with the knowledge of testing, web services, and configuration and application integration tips and tricks. The recipes take a problem-solution approach to resolve issues commonly faced by Python programmers across the globe. You will be armed with the knowledge of creating applications with flexible logging, powerful configuration, and command-line options, automated unit tests, and good documentation. Style and approach This book takes a recipe-based approach, where each recipe addresses specific

problems and issues. The recipes provide discussions and insights and an explanation of the problems. Gain comprehensive insights into programming practices, and code portability and reuse to build flexible and maintainable apps using object-oriented principles Key Features Extend core OOP techniques to increase integration of classes created with Python Explore various Python libraries for handling persistence and object serialization Learn alternative approaches for solving programming problems, with different attributes to address your problem domain Book Description Object-

oriented programming (OOP) is a relatively complex discipline to master, and it can be difficult to see how general principles apply to each language's unique features. With the help of the latest edition of Mastering Objected-Oriented Python, you'll be shown how to effectively implement OOP in Python, and even explore Python 3.x. Complete with practical examples, the book guides you through the advanced concepts of OOP in Python, and demonstrates how you can apply them to solve complex problems in OOP. You will learn how to create high-quality Python programs by exploring design

alternatives and determining which design offers the best performance. Next, you'll work through special methods for handling simple object conversions and also learn about hashing and comparison of objects. As you cover later chapters, you'll discover how essential it is to locate the best algorithms and optimal data structures for developing robust solutions to programming problems with minimal computer processing. Finally, the book will assist you in leveraging various Python features by implementing object-oriented designs in your programs. By the end of this book, you will have

learned a number of alternate approaches with different attributes to confidently solve programming problems in Python. What you will learn Explore a variety of different design patterns for the __init__() method Learn to use Flask to build a RESTful web service Discover SOLID design patterns and principles Use the features of Python 3's abstract base Create classes for your own applications Design testable code using pytest and fixtures Understand how to design context managers that leverage the 'with' statement Create a new type of collection using standard library and design techniques

Develop new number types above and beyond the built-in classes of numbers Who this book is for This book is for developers who want to use Python to create efficient programs. A good understanding of Python programming is required to make the most out of this book. Knowledge of concepts related to object-oriented design patterns will also be useful.
C++ was created as a superset of C, retaining C's efficiency and notational ease but adding type checking, data abstraction, operator overloading, and object-oriented programming capabilities. C++ is still a

popular programming language because of its versatility. Unlike most other programming languages, C++ has been able to adapt as its demands have changed, allowing it to remain relevant, contemporary, and essential. C++, unlike other languages, is flexible and has evolved quickly to meet the demands of programmers and software. It is now one of the most excellent options for rapid applications, with alternatives such as Rust or Perl severely missing ecosystem support for many use cases. More important, C++ is a programming language with varied uses. Knowing how to write code in C++ can help

you understand how software and hardware interact. This is valuable information to have regardless of which path you take in technology. If you want to work in technology, C++ is an excellent language to learn. In this book, you will discover a brief introduction to C++, memory management, C++ functions, preprocessing and compilation, coroutines, and lazy generators. Mastering C++ Programming Language: A Beginner's Guide sets the standard for C++ learning while solving the problems given in a typical C++ scenario. This book explores the design, portability, and efficiency of C++ applications

in the real world. Mastering C++ Programming Language offers an outstanding supply of tested, usable, and documented C++ code by providing complete, functional solutions to each problem and paying close attention to efficiency and portability. As a beginner's guide, Mastering C++ Programming Language contains several examples and substantial code to aid all programmers who wish to expand their C++ language skills. As a result, Mastering C++ Programming Language offers at-length reading for students and professionals interested in the most recent advances in C++. It includes

models that are particularly useful for individuals studying the language on their own. Plus, it also discusses the recent updates to the C++ language by comparing different versions and the various standards that are currently in use. Mastering C++ Programming Language is an ideal beginner's companion for learning the fantastic programming language that is C++. If you are looking to quickly and efficiently learn C++ coding, this is the ultimate book for you! Learn more about our other Mastering titles at: http s://www.routledge.com/Maste ring-Computer-Science/book-series/MCS

Build robust and maintainable object-oriented Python applications and libraries, 4th Edition

Mastering Python Networking

Recipes for Mastering Python 3

Powerful Object-Oriented Programming

Discover the power of functional programming, generator functions, lazy evaluation, the built-in itertools library, and monads, 2nd Edition

Object-oriented Programming in Python

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.

This is a tutorial-driven and practical, but well-grounded book showcasing good Machine Learning practices. There will be an emphasis on using existing technologies instead of showing how to write your own implementations of algorithms. This book is a scenario-based, example-driven tutorial. By the end of the book you will have learnt critical aspects of Machine Learning Python projects and experienced the power of ML-

based systems by actually working on them.This book primarily targets Python developers who want to learn about and build Machine Learning into their projects, or who want to pro.
Power up your Python with object-oriented programming and learn how to write powerful, efficient, and re-usable code. Object-Oriented Python is an intuitive and thorough guide to mastering object-oriented programming from the ground up. You'll cover the basics of building classes and creating objects, and put theory into practice using the pygame

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.
Python 3 Object-oriented
Programming
Modern Python Cookbook