Das Python3 2 Tutorial Auf Deutsch

The easy way to learn programming fundamentals with Python Python is a remarkably powerful and dynamic programming language that's used in a wide variety of application domains. Some of its key distinguishing features include a very clear, readable syntax, strong introspection capabilities, intuitive object orientation, and natural expression of procedural code. Plus, Python features full modularity, supporting hierarchical packages, exception-based error handling, and modules easily written in C, C++, Java, R, or .NET languages, such as C#. In addition, Python supports a number of coding styles that include: functional, imperative, object-oriented, and procedural. Due to its ease of use and flexibility, Python is constantly growing in popularity—and now you can wear your programming hat with pride and join the ranks of the pros with the help of this guide. Inside, expert author John Paul Mueller gives a complete step-by-step overview of all there is to know about Python. From performing common and advanced tasks, to collecting data, to interacting with package—this book covers it all! Use Python to create and run your first application Find out how to troubleshoot and fix errors Learn to work with Anaconda and use Magic Functions Benefit from completely updated and revised information since the last edition If you've never used Python or are new to programming in general, Beginning Programming with Python For Dummies is a helpful resource that will set you up for success.

Was konnen Sie mit dem Raspberry Pi machen - einem kreditkartengroen Computer zum Preis von 35 Euro? Alles! Wenn Sie programmieren lernen oder neue Elektronikprojekte umsetzen mochten, wird Ihnen dieser praktische Ratgeber extrem nutzlich sein. Dieses Buch fuhrt Sie Schritt fur Schritt durch die unterhaltsamen und lehrreichen Moglichkeiten der Mikrocontroller-Plattform Raspberry Pi. Greifen Sie auf vorinstallierte Programmiersprachen zuruck. Nutzen Sie den Raspberry Pi zusammen mit dem Arduino. Erstellen Sie Projekte, die mit dem Internet verbunden sind. Geben Sie Multimedia-Dateien wieder. Mit dem Raspberry Pi konnen Sie dies und vieles mehr erreichen. Machen Sie sich mit den Hardware-Features des Raspberry-Pi-Boards vertraut; Eignen Sie sich so viel Linux-Wissen an, dass Sie mit dem Raspberry zurechtkommen; Erlernen Sie die Grundlagen von Python und Scratch - und beginnen Sie zu programmieren; Zeichnen Sie Grafiken, spielen Sie Klange ab und verarbeiten Sie Mausereignisse mit dem Pygame-Framework; Nutzen Sie die Ein- und Ausgabepins des Mikrocontrollers fur Hardware-Basteleien; Finden Sie heraus, wie sich Arduino und Raspberry Pi gegenseitig erganzen; Binden Sie USB-Webcams und andere Peripherie-Gerate in Ihre Projekte ein; Erstellen Sie Ihren eigenen Pi-basierten Webserver mit Python.

Demonstrates the programming language's strength as a Web development tool, covering syntax, data types, built-ins, the Python standard module library, and real world examples.

While Excel remains ubiquitous in the business world, recent Microsoft feedback forums are full of requests to include Python as an Excel scripting language. In fact, it's the top feature requested. What makes this combination so compelling? In this hands-on guide, Felix Zumstein--creator of xlwings, a popular open source package for automating Excel with Python--shows experienced Excel users how to integrate these two worlds efficiently. Excel has added quite a few new capabilities over the past couple of years, but its automation language, VBA, stopped evolving a long time ago. Many Excel power users have already adopted Python for daily automation tasks. This guide gets you started. Use Python without extensive programming knowledge Get started with modern tools, including Jupyter notebooks and Visual Studio code Use pandas to acquire, clean, and analyze data and replace typical Excel calculations Automate tedious tasks like consolidation of Excel workbooks and production of Excel reports Use xlwings to build interactive Excel tools that use Python as a calculation engine Connect Excel to databases and CSV files and fetch data from the internet using Python code Use Python as a single tool to replace VBA, Power Query, and Power Pivot

