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DUA6FP - BYRON AYERS

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

I was very frustrated with IT Books. The main issue with all book dealing with Python is poorly-leveled. So I've tried to make a book for everyone. You don't need any background to understand it. Python is

for everyone.

Now in the 5th edition, Cracking the Coding Interview gives you the interview preparation you need to get the top software developer jobs. This book provides: 150 Programming Interview Questions and Solutions: From binary trees to binary search, this list of 150 questions includes the most common and most useful questions in data structures, algorithms, and knowledge based questions. 5 Algorithm Approaches: Stop being blind-sided by tough algorithm questions, and learn these five approaches to tackle the trickiest problems. Behind the Scenes of the inter-

view processes at Google, Amazon, Microsoft, Facebook, Yahoo, and Apple: Learn what really goes on during your interview day and how decisions get made. Ten Mistakes Candidates Make -- And How to Avoid Them: Don't lose your dream job by making these common mistakes. Learn what many candidates do wrong, and how to avoid these issues. Steps to Prepare for Behavioral and Technical Questions: Stop meandering through an endless set of questions, while missing some of the most important preparation techniques. Follow these steps to more thoroughly prepare in less time.

This book covers the fundamentals of machine learning with Python in a concise and dynamic manner. It covers data mining and large-scale machine learning using Apache Spark. About This Book Take your first steps in the world of data science by understanding the tools and techniques of data analysis Train efficient Machine Learning models in Python using the supervised and unsupervised learning methods Learn how to use Apache Spark for processing Big Data efficiently Who This Book Is For you are a budding data scientist or a data analyst who wants to analyze and gain ac-

tionable insights from data using Python, this book is for you. Programmers with some experience in Python who want to enter the lucrative world of Data Science will also find this book to be very useful, but you don't need to be an expert Python coder or mathematician to get the most from this book. What You Will Learn Learn how to clean your data and ready it for analysis Implement the popular clustering and regression methods in Python Train efficient machine learning models using decision trees and random forests Visualize the results of your analysis using Python's Matplotlib library Use Apache Spark's MLlib package to perform machine learning on large datasets In Detail Join Frank Kane, who worked on Amazon and IMDb's machine learning algorithms, as he guides you on your first steps into the world of data science. Hands-On Data Science and Python Machine Learning gives you the tools that you need to understand and explore the core topics in the field, and the confidence and practice to build and analyze your own machine learning models. With the help of interesting and easy-to-follow practical examples, Frank Kane explains potentially complex topics such as

Bayesian methods and K-means clustering in a way that anybody can understand them. Based on Frank's successful data science course, Hands-On Data Science and Python Machine Learning empowers you to conduct data analysis and perform efficient machine learning using Python. Let Frank help you unearth the value in your data using the various data mining and data analysis techniques available in Python, and to develop efficient predictive models to predict future results. You will also learn how to perform large-scale machine learning on Big Data using Apache Spark. The book covers preparing your data for analysis, training machine learning models, and visualizing the final data analysis. Style and approach This comprehensive book is a perfect blend of theory and hands-on code examples in Python which can be used for your reference at any time.

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 in-

terest 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

How do you take your data analysis skills beyond Excel to the next level? By learning just enough Python to get stuff done. This hands-on guide shows non-programmers like you how to process information that's initially too messy or difficult to access. You don't need to know a thing

about the Python programming language to get started. Through various step-by-step exercises, you'll learn how to acquire, clean, analyze, and present data efficiently. You'll also discover how to automate your data process, schedule file-editing and clean-up tasks, process larger datasets, and create compelling stories with data you obtain. Quickly learn basic Python syntax, data types, and language concepts. Work with both machine-readable and human-consumable data. Scrape websites and APIs to find a bounty of useful information. Clean and format data to eliminate duplicates and errors in your datasets. Learn when to standardize data and when to test and script data cleanup. Explore and analyze your datasets with new Python libraries and techniques. Use Python solutions to automate your entire data-wrangling process.

Thorsten and Isaac have written this book based on a programming course we teach for Master's Students at the School of Computer Science of the University of Nottingham. The book is intended for students with little or no background in programming coming from different backgrounds educationally as well as culturally. It is not

mainly a Python course but we use Python as a vehicle to teach basic programming concepts. Hence, the words conceptual programming in the title. We cover basic concepts about data structures, imperative programming, recursion and backtracking, object-oriented programming, functional programming, game development and some basics of data science.

