

## Introducing Python Modern Computing In Simple Packages

*Python is an integrated, object-orientated development language for use in computer programming. This text is split into distinct sections, each concentrating on a core angle of the language. The book also contains sections for Web and application development, the two most popular uses for Python. It is designed to teach a programmer how to use Python by explaining the mechanics of Python. The appendixes offer a quick guide to the main features of the Python language, as well as additional guides to non-essential systems such as the IDLE development environment and general guidelines for migrating from another language.*

*Introduces the programming language's syntax, control flow, and basic data structures and covers its interaction with applications and mangement of large collections of code.*

*Python is a powerful, expressive programming language that's easy to learn and fun to use! But books about learning to program in Python can be kind of dull, gray, and boring, and that's no fun for anyone. Python for Kids brings Python to life and brings you (and your parents) into the world of programming. The ever-patient Jason R. Briggs will guide you through the basics as you experiment with unique (and often hilarious) example programs that feature whimsical monsters, secret agents, thieving ravens, and much more. New terms are defined, code is colorad, dissected and explained; and quirky, full-color illustrations keep things on the lighter side. Chapters end with programming puzzles designed to stretch your brain and strengthen your understanding. By the end of the book you'll have programmed two complete games: a clone of the famous Pong and "Mr. Stick Man for the Rail" —a platform game with jumps, animation, and much more. As you strike out on your programming adventure, you'll learn how to - Use fundamental data structures like lists, tuples, and maps -Organize and reuse your code with functions and modules -Use control structures like loops and conditional statements -Draw shapes and patterns with Python's turtle module -Create games, animations, and other graphical wonders with tkinter Why should serious adults have all the fun? Python for Kids is your ticket into the amazing world of computer programming. For kids ages 10+ (and their parents) The code in this book runs on almost anything: Windows, Mac, Linux, even an OLPC laptop or Raspberry PI!*

*This book is a mini-course for researchers in the atmospheric and oceanic sciences. "We assume readers will already know the basics of programming... in some other language." - Back cover.*

**Learn to Program with Python 3**

**Python Cookbook**

**Fluent Python**

**A Brain-Friendly Guide**

**Introduction to Scientific Programming with Python, 4E**

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

This open access book offers an initial introduction to programming for scientific and computational applications using the Python programming language. The presentation style is compact and example-based, making it suitable for students and researchers with little or no prior experience in programming. The book uses relevant examples from mathematics and the natural sciences to present programming as a practical toolbox that can quickly enable readers to write their own programs for data processing and mathematical modeling. These tools include file reading, plotting, simple text analysis, and using NumPy for numerical computations, which are fundamental building blocks of all programs in data science and computational science. At the same time, readers are introduced to the fundamental concepts of programming, including variables, functions, loops, classes, and object-oriented programming. Accordingly, the book provides a sound basis for further computer science and programming studies.

Summary 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. 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 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? Where 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

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 definition 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 flavor 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.

**Introduction to Programming in Python**

**Learn Python 3 the Hard Way**

**Powerful Object-Oriented Programming**

**Python Crash Course**

**An Introduction to Computer Science Using Python 3.6**

**A Self-Teaching Introduction**

**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](http://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.

**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 adding 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
How 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**

**This book is an introduction to programming concepts that uses Python 3 as the target language. It follows a practical just-in-time presentation - material is given to the student when it is needed. Many examples will be based on games, because Python has become the language of choice for basic game development. Designed as a Year One textbook for introduction to programming classes or for the hobbyist who wants to learn the fundamentals of programming, the text assumes no programming experience. Features:
\* Introduces programming concepts that use Python 3
\* Includes many examples based on video game development
\* 4-color throughout with game demos on the companion files
**Classroom-tested** by tens of thousands of students, this new edition of the bestselling intro to programming book is for anyone who wants to understand computer science. Learn about design, algorithms, testing, and debugging. Discover the fundamentals of programming with Python 3.6—a language that's used in millions of devices. Write programs to solve real-world problems, and come away with everything you need to produce quality code. This edition has been updated to use the new language features in Python 3.6.**