Mit der Programmiersprache Python können Sie viele Aufgaben schon mit wenigen Zeilen Code erledigen. In unserem Sonderheft c't wissen Python-Praxis stellen wir anhand von Beispielprojekten sowohl nützliche als auch kreative Einsatzszenarien für Python-Programme vor. Einsteiger lernen beim Programmieren des Passwort-Managers c't SESAM Schritt für Schritt die Grundlagen für die Einrichtung und den Umgang mit Python, anschließend wird das Projekt objektorientiert erweitert und mit neuen Funktionen ausgestattet. Auch in anderen Bereichen lässt sich der Alltag mit Python erleichtern: Unter anderem zeigen wir, wie Sie Telegram-Bots programmieren und soziale Netzwerke wie Twitter und Reddit per Code fernsteuern. Python ist nicht nur nützlich, es macht auch Spaß. Mit Sonic Pi werden Sie zum Komponisten für Elektro-Musik. Damit auch die Lichtstimmung auf der Tanzfläche stimmt, erklären wir, wie Sie mit Pygame, einem Beamer und einer Nebelmaschine die passende Lasershow gleich mitliefern. In weiteren Projekten lernen Sie, ein eigenes Text-Adventure selbst zu programmieren oder digitales Videomaterial zu analogen Daumenkinos zu konvertieren. Unsere KI-Projekte helfen beim Einstieg in die Entwicklung künstlicher Intelligenzen und erklären an konkret nutzbaren Beispielen, wie man KI-Experimente erfolgreich durchführt. Unter anderem zeigen wir, wie Sie mit Hilfe eines neuronalen Netzwerkes Lego Mindstorms beibringen, Objekte zu erkennen. Mit Googles Bibliothek TensorFlow haben wir ein Netz trainiert, das die Auflösung von Bildern verbessert und Long Short-Term Memory hilft Ihnen dabei, automatisch Texte zu verschlagworten.

This book constitutes the post-conference proceedings of the 8th International Conference on Analysis of Images, Social Networks and Texts, AIST 2019, held in Kazan, Russia, in July 2019. The 27 full and 8 short papers were carefully reviewed and selected from 134 submissions (of which 21 papers were automatically rejected without being reviewed). The papers are organized in topical sections on general topics of data analysis; natural language processing; social network analysis; analysis of images and video; optimization problems on graphs and network structures; and analysis of dynamic behavior through event data.

Learn programming with Python by creating a text adventure. This book will teach you the fundamentals of programming, how to organize code, and some coding best practices. By the end of the book, you will have a working game that you

can play or show off to friends. You will also be able to change the game and make it your own by writing a different story line, including new items, creating new characters, and more. Make your own Python Text Adventure offers a structured approach to learning Python that teaches the fundamentals of the language, while also guiding the development of the customizable game. The first half of the book introduces programming concepts and Python syntax by building the basic structure of the game. You'll also apply the new concepts in homework questions (with solutions if you get stuck!) that follow each chapter. The second half of the book will shift the focus to adding features to your game and making it more entertaining for the player. Python is often recommended as a first programming language for beginners, and for good reason. Whether you've just decided to learn programming or you've struggled before with vague tutorials, this book will help you get started. What You'll Learn Install Python and set up a workspace Master programming basics and best practices including functions, lists, loops and objects Create an interactive adventure game with a customizable world Who This Book Is For People who have never programmed before or for novice programmers starting out with Python.

Python Essential ReferenceAddison-Wesley Professional

More physicists today are taking on the role of software developer as part of their research, but software development isn’t always easy or obvious, even for physicists. This practical book teaches essential software development skills to help you automate and accomplish nearly any aspect of research in a physics-based field. Written by two PhDs in nuclear engineering, this book includes practical examples drawn from a working knowledge of physics concepts. You’ll learn how to use the Python programming language to perform everything from collecting and analyzing data to building software and publishing your results. In four parts, this book includes: Getting Started: Jump into Python, the command line, data containers, functions, flow control and logic, and classes and objects Getting It Done: Learn about regular expressions, analysis and visualization, NumPy, storing data in files and HDF5, important data structures in physics, computing in parallel, and deploying software Getting It Right: Build pipelines and software, learn to use local and remote version control, and debug and test your code Getting It Out There: Document your code, process and publish your findings, and collaborate efficiently; dive into software licenses, ownership, and copyright procedures

This is a practical, hands-on book, with a lot of code and images. It presents the real code that generates every image and describes almost every single line of it, so that you know exactly what's going on. Introductory, descriptive, and theoretical parts are mixed with examples, so that reading and understanding them is easy. All of the examples build gradually with code snippets, their explanations, and plot images where necessary with the complete code and output presented at the end. This book is essentially for Python developers who have a good knowledge of Python; no knowledge of Matplotlib is required. You will be creating 2D plots using Matplotlib in no time at all.