In *Python from the Very Beginning* John Whittington takes a no-prerequisites approach to teaching the basics of a modern general-purpose programming language. Each small, self-contained chapter introduces a new topic, building until the reader can write quite substantial programs. There are plenty of questions and, crucially, worked answers and hints. *Python from the Very Beginning* will appeal both to new programmers, and to experienced programmers eager to explore functional languages such as Haskell. It is suitable both for formal use within an undergraduate or graduate curriculum, and for the interested amateur.

This book is designed to introduce students to programming and computational thinking through the lens of exploring da-

ta. You can think of Python as your tool to solve problems that are far beyond the capability of a spreadsheet. It is an easy-to-use and easy-to-learn programming language that is freely available on Windows, Macintosh, and Linux computers. There are free downloadable copies of this book in various electronic formats and a self-paced free online course where you can explore the course materials. All the supporting materials for the book are available under open and remixable licenses at the www.py4inf.com web site. This book is designed to teach people to program even if they have no prior experience. This book covers Python 2. An updated version of this book that covers Python 3 is available and is titled, "*Python for Everybody: Exploring Data in Python 3*".

For courses in Java programming. A clear and student-friendly way to teach the fundamentals of Java. *Starting Out with Java: Early Objects*, 6th Edition features Tony Gaddis's accessible, step-by-step presentation which helps beginning students understand the important details necessary to become skilled programmers at an introductory level. Gaddis motivates the study of both programming skills and the Java

programming language by presenting all the details needed to understand the "how" and the "why"-but never losing sight of the fact that most beginners struggle with this material. His approach is gradual and highly accessible, ensuring that students understand the logic behind developing high-quality programs. In *Starting Out with Java: Early Objects*, Gaddis looks at objects—the fundamentals of classes and methods—before covering procedural programming. As with all Gaddis texts, clear and easy-to-read code listings, concise and practical real world examples, and an abundance of exercises appear in every chapter. Updates to the 6th Edition include revised, improved problems throughout and three new chapters on JavaFX. Also Available with MyLabProgramming. MyLab(tm)Programming is an online learning system designed to engage students and improve results. MyLabProgramming consists of programming exercises correlated to the concepts and objectives in this book. Through practice exercises and immediate, personalized feedback, MyLab Programming improves the programming competence of beginning students who often struggle with the basic concepts of pro-

gramming languages. Note: You are purchasing a standalone product; MyLab(tm)Programming does not come packaged with this content. Students, if interested in purchasing this title with MyLab(tm)Programming, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If you would like to purchase both the physical text and MyLab(tm)Programming, search for: 0134543653 / 9780134543659 *Starting Out with Java: Early Objects Plus MyProgrammingLab* with Pearson eText -- Access Card Package, 6/e Package consists of: 0134447174 / 9780134447179 *MyProgrammingLab* with Pearson eText -- Access Card -- for *Starting Out with Java: Early Objects* 0134462017 / 9780134462011 *Starting Out with Java: Early Objects* Students can use the URL and phone number below to help answer their questions: <http://247pearsoned.custhelp.com/app/home> 800-677-6337

For many researchers, Python is a first-class tool mainly because of its libraries for storing, manipulating, and gaining insight from data. Several resources exist for individual pieces of this data science

stack, but only with the Python Data Science Handbook do you get them all—IPython, NumPy, Pandas, Matplotlib, Scikit-Learn, and other related tools. Working scientists and data crunchers familiar with reading and writing Python code will find this comprehensive desk reference ideal for tackling day-to-day issues: manipulating, transforming, and cleaning data; visualizing different types of data; and using data to build statistical or machine learning models. Quite simply, this is the must-have reference for scientific computing in Python. With this handbook, you'll learn how to use: IPython and Jupyter: provide computational environments for data scientists using Python NumPy: includes the ndarray for efficient storage and manipulation of dense data arrays in Python Pandas: features the DataFrame for efficient storage and manipulation of labeled/columnar data in Python Matplotlib: includes capabilities for a flexible range of data visualizations in Python Scikit-Learn: for efficient and clean Python implementations of the most important and established machine learning algorithms Manipulate and analyze network data with the power of Python and NetworkX Key