**Python Crash Course, 2nd Edition**

**An Application Development Focus**
**Modern Computing In Simple Packages**
**A Primer on Scientific Programming with Python**
**A Python for Everybody**
**Powerful Object-Oriented Programming**
**Python Crash Course**
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**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](http://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.
**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 adding 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 handy libraries, and a simple web app you can deploy online. As you work through the book, you'll learn how to:
• Use powerful Python libraries and tools, including Pygame, Matplotlib, Plotly, and Django
• Make 2D games that respond to keypresses and mouse clicks, and that increase in difficulty
• Use 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 about digging into programming, Python Crash Course will get you writing real programs fast. Why wait any longer? Start your engines and code!
**Easy to understand** and fun to read, Introducing Python is ideal for beginning programmers as well as those new to the language. Author Bill Lubanovic takes you from the basics to more involved and varied topics, mixing tutorials with cookbook-style code recipes to explain concepts in Python 3. End-of-chapter exercises help you practice what you've learned. You'll gain a strong foundation in the language, including best practices for testing, debugging, code reuse, and other development tips. This book also shows you how to use Python for applications in business, science, and the arts, using various Python tools and open source packages. Learn simple data types, and basic math and text operations Use data-wrangling techniques with Python's built-in data structures Explore Python code structure, including the use of functions Write large programs in Python, with modules and packages Dive into objects, classes, and other object-oriented features Examine storage from flat files to relational databases and NoSQL Use Python to build web clients, servers, APIs, and services Manage system tasks such as programs, processes, and threads Understand the basics of concurrency and network programming
**Today, anyone in a scientific or technical discipline needs programming skills. Python is an ideal first programming language, and Introduction to Programming in Python is the best guide to learning it.** Princeton University's Robert Sedgewick, Kevin Wayne, and Robert Dondoro have crafted an accessible, interdisciplinary introduction to programming in Python that emphasizes important and engaging applications, not toy problems. The authors supply the tools needed for students to learn that programming is a natural, satisfying, and creative experience. This example-driven guide focuses on Python's most useful features and brings programming to life for every student in the sciences, engineering, and computer science. Coverage includes basic elements of programming: variables, assignment statements, built-in data types, conditionals, loops, arrays, and I/O, including graphics and sound Functions, modules, and libraries: organizing programs into components that can be independently debugged, maintained, and reused Object-oriented programming and data abstraction: objects, modularity, encapsulation, and more Algorithms and data structures: sort/search algorithms, stacks, queues, and symbol tables Examples from applied math, physics, chemistry, biology, and computer science—all compatible with Python 2 and 3 Drawing on their extensive classroom experience, the authors provide Q&As, exercises, and opportunities for creative practice throughout. An extensive amount of supplementary information is available at [introcs.cs.princeton.edu/python](http://introcs.cs.princeton.edu/python). With source code, I/O libraries, solutions to selected exercises, and much more, this companion website empowers people to use their own computers to teach and learn the material.
**Would you like to gather big datasets, analyze them, and visualize the results, all in one program?** If this describes you, then Introduction to Python Programming for Business and Social Science Applications is the book for you. Authors Frederick Kaefee and Paul Kaefee walk you through each step of the Python package installation and analysis process, with frequent exercises throughout so you can immediately try out the functions you've learned. Written in straightforward language for those with no programming background, this book will teach you how to use Python for your research and data analysis. Instead of teaching you the principles and practices of programming as a whole, this application-oriented text focuses on only what you need to know to research and answer social science questions. The text features two types of examples, one set from the General Social Survey and one set from a large taxi trip dataset from a major metropolitan area, to help readers understand the possibilities of working with Python. Chapters on installing and working within a programming environment, basic skills, and necessary commands will get you up and running quickly, while chapters on programming logic, data input and output, and data frames are the basic framework for conducting analyses. Further chapters on web scraping, statistical analysis, machine learning, and data visualization help you apply your skills to your research. More advanced information on developing graphical user interfaces (GUIs) help you create functional data products using Python to inform general users of data who don't work within Python. First there was IBM® SPSS®, then there was R, and now there's Python. Statistical software is getting more aggressive - let authors Frederick Kaefee and Paul Kaefee help you tame it!
**Introduction to Python Programming for Business and Social Science Applications.**
**An Interdisciplinary Approach**
**Learning Python**
**Python Basics**
**Introduction to Machine Learning with Python**
**Python Tutorial**
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"Highly recommended to everyone interested in deepening their understanding of Python and practical computer science." —Daniel Kenney-Jung, MD, University of Minnesota Key Features Master formal techniques taught in college computer science classes Connect computer science theory to real-world applications, data, and performance Prepare for programmer interviews Recognize the core ideas behind most "new" challenges Covers Python 3.7 Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Programming problems that seem new or unique are usually rooted in well-known engineering principles. Classic Computer Science Problems in Python guides you through time-tested scenarios, exercises, and algorithms that will prepare you for the "new" problems you'll face when you start your next project. In this amazing book, you'll tackle dozens of coding challenges, ranging from simple tasks like binary search algorithms to clustering data using k-means. As you work through examples for web development, machine learning, and more, you'll remember important things you've forgotten and discover classic solutions that will save you hours of time. What You Will Learn Search algorithms Common techniques for graphs Neural networks Genetic algorithms Adversarial search Uses type hints throughout This Book Is Written For For intermediate Python programmers. About The Author David Kopec is an assistant professor of Computer Science and Innovation at Champlain College in Burlington, Vermont. He is the author of Dart for Absolute Beginners (Apress, 2014), Classic Computer Science Problems in Swift (Manning, 2018), and Classic Computer Science Problems in Java (Manning, 2020) Table of Contents Small problems Search problems Constraint-satisfaction problems Graph problems Genetic algorithms K-means clustering Fairly simple neural networks Adversarial search Miscellaneous problems Google and YouTube use Python because it's highly adaptable, easy to maintain, and allows for rapid development. If you want to write high-quality, efficient code that's easily integrated with other languages and tools, this hands-on book will help you be productive with Python quickly — whether you're new to programming or just new to Python. It's an easy-to-follow self-paced tutorial, based on author and Python expert Mark Lut's popular training course. Each chapter contains a stand-alone lesson on a key component of the language, and includes a unique Test Your Knowledge section with practical exercises and quizzes, so you can practice new skills and test your understanding as you go. You'll find 188 of annotated examples and illustrations to help you get started with Python 3.0. Learn about Python's major built-in object types, such as numbers, lists, and dictionaries Create and process objects using Python statements, and learn Python's general syntax model Structure and reuse code using functions, Python's basic procedural tool Learn about Python's modules: packages of statements, functions, and other tools, organized into larger components Discover Python's object-oriented programming tool for structuring code Learn about the exception-handling model and development tools for writing larger programs Explore advanced Python tools including decorators, descriptors, metaclasses, and Unicode processing