Python 3 is the best version of the language yet: It is more powerful, convenient, consistent, and expressive than ever before. Now, leading Python programmer Mark Summerfield demonstrates how to write code that takes full advantage of Python 3’s features and idioms. The first book written from a completely “Python 3” viewpoint, Programming in Python 3 brings together all the knowledge you need to write any program, use any standard or third-party Python 3 library, and create new library modules of your own. Summerfield draws on his many years of Python experience to share deep insights into Python 3 development you won’t find anywhere else. He begins by illuminating Python’s “beautiful heart”: the eight key elements of Python you need to write robust, high-performance programs. Building on these core elements, he introduces new topics designed to strengthen your practical expertise—one concept and hands-on example at a time. This book’s coverage includes Developing in Python using procedural, object-oriented, and functional programming paradigms Creating custom packages and modules Writing and reading binary, text, and XML files, including optional compression, random access, and text and XML parsing Leveraging advanced data types, collections, control structures, and functions Spreading program workloads across multiple processes and threads Programming SQL databases and key-value DBM files Utilizing Python’s regular expression mini-language and module Building usable, efficient, GUI-based applications Advanced programming techniques, including generators, function and class decorators, context managers, descriptors, abstract base classes, metaclasses, and more Programming in Python 3 serves as both tutorial and language reference, and it is accompanied by extensive downloadable example code—all of it tested with the final version of Python 3 on Windows, Linux, and Mac OS X.

Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms. The Python interpreter and the extensive standard library are freely available in source or binary form for all major platforms from the Python Web site, https: //www.python.org/, and may be freely distributed. The same site also contains distributions of and pointers to many free third party Python modules, programs and tools, and additional documentation. The Python interpreter is easily extended with new functions and data types implemented in C or C++ (or other languages callable from C). Python is also suitable as an extension language for customizable applications. This tutorial introduces the reader informally to the basic concepts and features of the python language and system. It helps to have a Python interpreter handy for hands-on experience, but all examples are self contained, so the tutorial can be read off-line as well. For a description of standard objects and modules, see library-index. reference-index gives a more formal de?nition of the language. To write extensions in C or C++, read extending-index and c-api-index. There are also several books covering Python in depth. This tutorial does not attempt to be comprehensive and cover every single feature, or even every commonly used feature. Instead, it introduces many of Python's most noteworthy features, and will give you a good idea of the language's ?avor and style. After reading it, you will be able to read and write Python modules and programs, and you will be ready to learn more about the various Python library modules described in library-index. The Glossary is also worth going through.

In der neuen Developer-Spezialausgabe der iX dreht sich alles um das Thema Machine Learning: Angefangen bei der Historie der Disziplin über detaillierte Betrachtungen der unterschiedlichen Frameworks und verwendeten Programmiersprachen bis hin zu Praxisbeispielen zur Textanalyse, Bilderkennung und vielem mehr. Wagen Sie mit unseren Autoren einen Blick in die Blackbox des Zukunftsthemas und lernen sie neben den technischen Anwendungen und Voraussetzungen auch, welche ethische und rechtlichen Bedenken die Themen Künstliche Intelligenz und Maschinelles Lernen mit sich bringen.

This Box Set Includes 3 Books: Python Programming For Beginners - Learn The Basics Of Python In 7 Days! Python Programming For Intermediates - Learn The Basics Of Python In 7 Days! Python Programming For Advanced - Learn The Basics Of Python In 7 Days! Python Programming For Beginners - Learn The Basics Of Python In 7 Days! Here's what you'll learn from this book:?Introduction ?Understanding Python: A Detailed Background ?How Python Works ?Python Glossary ?How to Download and Install Python ?Python Programming 101: Interacting With Python in Different Ways ?How to Write Your First Python Program ?Variables, Strings, Lists, Tuples, Dictionaries ?About User-Defined Functions ?How to Write User-Defined Functions in Python ?About Coding Style ?Practice Projects: The Python Projects for Your Practice Python Programming For Intermediates - Learn The Basics Of Python In 7 Days! Here's what you'll learn from this book:? Shallow copy and deep copy ? Objects and classes in Python-including python inheritance, multiple inheritances, and so on ? Recursion in Python ? Debugging and testing ? Fibonacci sequence (definition) and Memoization in Python in Python ? Arguments in Python ? Namespaces in Python and Python Modules ? Simple Python projects for Intermediates Python Programming For Advanced - Learn The Basics Of Python In 7 Days! Here's what you'll learn from this book:?File management?Python Iterator?Python Generator?Regular Expressions ?Python Closure?Python Property?Python Assert, and?Simple recap projects Start Coding Now!