Features Understand the terminology and basic concepts of network science Leverage the power of Python and NetworkX to represent data as a network Apply common techniques for working with network data of varying sizes Book Description NetworkX is a leading free and open source package used for network science with the Python programming language. NetworkX can track properties of individuals and relationships, find communities, analyze resilience, detect key network locations, and perform a wide range of important tasks. With the recent release of version 2, NetworkX has been updated to be more powerful and easy to use. If you're a data scientist, engineer, or computational social scientist, this book will guide you in using the Python programming language to gain insights into real-world networks. Starting with the fundamentals, you'll be introduced to the core concepts of network science, along with examples that use real-world data and Python code. This book will introduce you to theoretical concepts such as scale-free and small-world networks, centrality measures, and agent-based modeling. You'll also be able to look for scale-free networks in real data and visualize a

network using circular, directed, and shell layouts. By the end of this book, you'll be able to choose appropriate network representations, use NetworkX to build and characterize networks, and uncover insights while working with real-world systems. What you will learn Use Python and NetworkX to analyze the properties of individuals and relationships Encode data in network nodes and edges using NetworkX Manipulate, store, and summarize data in network nodes and edges Visualize a network using circular, directed and shell layouts Find out how simulating behavior on networks can give insights into real-world problems Understand the ongoing impact of network science on society, and its ethical considerations Who this book is for If you are a programmer or data scientist who wants to manipulate and analyze network data in Python, this book is perfect for you. Although prior knowledge of network science is not necessary, some Python programming experience will help you understand the concepts covered in the book easily.

The only way to master a skill is to practice. In Python Workout, author Reuven M.

Lerner guides you through 50 carefully selected exercises that invite you to flex your programming muscles. As you take on each new challenge, you'll build programming skill and confidence. Summary The only way to master a skill is to practice. In Python Workout, author Reuven M. Lerner guides you through 50 carefully selected exercises that invite you to flex your programming muscles. As you take on each new challenge, you'll build programming skill and confidence. The thorough explanations help you lock in what you've learned and apply it to your own projects. Along the way, Python Workout provides over four hours of video instruction walking you through the solutions to each exercise and dozens of additional exercises for you to try on your own. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology To become a champion Python programmer you need to work out, building mental muscle with your hands on the keyboard. Each carefully selected exercise in this unique book adds to your Python prowess—one important skill at a time. About the book Python Workout presents

50 exercises that focus on key Python 3 features. In it, expert Python coach Reuven Lerner guides you through a series of small projects, practicing the skills you need to tackle everyday tasks. You'll appreciate the clear explanations of each technique, and you can watch Reuven solve each exercise in the accompanying videos. What's inside

50 hands-on exercises and solutions
Coverage of all Python data types
Dozens more bonus exercises for extra practice
About the reader For readers with basic Python knowledge.
About the author Reuven M. Lerner teaches Python and data science to companies around the world.

Table of Contents

- 1 Numeric types
- 2 Strings
- 3 Lists and tuples
- 4 Dictionaries and sets
- 5 Files
- 6 Functions
- 7 Functional programming with comprehensions
- 8 Modules and packages
- 9 Objects
- 10 Iterators and generators

Dive into Bitcoin technology with this hands-on guide from one of the leading teachers on Bitcoin and Bitcoin programming. Author Jimmy Song shows Python programmers and developers how to program a Bitcoin library from scratch. You'll learn how to work with the basics, including the math, blocks, network, and transactions

behind this popular cryptocurrency and its blockchain payment system. By the end of the book, you'll understand how this cryptocurrency works under the hood by coding all the components necessary for a Bitcoin library. Learn how to create transactions, get the data you need from peers, and send transactions over the network. Whether you're exploring Bitcoin applications for your company or considering a new career path, this practical book will get you started. Parse, validate, and create bitcoin transactions Learn Script, the smart contract language behind Bitcoin Do exercises in each chapter to build a Bitcoin library from scratch Understand how proof-of-work secures the blockchain Program Bitcoin using Python 3 Understand how simplified payment verification and light wallets work Work with public-key cryptography and cryptographic primitives Tony Gaddis introduces students to the basics of programming and prepares them to transition into more complicated languages. Python, an easy-to-learn and increasingly popular object-oriented language, allows readers to become comfortable with the fundamentals of programming without troublesome syntax.