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, images, 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

Das neue c't-Sonderheft PC-Selbstbau hilft Ihnen, einen PC mit Komponenten nach Ihren Bedürfnissen zu bauen. Das Heft bietet nicht nur einen umfassenden Vergleich der neusten technischen Komponenten am Markt wie SSD, CPU, Mainboards oder Grafikkarten, sondern bietet auch vier fertige PC-Bauvorschläge, die im c't-Labor bereits optimiert wurden. Vom flotten Ryzen-Allrounder bis zum potenten Luxus-Rechner mit 16-Kern-Prozessor ist für jeden etwas dabei.

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

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

Dieser erste Band der Informatik erklärt die grundlegenden Konzepte: Programmierung, Algorithmen und Datenstrukturen. Nach einer Einführung zum Aufbau von Rechnersystemen und zur Darstellung von Informationen folgt ein Einstieg in die Programmierung mit der Sprache Python. Dabei werden grundsätzliche Prinzipien von Programmiersprachen erläutert, darunter Schleifen, Rekursion, imperative, funktionale und objektorientierte Programmierkonzepte. Einige konkrete Projekte werden in Python realisiert, so etwa zur Datenbeschaffung im Internet und deren Aufbereitung oder zum Umgang mit diversen Sensoren und zur Steuerung externer Geräte mit dem

Raspberry-Pi. Dem Objektorientierten Programmieren und insbesondere der Programmiersprache Java ist ein eigenes Kapitel gewidmet. Diese Sprache und ihre Infrastruktur unterstützen besonders die professionelle Entwicklung großer Projekte. Auch die neuesten Konzepte von Java (Lambdas, Ströme und Funktionale) werden anschaulich erläutert. Das letzte Kapitel behandelt klassische Algorithmen und Datenstrukturen: Such- und Sortieralgorithmen, Listen, Bäume, Graphen, Maps, und diverse andere Datentypen zum effi zienten Speichern, Wiederauffi nden und Transformieren von Daten. Diese werden mit ihren Vor- und Nachteilen und anhand von Java-Programmen dargestellt. Das Buch richtet sich an alle Einsteiger, die sich ernsthaft mit Informatik beschäftigen wollen, sei es zum Selbststudium oder zur Begleitung von Vorlesungen. In den folgenden Bänden dieses Buches werden die Themen, Rechnerarchitektur, Betriebssysteme, Rechnernetze, Internet, Compilerbau und Theoretische Informatik vertieft. Prof. Dr. Heinz-Peter Gumm ist Professor für Theoretische Informatik in Marburg. Nach dem Studium in Darmstadt und Winnipeg (Kanada) von 1970 bis 1975 und der Habilitation 1981 folgten Professuren in Hawaii, Kalifornien und New York. Seine Forschungsgebiete sind Formale Methoden, Allgemeine Algebren und Coalgebren. Prof. Dr. Manfred Sommer ist emeritierter Professor für Praktische Informatik in Marburg. Nach dem Studium in Göttingen und München von 1964 bis 1969, war er Assistent am ersten Informatik-Institut in Deutschland an der TU München. Es folgten zehn Jahre bei Siemens in München und von 1984 bis 2014 war er Informatik-Professor in Marburg.

Scientific Python is a significant public domain alternative to expensive proprietary software packages. This book teaches from scratch everything the working scientist needs to know using copious, downloadable, useful and adaptable code snippets. Readers will discover how easy it is to implement and test non-trivial mathematical algorithms and will be guided through the many freely available add-on modules. A range of examples, relevant to many different fields, illustrate the language's capabilities. The author also shows how to use pre-existing legacy code (usually in Fortran77) within the Python environment, thus avoiding the need to master the original code. In this new edition, several chapters have been re-written to reflect the IPython notebook style. With an extended index, an entirely new chapter discussing SymPy and a substantial increase in the number of code snippets, researchers and research students will be able to quickly acquire all the skills needed for using Python effectively.