Unsure where to get started with coding? Worried that learning a coding language will be too hard? Or do you want to learn the easiest programming language? Learning how to start with a new coding language is not always as easy as it may seem, and some beginners are worried that working in this kind of language is going to be difficult and they give up before trying. Maybe you have heard horror stories from those who tried to coding in the past, and nothing worked. The truth is... Python does work, and it is as simple as it seems! Python Programming is going to take the time to teach you, whether you are a total beginner or have worked with some coding in the past, how to handle the Python language and how to make it work for your needs. We will look not only at what this language is but give you some practical examples that can help you to start coding in this language in no time. You will learn: Why Python is Considered One of the Best Languages to Learn as a Beginner Step-by-Step Instructions to Download & Install Python language on Windows, Mac, and Linux 5 Common Mistakes to Avoid when You Start Coding Basics of Python Programming that Will Allow

You to Write your First Program in No Time How to Handle Strings, Operators, Conditional Statements The One Thing You Need to Debug your Codes in Python Practical Exercises to Quickly Get Practice Simple Strategies to Write Clean, Understandable and Flexible Code With the help of Python Programming, you will be able to learn more about how coding in this language works, and how even someone with no coding experience can make it work. Keep in mind that you can never compare a well-structured guide, with free online resources like Youtube videos and Blogs (mostly out-dated). Whether you're completely new to programming or you are looking for a new language to expand your skills, you will find this book an invaluable tool for starting and mastering programming in Python. Would You Like to Know More? Get this Book Now to Master Python Programming!

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

"This book uses the Python language to teach programming concepts and problem-solving skills, without assuming any previous programming experience. With easy-to-understand examples, pseudocode, flowcharts, and other tools, the student learns how to design the logic of programs then implement those programs using Python. This book is ideal for an introductory programming course or a programming logic and design course using Python as the language"--

Python Crash Course is a fast-paced, thorough introduction to Python that will have you writing programs, solving problems, and making things that work in no time. In the first half of the book, you'll learn about basic programming concepts, such as lists, dictionaries, classes, and loops, and practice writing clean and readable code with exercises for each topic. You'll also learn how to make your programs interactive and how to test your code safely before ad-

ding it to a project. In the second half of the book, you'll put your new knowledge into practice with three substantial projects: a Space Invaders-inspired arcade game, data visualizations with Python's super-handly libraries, and a simple web app you can deploy online. As you work through Python Crash Course you'll learn how to:

- Use powerful Python libraries and tools, including matplotlib, NumPy, and Pygal
- Make 2D games that respond to keypresses and mouse clicks, and that grow more difficult as the game progresses
- Work with data to generate interactive visualizations
- Create and customize Web apps and deploy them safely online
- Deal with mistakes and errors so you can solve your own programming problems

If you've been thinking seriously about digging into programming, Python Crash Course will get you up to speed and have you writing real programs fast. Why wait any longer? Start your engines and code! Uses Python 2 and 3

If you understand basic mathematics and know how to program with Python, you're ready to dive into signal processing. While most resources start with theory to teach this complex subject, this practical book in-

troduces techniques by showing you how they're applied in the real world. In the first chapter alone, you'll be able to decompose a sound into its harmonics, modify the harmonics, and generate new sounds. Author Allen Downey explains techniques such as spectral decomposition, filtering, convolution, and the Fast Fourier Transform. This book also provides exercises and code examples to help you understand the material. You'll explore:

- Periodic signals and their spectrums
- Harmonic structure of simple waveforms
- Chirps and other sounds whose spectrum changes over time
- Noise signals and natural sources of noise
- The autocorrelation function for estimating pitch
- The discrete cosine transform (DCT) for compression
- The Fast Fourier Transform for spectral analysis
- Relating operations in time to filters in the frequency domain
- Linear time-invariant (LTI) system theory
- Amplitude modulation (AM) used in radio

Other books in this series include Think Stats and Think Bayes, also by Allen Downey.

Summary Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras li-

brary. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. We went from near-unusable speech and image recognition, to near-human accuracy. We went from machines that couldn't beat a serious Go player, to defeating a world champion. Behind this progress is deep learning—a combination of engineering advances, best practices, and theory that enables a wealth of previously impossible smart applications. About the Book Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. You'll explore challenging concepts and practice with applications in computer vision, natural-language processing, and generative models. By the time you finish, you'll have

the knowledge and hands-on skills to apply deep learning in your own projects. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image-classification models Deep learning for text and sequences Neural style transfer, text generation, and image generation About the Reader Readers need intermediate Python skills. No previous experience with Keras, TensorFlow, or machine learning is required. About the Author François Chollet works on deep learning at Google in Mountain View, CA. He is the creator of the Keras deep-learning library, as well as a contributor to the TensorFlow machine-learning framework. He also does deep-learning research, with a focus on computer vision and the application of machine learning to formal reasoning. His papers have been published at major conferences in the field, including the Conference on Computer Vision and Pattern Recognition (CVPR), the Conference and Workshop on Neural Information Processing Systems (NIPS), the International Conference on Learning Representations (ICLR), and others. Table of Contents PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning? Before we begin: the

mathematical building blocks of neural networks Getting started with neural networks Fundamentals of machine learning PART 2 - DEEP LEARNING IN PRACTICE Deep learning for computer vision Deep learning for text and sequences Advanced deep-learning best practices Generative deep learning Conclusions appendix A - Installing Keras and its dependencies on Ubuntu appendix B - Running Jupyter notebooks on an EC2 GPU instance

This book is suitable for use in a university-level first course in computing (CS1), as well as the increasingly popular course known as CS0. It is difficult for many students to master basic concepts in computer science and programming. A large portion of the confusion can be blamed on the complexity of the tools and materials that are traditionally used to teach CS1 and CS2. This textbook was written with a single overarching goal: to present the core concepts of computer science as simply as possible without being simplistic.

Get ready to take on Python with a practical and job-focused guide Job Ready Python offers readers a straightforward and elegant approach to learning Python that emphasizes hands-on and employable

skills you can apply to real-world environments immediately. Based on the renowned mthree Global Academy and Software Guild training program, this book will get you up to speed in the basics of Python, loops and data structures, object-oriented programming, and data processing. You'll also get: Thorough discussions of Extract, Transform, and Load (ETL) scripting in Python Explorations of databases, including MySQL, and MongoDB—all commonly used database platforms in the field Simple, step-by-step approaches to dealing with dates and times, CSV files, and JSON files Ideal for Python newbies looking to make a transition to an exciting new career, Job Ready Python also belongs on the bookshelves of Python developers hoping to brush up on the fundamentals with an authoritative and practical new handbook.

The second edition of this best-selling Python book (over 500,000 copies sold!) uses Python 3 to teach even the technically uninclined how to write programs that do in minutes what would take hours to do by hand. There is no prior programming experience required and the book is loved by liberal arts majors and geeks alike. If

you've ever spent hours renaming files or updating hundreds of spreadsheet cells, you know how tedious tasks like these can be. But what if you could have your computer do them for you? In this fully revised second edition of the best-selling classic *Automate the Boring Stuff with Python*, you'll learn how to use Python to write programs that do in minutes what would take you hours to do by hand--no prior programming experience required. You'll learn the basics of Python and explore Python's rich library of modules for performing specific tasks, like scraping data off websites, reading PDF and Word documents, and automating clicking and typing tasks. The second edition of this international fan favorite includes a brand-new chapter on input validation, as well as tutorials on automating Gmail and Google Sheets, plus tips on automatically updating CSV files. You'll learn how to create programs that effortlessly perform useful feats of automation to:

- Search for text in a file or across multiple files
- Create, update, move, and rename files and folders
- Search the Web and download online content
- Update and format data in Excel spreadsheets of any size
- Split, merge, watermark, and en-

crypt PDFs

- Send email responses and text notifications
- Fill out online forms

Step-by-step instructions walk you through each program, and updated practice projects at the end of each chapter challenge you to improve those programs and use your newfound skills to automate similar tasks. Don't spend your time doing work a well-trained monkey could do. Even if you've never written a line of code, you can make your computer do the grunt work. Learn how in *Automate the Boring Stuff with Python, 2nd Edition*.

This student-friendly textbook encourages the development of programming skills through active practice by focusing on exercises that support hands-on learning. The Python Workbook provides a compendium of 186 exercises, spanning a variety of academic disciplines and everyday situations. Solutions to selected exercises are also provided, supported by brief annotations that explain the technique used to solve the problem, or highlight a specific point of Python syntax. This enhanced new edition has been thoroughly updated and expanded with additional exercises, along with concise introductions that outline the

core concepts needed to solve them. The exercises and solutions require no prior background knowledge, beyond the material covered in a typical introductory Python programming course. Features: uses an accessible writing style and easy-to-follow structure; includes a mixture of classic exercises from the fields of computer science and mathematics, along with exercises that connect to other academic disciplines; presents the solutions to approximately half of the exercises; provides annotations alongside the solutions, which explain the approach taken to solve the problem and relevant aspects of Python syntax; offers a variety of exercises of different lengths and difficulties; contains exercises that encourage the development of programming skills using if statements, loops, basic functions, lists, dictionaries, files, and recursive functions. Undergraduate students enrolled in their first programming course and wishing to enhance their programming abilities will find the exercises and solutions provided in this book to be ideal for their needs.