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.

The financial industry has adopted Python at a tremendous rate recently, with some of the largest investment banks and hedge funds using it to build core trading and risk management systems. This hands-on guide helps both developers and quantitative analysts get started with Python, and guides you through the most important aspects of using Python for quantitative finance. Using practical examples through 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, with topics that include: Fundamentals: Python data structures, NumPy array handling, time series analysis with pandas, visualization with matplotlib, high performance I/O operations with PyTables, date/time information handling, and selected best practices Financial topics: mathematical techniques with NumPy, SciPy and SymPy such as regression and optimization; stochastics for Monte Carlo simulation, Value-at-Risk, and Credit-Value-at-Risk calculations; statistics for normality tests, mean-variance portfolio optimization, principal component analysis (PCA), and Bayesian regression Special topics: performance Python for financial algorithms, such as vectorization and parallelization, integrating Python with Excel, and building financial applications based on Web technologies

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

This book shows readers how they can successfully analyze data using only two core machine learning algorithms---and how to do so using the popular Python programming language. These algorithms deal with common scenarios faced by all data analysts and data scientists. This book focuses on two algorithm families (linear methods and ensemble methods) that effectively predict outcomes. This type of problem covers a multitude of use cases (what ad to place on a web page, predicting prices in securities markets, detecting credit card fraud, etc.). The focus on two families gives enough room for full descriptions of the mechanisms at work in the algorithms. Then the code examples serve to illustrate