The best-selling Python book in the world, with over 1 million copies sold! A fast-paced, no-nonsense, updated guide to pro-

programming in Python. If you've been thinking about learning how to code or picking up Python, this internationally bestselling guide to the most popular programming language is your quickest, easiest way to get started and go! Even if you have no experience whatsoever, Python Crash Course, 2nd Edition, will have you writing programs, solving problems, building computer games, and creating data visualizations in no time. You'll begin with basic concepts like variables, lists, classes, and loops—with the help of fun skill-strengthening exercises for every topic—then move on to making interactive programs and best practices for testing your code. Later chapters put your new knowledge into play with three cool projects: a 2D Space Invaders-style arcade game, a set of responsive data visualizations you'll build with Python's handy libraries (Pygame, Matplotlib, Plotly, Django), and a customized web app you can deploy online. Why wait any longer? Start your engine and code!

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.

Doing Math with Python shows you how to use Python to delve into high school-level

math topics like statistics, geometry, probability, and calculus. You'll start with simple projects, like a factoring program and a quadratic-equation solver, and then create more complex projects once you've gotten the hang of things. Along the way, you'll discover new ways to explore math and gain valuable programming skills that you'll use throughout your study of math and computer science. Learn how to: -Describe your data with statistics, and visualize it with line graphs, bar charts, and scatter plots -Explore set theory and probability with programs for coin flips, dicing, and other games of chance -Solve algebra problems using Python's symbolic math functions -Draw geometric shapes and explore fractals like the Barnsley fern, the Sierpinski triangle, and the Mandelbrot set -Write programs to find derivatives and integrate functions Creative coding challenges and applied examples help you see how you can put your new math and coding skills into practice. You'll write an inequality solver, plot gravity's effect on how far a bullet will travel, shuffle a deck of cards, estimate the area of a circle by throwing 100,000 "darts" at a board, explore the relationship between the Fibonac-

ci sequence and the golden ratio, and more. Whether you're interested in math but have yet to dip into programming or you're a teacher looking to bring programming into the classroom, you'll find that Python makes programming easy and practical. Let Python handle the grunt work while you focus on the math. Uses Python 3

Looking for a reliable way to learn how to program on your own, without being overwhelmed by confusing concepts? Head First Programming introduces the core concepts of writing computer programs -- variables, decisions, loops, functions, and objects -- which apply regardless of the programming language. This book offers concrete examples and exercises in the dynamic and versatile Python language to demonstrate and reinforce these concepts. Learn the basic tools to start writing the programs that interest you, and get a better understanding of what software can (and cannot) do. When you're finished, you'll have the necessary foundation to learn any programming language or tackle any software project you choose. With a focus on programming concepts, this book

teaches you how to: Understand the core features of all programming languages, including: variables, statements, decisions, loops, expressions, and operators Reuse code with functions Use library code to save time and effort Select the best data structure to manage complex data Write programs that talk to the Web Share your data with other programs Write programs that test themselves and help you avoid embarrassing coding errors We think your time is too valuable to waste struggling with new concepts. Using the latest research in cognitive science and learning theory to craft a multi-sensory learning experience, Head First Programming uses a visually rich format designed for the way your brain works, not a text-heavy approach that puts you to sleep.

Python for Software Design is a concise introduction to software design using the Python programming language. The focus is on the programming process, with special emphasis on debugging. The book includes a wide range of exercises, from short examples to substantial projects, so that students have ample opportunity to practice each new concept.

Unlock deeper insights into Machine Learn-

ing with this vital guide to cutting-edge predictive analytics About This Book Leverage Python's most powerful open-source libraries for deep learning, data wrangling, and data visualization Learn effective strategies and best practices to improve and optimize machine learning systems and algorithms Ask - and answer - tough questions of your data with robust statistical models, built for a range of datasets Who This Book Is For If you want to find out how to use Python to start answering critical questions of your data, pick up Python Machine Learning - whether you want to get started from scratch or want to extend your data science knowledge, this is an essential and unmissable resource. What You Will Learn Explore how to use different machine learning models to ask different questions of your data Learn how to build neural networks using Keras and Theano Find out how to write clean and elegant Python code that will optimize the strength of your algorithms Discover how to embed your machine learning model in a web application for increased accessibility Predict continuous target outcomes using regression analysis Uncover hidden patterns and structures in