the workings of the machinery with specific hackable code. The author will explain in simple terms, using no complex math, how these algorithms work, and will then show how to apply them in Python. He will also provide advice on how to select from among these algorithms, and will show how to prepare the data, and how to use the trained models in practice. The author begins with an overview of the two core algorithms, explaining the types of problems solved by each one. He then introduces a core set of Python programming techniques that can be used to apply these algorithms. The author shows various techniques for building predictive models that solve a range of problems, from simple to complex; he also shows how to measure the performance of each model to ensure you use the right one. The following chapters provide a deep dive into each of the two algorithms: penalized linear regression and ensemble methods. Chapters will show how to apply each algorithm in Python. Readers can directly use the sample code to build their own solutions.
Learn math by getting creative with code! Use the Python programming language to transform learning high school-level math topics like algebra, geometry, trigonometry, and calculus! Math Adventures with Python will show you how to harness the power of programming to keep math relevant and fun. With the aid of the Python programming language, you'll learn how to visualize solutions to a range of math problems as you use code to explore key mathematical concepts like algebra, trigonometry, matrices, and cellular automata. Once you've learned the programming basics like loops and variables, you'll write your own programs to solve equations quickly, make cool things like an interactive rainbow grid, and automate tedious tasks like factoring numbers and finding square roots. You'll learn how to write functions to draw and manipulate shapes, create oscillating sine waves, and solve equations graphically. You'll also learn how to: - Draw and transform 2D and 3D graphics with matrices - Make colorful designs like the Mandelbrot and Julia sets with complex numbers - Use recursion to create fractals like the Koch snowflake and the Sierpinski triangle - Generate virtual sheep that graze on grass and multiply autonomously - Crack secret codes using genetic algorithms As you work through the book's numerous examples and increasingly challenging exercises, you'll code your own solutions, create beautiful visualizations, and see just how much more fun math can be!
Python3 ist in der beruflichen Bildung sowie in Studium und Praxis eine der beliebtesten Programmiersprachen. Dieses Arbeitsbuch ist als Workbook aufbereitet, wie Sie es aus dem Sprachunterricht kennen. Schrittweise werden die Inhalte erklärt, eine Vielzahl an Beispielen, Zwischenübungen sowie Programmieraufgaben helfen, das neue Wissen anzuwenden und zu festigen. Das Buch ist besonders für den Unterricht in Gymnasien, in Kollegs, in der beruflichen Aus- und Weiterbildung sowie in Programmierkursen geeignet. Für Selbstlerner gibt es zu dem Buch einen Löser mit allen Lösungen zu den Übungsaufgaben.
Sind Sie bereit, ein echter Pythonista zu werden? Dann wird dieses Buch Ihr treuer Begleiter. Es bietet geballtes Insider-Know-how zu Best Practices und den bevorzugten Werkzeugen der Python-Community. Sie werden Ihre Python-Kenntnisse entscheidend verbessern – ob Sie einfach nur neugierig sind, als Normalsterblicher zu Open-Source-Projekten beitragen oder ein Unternehmen rund um Python aufbauen möchten. Dieses Buch wurde im Rahmen eines Gemeinschaftsprojekts von über einhundert Mitgliedern der Python-Community geschrieben. In Teil 1 geht es um das Einrichten der Python-Umgebung (Interpreter, Python-Installation, Texteditor, IDE). Dann tauchen Sie in Beispiel-Code ein, der den Python-Stil mustergültig umsetzt. Teil 3 macht Sie mit Bibliotheken vertraut, die von der Python-Community bevorzugt genutzt werden. - Entwickeln Sie besseren Python-Code, indem Sie Stil, Konventionen, Idiome und Fallstricke kennenlernen. - Sehen Sie sich exzellente Open-Source-Codebeispiele ausgewählter Python-Bibliotheken an. - Studieren Sie Best Practices für die Paketierung und Distribution von Python-Code. - Erkunden Sie Pythons Bibliotheken für die Benutzer-Interaktion – von Konsolenanwendungen über GUIs bis hin zu Webapplikationen. - Lernen Sie Tools für die Systemadministration sowie das Interfacing mit C- und C++-Bibliotheken kennen und verbessern Sie die Geschwindigkeit von Python. - Arbeiten Sie mit Netzwerk-Bibliotheken für asynchrone Aktionen, Serialisierung und Kryptografie. - Lernen Sie Bibliotheken zur Datenpersistenz und -manipulation kennen, darunter auch Werkzeuge zur Bild- und Audioverarbeitung. Prägnant und meinungsstark nimmt Sie der Hitchhiker's Guide mit auf eine Pro-Tour durch das Python-Universum. Raymond Hettinger, Python Core Developer
Whether you're building GUI prototypes or full-fledged cross-platform GUI applications with native look-and-feel, PyQt 4 is your fastest, easiest, most powerful solution. Qt expert Mark Summerfield has written the definitive best-practice guide to PyQt 4 development. With Rapid GUI Programming with Python and Qt you'll learn how to build efficient GUI applications that run on all major operating systems, including Windows, Mac OS X, Linux, and many versions of Unix, using the same source code for all of them. Summerfield systematically introduces every core GUI development technique: from dialogs and windows to data handling; from events to printing; and more. Through the book's realistic examples you'll discover a completely new PyQt 4-based programming approach, as well as coverage of many new topics, from PyQt 4's rich text engine to advanced model/view and graphics/view programming. Every key concept is illuminated with realistic, downloadable examples–all tested on Windows, Mac OS X, and Linux with Python 2.5, Qt 4.2, and PyQt 4.2, and on Windows and Linux with Qt 4.3 and PyQt 4.3.
Python ist eine vollwertige Programmiersprache, mit der sich auch größere Anwendungen entwickeln lassen. In den letzten Jahren hat sie an Beliebtheit gewonnen, und mit Python 3 steht eine stark erweiterte Version zur Verfügung. In dem Band werden die Werkzeuge und Programmiermöglichkeiten praxisorientiert vorgestellt. Jedes Kapitel beginnt mit einem vollwertigen, lauffähigen Codebeispiel, das jeweils ausführlich analysiert wird. Im Vordergrund stehen die unmittelbare praktische Anwendung und die Realisierung von Projekten mit Python 3.
Make the Leap From Beginner to Intermediate in Python... Python Basics: A Practical Introduction to Python 3 Your Complete Python Curriculum-With Exercises, Interactive Quizzes, and Sample Projects What should you learn about Python in the beginning to get a strong foundation? With Python Basics, you'll not only cover the core concepts you really need to know, but you'll also learn them in the most efficient order with the help of practical exercises and interactive