data with clustering Organize data using effective pre-processing techniques Get to grips with sentiment analysis to delve deeper into textual and social media data In Detail Machine learning and predictive analytics are transforming the way businesses and other organizations operate. Being able to understand trends and patterns in complex data is critical to success, becoming one of the key strategies for unlocking growth in a challenging contemporary marketplace. Python can help you deliver key insights into your data - its unique capabilities as a language let you build sophisticated algorithms and statistical models that can reveal new perspectives and answer key questions that are vital for success. Python Machine Learning gives you access to the world of predictive analytics and demonstrates why Python is one of the world's leading data science languages. If you want to ask better questions of data, or need to improve and extend the capabilities of your machine learning systems, this practical data science book is invaluable. Covering a wide range of powerful Python libraries, including scikit-learn, Theano, and Keras, and featuring guidance and tips on everything from senti-

ment analysis to neural networks, you'll soon be able to answer some of the most important questions facing you and your organization. Style and approach Python Machine Learning connects the fundamental theoretical principles behind machine learning to their practical application in a way that focuses you on asking and answering the right questions. It walks you through the key elements of Python and its powerful machine learning libraries, while demonstrating how to get to grips with a range of statistical models.

ALERT: Before you purchase, check with your instructor or review your course syllabus to ensure that you select the correct ISBN. Several versions of Pearson's MyLab & Mastering products exist for each title, including customized versions for individual schools, and registrations are not transferable. In addition, you may need a CourseID, provided by your instructor, to register for and use Pearson's MyLab & Mastering products. Packages Access codes for Pearson's MyLab & Mastering products may not be included when purchasing or renting from companies other than Pearson; check with the seller before completing your purchase. Used or rental books If

you rent or purchase a used book with an access code, the access code may have been redeemed previously and you may have to purchase a new access code. Access codes Access codes that are purchased from sellers other than Pearson carry a higher risk of being either the wrong ISBN or a previously redeemed code. Check with the seller prior to purchase. --In Starting Out with C++ : From Control Structures through Objects, Brief Edition, 7e, Gaddis takes a problem-solving approach, inspiring students to understand the logic behind developing quality programs while introducing the C++ programming language. This style of teaching builds programming confidence and enhances each student's development of programming skills. This edition in the Starting Out Series covers the core programming concepts that are introduced in the first semester introductory programming course. As with all Gaddis texts, clear and easy-to-read code listings, concise and practical real-world examples, and an abundance of exercises appear in every chapter. This book includes the first 15 chapters from the best-selling Starting Out with C++: From Control Structures

through Objects, and covers the core programming concepts that are introduced in the first semester introductory programming course. MyProgrammingLab for Starting Out with C++ is a total learning package. MyProgrammingLab is an online homework, tutorial, and assessment program that truly engages students in learning. It helps students better prepare for class, quizzes, and exams-resulting in better performance in the course-and provides educators a dynamic set of tools for gauging individual and class progress. And, MyProgrammingLab comes from Pearson, your partner in providing the best digital learning experiences. ¶ Note: If you are purchasing the standalone text or electronic version, MyProgrammingLab does not come automatically packaged with the text. To purchase MyProgrammingLab, please visit: myprogramminglab.com or you can purchase a package of the physical text + MyProgrammingLab by searching for ISBN 10: 0132926865 / ISBN 13: 9780132926867.¶ MyProgrammingLab is not a self-paced technology and should only be purchased when required by an instructor.

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

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

concepts. Introduction to Python is useful for industry engineers, researchers, and students who are looking for open-source solutions for numerical computation. In this book you will learn by doing, avoiding technical jargon, which makes the concepts easy to learn. First you'll see how to run basic calculations, absorbing technical complexities incrementally as you progress toward advanced topics. Throughout, the language is kept simple to ensure that readers at all levels can grasp the concepts. What You'll Learn Understand the fundamentals of the Python programming language Apply Python to numerical computational programming projects in engineering and science Discover the Pythonic way of life Apply data types, operators, and arrays Carry out plotting for visualization Work with functions and loops Who This Book Is For Engineers, scientists, researchers, and students who are new to Python. Some prior programming experience would be helpful but not required.