quizzes. You'll know enough to be dangerous with Python, fast! Who Should Read This Book If you're new to Python, you'll get a practical, step-by-step roadmap on developing your foundational skills. You'll be introduced to each concept and language feature in a logical order. Every step in this curriculum is explained and illustrated with short, clear code samples. Our goal with this book is to educate, not to impress or intimidate. If you're familiar with some basic programming concepts, you'll get a clear and well-tested introduction to Python. This is a practical introduction to Python that jumps right into the meat and potatoes without sacrificing substance. If you have prior experience with languages like VBA, PowerShell, R, Perl, C, C++, C#, Java, or Swift the numerous exercises within each chapter will fast-track your progress. If you're a seasoned developer, you'll get a Python 3 crash course that brings you up to speed with modern Python programming. Mix and match the chapters that interest you the most and use the interactive quizzes and review exercises to check your learning progress as you go along. If you're a self-starter completely new to coding, you'll get practical and motivating examples. You'll begin by installing Python and setting up a coding environment on your computer from scratch, and then continue from there. We'll get you coding right away so that you become competent and knowledgeable enough to solve real-world problems, fast. Develop a passion for programming by solving interesting problems with Python every day! If you're looking to break into a coding or data-science career, you'll pick up the practical foundations with this book. We won't just dump a boat load of theoretical information on you so you can "sink or swim"-instead you'll learn from hands-on, practical examples one step at a time. Each concept is broken down for you so you'll always know what you can do with it in practical terms. If you're interested in teaching others "how to Python," this will be your guidebook. If you're looking to stoke the coding flame in your coworkers, kids, or relatives-use our material to teach them. All the sequencing has been done for you so you'll always know what to cover next and how to explain it. What Python Developers Say About The Book: "Go forth and learn this amazing language using this great book." - Michael Kennedy, Talk Python "The wording is casual, easy to understand, and makes the information flow well." - Thomas Wong, Pythonista "I floundered for a long time trying to teach myself. I slogged through dozens of incomplete online tutorials. I snoozed through hours of boring screencasts. I gave up on countless crufty 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

This textbook on Python 3 explains concepts such as variables and what they represent, how data is held in memory, how a for loop works and what a string is. It also introduces key concepts such as functions, modules and packages as well as object orientation and functional programming. Each section is prefaced with an introductory chapter, before continuing with how these ideas work in Python. Topics such as generators and coroutines are often misunderstood and these are explained in detail, whilst topics such as Referential Transparency, multiple inheritance and exception handling are presented using examples. A Beginners Guide to Python 3 Programming provides all you need to know about Python, with numerous examples provided throughout including several larger worked case studies illustrating the ideas presented in the previous chapters.

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

if you're simply curious to have a programmer's perspective on how human language works -- you'll find Natural Language Processing with Python both fascinating and immensely useful.

Learn efficient Python coding within 7 days About This Book Make the best of Python features Learn the tinge of Python in 7 days Learn complex concepts using the most simple examples Who This Book Is For The book is aimed at aspiring developers and absolute novice who want to get started with the world of programming. We assume no knowledge of Python for this book. What You Will Learn Use if else statement with loops and how to break, skip the loop Get acquainted with python types and its operators Create modules and packages Learn slicing, indexing and string methods Explore advanced concepts like collections, class and objects Learn dictionary operation and methods Discover the scope and function of variables with arguments and return value In Detail Python is a great language to get started in the world of programming and application development. This book will help you to take your skills to the next level having a good knowledge of the fundamentals of Python. We begin with the absolute foundation, covering the basic syntax, type variables and operators. We'll then move on to concepts like statements, arrays, operators, string processing and I/O handling. You'll be able to learn how to operate tuples and understand the functions and methods of lists. We'll help you develop a deep understanding of list and tuples and learn python dictionary. As you progress through the book, you'll learn about function parameters and how to use control statements with the loop. You'll further learn how to create modules and packages, storing of data as well as handling errors. We later dive into advanced level concepts such as Python collections and how to use class, methods, objects in python. By the end of this book, you will be able to take your skills to the next level having a good knowledge of the fundamentals of Python. Style and approach Fast paced guide to get you up-to-speed with the language. Every chapter is followed by an exercise that focuses on building something with the language. The codes of the exercises can be found on the Packt website