If you want to learn how to program but don't know where to start, this is the right book and the right language for you. From the first page, our self-paced approach will help you build competence and confidence

in your programming skills. And Python is the best language ever for learning how to program because of its simplicity and breadth of features that are hard to find in a single language. But this isn't just a book for beginners! Our self-paced approach also works for experienced programmers, helping you learn Python faster and better than you've ever learned a language before. By the time you're through, you will have mastered the key Python skills that are needed on the job, including those for object-oriented, database, and GUI programming. To make all of this possible, section 1 presents an 8-chapter course that will get anyone off to a great start with Python. Section 2 builds on that base by presenting the other essential skills that every Python programmer should have. Section 3 shows you how to develop object-oriented programs, a critical skillset in today's world. And section 4 shows you how to apply all of the skills that you've already learned as you build database and GUI programs for the real world.

A fully updated tutorial on the basics of the Python programming language for science students Python is a computer pro-

gramming language that has gained popularity throughout the sciences. This fully updated second edition of *A Student's Guide to Python for Physical Modeling* aims to help you, the student, teach yourself enough of the Python programming language to get started with physical modeling. You will learn how to install an open-source Python programming environment and use it to accomplish many common scientific computing tasks: importing, exporting, and visualizing data; numerical analysis; and simulation. No prior programming experience is assumed. This guide introduces a wide range of useful tools, including: Basic Python programming and scripting Numerical arrays Two- and three-dimensional graphics Animation Monte Carlo simulations Numerical methods, including solving ordinary differential equations Image processing Numerous code samples and exercises—with solutions—illustrate new ideas as they are introduced. This guide also includes supplemental online resources: code samples, data sets, tutorials, and more. This edition includes new material on symbolic calculations with SymPy, an introduction to Python libraries for data science and machine learning

(pandas and sklearn), and a primer on Python classes and object-oriented programming. A new appendix also introduces command line tools and version control with Git.

This practical guide provides nearly 200 self-contained recipes to help you solve machine learning challenges you may encounter in your daily work. If you're comfortable with Python and its libraries, including pandas and scikit-learn, you'll be able to address specific problems such as loading data, handling text or numerical data, model selection, and dimensionality reduction and many other topics. Each recipe includes code that you can copy and paste into a toy dataset to ensure that it actually works. From there, you can insert, combine, or adapt the code to help construct your application. Recipes also include a discussion that explains the solution and provides meaningful context. This cookbook takes you beyond theory and concepts by providing the nuts and bolts you need to construct working machine learning applications. You'll find recipes for: Vectors, matrices, and arrays Handling numerical and categorical data, text, im-

ages, and dates and times Dimensionality reduction using feature extraction or feature selection Model evaluation and selection Linear and logical regression, trees and forests, and k-nearest neighbors Support vector machines (SVM), naïve Bayes, clustering, and neural networks Saving and loading trained models

Explore the different data mining techniques using the libraries and packages offered by Python Key Features Grasp the basics of data loading, cleaning, analysis, and visualization Use the popular Python libraries such as NumPy, pandas, matplotlib, and scikit-learn for data mining Your one-stop guide to build efficient data mining pipelines without going into too much theory Book Description Data mining is a necessary and predictable response to the dawn of the information age. It is typically defined as the pattern and/ or trend discovery phase in the data mining pipeline, and Python is a popular tool for performing these tasks as it offers a wide variety of tools for data mining. This book will serve as a quick introduction to the concept of data mining and putting it to practical use with the help of popular Python packages and libraries. You will get a hand-

son demonstration of working with different real-world datasets and extracting useful insights from them using popular Python libraries such as NumPy, pandas, scikit-learn, and matplotlib. You will then learn the different stages of data mining such as data loading, cleaning, analysis, and visualization. You will also get a full conceptual description of popular data transformation, clustering, and classification techniques. By the end of this book, you will be able to build an efficient data mining pipeline using Python without any hassle. What you will learn Explore the methods for summarizing datasets and visualizing/plotting data Collect and format data for analytical work Assign data points into groups and visualize clustering patterns Learn how to predict continuous and categorical outputs for data Clean, filter noise from, and reduce the dimensions of data Serialize a data processing model using scikit-learn's pipeline feature Deploy the data processing model using Python's pickle module Who this book is for Python developers interested in getting started with data mining will love this book. Budding data scientists and data analysts looking to quickly get to grips with practical da-

ta mining with Python will also find this book to be useful. Knowledge of Python programming is all you need to get started.

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.