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

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

"I don't even feel like I've scratched the surface of what I can do with Python" With Python Tricks: The Book you'll discover Python's best practices and the power of beautiful & Pythonic code with simple examples and a step-by-step narrative. You'll get one step closer to mastering Python, so you can write beautiful and idiomatic code that comes to you naturally. Learning the ins and outs of Python is difficult-and with this book you'll be able to focus on the practical skills that really matter. Discover the "hidden gold" in Python's standard library and start writing clean and Pythonic code today. Who Should Read This Book: If you're wondering which lesser known parts in Python you should know about, you'll get a roadmap with this book. Discover cool (yet practical!) Python tricks and blow your coworkers' minds in your next code review. If you've got experience with legacy versions of Python, the book will get you up to speed with modern patterns and features introduced in Python 3 and backported to Python 2. If you've worked with other programming languages and you want to get up to speed with Python, you'll pick up the idioms and practical tips you need to become a confident and effective Pythonista. If you want to make Python your own and learn how to write clean and Pythonic code, you'll discover best practices and little-known tricks to round out your knowledge. What Python Developers Say About The Book: "I kept thinking that I wished I had access to a book like this when I started learning Python many years ago." - Mariatta Wijaya, Python Core Developer "This book makes you write better Python code!" - Bob Belderbos, Software Developer at Oracle "Far from being just a shallow collection of snippets, this book will leave the attentive reader with a deeper understanding of the inner workings of Python as well as an appreciation for its beauty." - Ben Felder, Pythonista "It's like having a seasoned tutor explaining, well, tricks!" - Daniel Meyer, Sr. Desktop Administrator at Tesla Inc.

Data is bigger, arrives faster, and comes in a variety of formats—and it all needs to be processed at scale for analytics or machine learning. But how can you process such varied workloads efficiently? Enter Apache Spark. Updated to include Spark 3.0, this second edition shows data engineers and data scientists why structure and unification in Spark matters. Specifically, this book explains how to perform simple and complex data analytics and employ machine learning algorithms. Through step-by-step walk-throughs, code snippets, and notebooks, you’ll be able to: Learn Python, SQL, Scala, or Java high-level Structured APIs Understand Spark operations and SQL Engine Inspect, tune, and debug Spark operations with Spark configurations and Spark UI Connect to data sources: JSON, Parquet, CSV, Avro, ORC, Hive, S3, or Kafka Perform analytics on batch and streaming data using Structured Streaming Build reliable data pipelines with open source Delta Lake and Spark Develop machine learning pipelines with MLlib and productionize models using MLflow

Python Essential Reference is the definitive reference guide to the Python programming language — the one authoritative handbook that reliably untangles and explains both the core Python language and the most essential parts of the Python library. Designed for the professional programmer, the book is concise, to the point, and highly accessible. It also includes detailed information on the Python library and many advanced subjects that is not available in either the official Python documentation or

any other single reference source. Thoroughly updated to reflect the significant new programming language features and library modules that have been introduced in Python 2.6 and Python 3, the fourth edition of Python Essential Reference is the definitive guide for programmers who need to modernize existing Python code or who are planning an eventual migration to Python 3. Programmers starting a new Python project will find detailed coverage of contemporary Python programming idioms. This fourth edition of Python Essential Reference features numerous improvements, additions, and updates: Coverage of new language features, libraries, and modules Practical coverage of Python's more advanced features including generators, coroutines, closures, metaclasses, and decorators Expanded coverage of library modules related to concurrent programming including threads, subprocesses, and the new multiprocessing module Up-to-the-minute coverage of how to use Python 2.6’s forward compatibility mode to evaluate code for Python 3 compatibility Improved organization for even faster answers and better usability Updates to reflect modern Python programming style and idioms Updated and improved example code Deep coverage of low-level system and networking library modules — including options not covered in the standard documentation

Python ist eine der beliebtesten und vielseitigsten Programmiersprachen überhaupt. Für viele Entwickler führt deshalb kein Weg an Python vorbei. Schöpfen Sie mit diesem Buch aus dem reichen Erfahrungsschatz zweier langjähriger Softwareentwickler. Sie lernen zunächst die Syntax der Sprache und vertiefen dann das Erlernte anhand von konkreten Aufgabenstellungen. Für den Blick über den Tellerrand sorgen Kapitel zu Programmierparadigmen, Code-Qualität, Test-Ansätzen und Dokumentation. Jede Menge Tipps und Tricks und ein breites Spektrum an Beispielen lassen Sie zu einem wahren Python-Profi werden.