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

Easy to understand and fun to read, this updated edition of Introducing Python is ideal for beginning programmers as well as those new to the language. Author Bill Lubanovic takes you from the basics to more involved and varied topics, mixing tutorials with cookbook-style code recipes to explain concepts in Python 3. End-of-chapter exercises help you practice what you've learned. You'll gain a strong foundation in the language, including best practices for testing, debugging, code reuse, and other development tips. This book also shows you how to use Python for applications in business, science, and the arts, using various Python tools and open source packages. Learn simple data types, and basic math and text operations Use data-wrangling techniques with Python's built-in data structures Explore Python code structure, including the use of functions Write large programs in Python, with modules and packages Dive into objects, classes, and other object-oriented features Examine storage from flat files to relational databases and NoSQL Use Python to build web clients, servers, APIs, and services Manage system tasks such as programs, processes, and threads Understand the basics of concurrency and network programming
**Today, anyone in a scientific or technical discipline needs programming skills. Python is an ideal first programming language, and Introduction to Programming in Python is the best guide to learning it.** Princeton University's Robert Sedgewick, Kevin Wayne, and Robert Dondoro have crafted an accessible, interdisciplinary introduction to programming in Python that emphasizes important and engaging applications, not toy problems. The authors supply the tools needed for students to learn that programming is a natural, satisfying, and creative experience. This example-driven guide focuses on Python's most useful features and brings programming to life for every student in the sciences, engineering, and computer science. Coverage includes basic elements of programming: variables, assignment statements, built-in data types, conditionals, loops, arrays, and I/O, including graphics and sound Functions, modules, and libraries: organizing programs into components that can be independently debugged, maintained, and reused Object-oriented programming and data abstraction: objects, modularity, encapsulation, and more Algorithms and data structures: sort/search algorithms, stacks, queues, and symbol tables Examples from applied math, physics, chemistry, biology, and computer science—all compatible with Python 2 and 3 Drawing on their extensive classroom experience, the authors provide Q&As, exercises, and opportunities for creative practice throughout. An extensive amount of supplementary information is available at [introcs.cs.princeton.edu/python](http://introcs.cs.princeton.edu/python). With source code, I/O libraries, solutions to selected exercises, and much more, this companion website empowers people to use their own computers to teach and learn the material.
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"Highly recommended to everyone interested in deepening their understanding of Python and practical computer science." —Daniel Kenney-Jung, MD, University of Minnesota Key Features Master formal techniques taught in college computer science classes Connect computer science theory to real-world applications, data, and performance Prepare for programmer interviews Recognize the core ideas behind most "new" challenges Covers Python 3.7 Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Programming problems that seem new or unique are usually rooted in well-known engineering principles. Classic Computer Science Problems in Python guides you through time-tested scenarios, exercises, and algorithms that will prepare you for the "new" problems you'll face when you start your next project. In this amazing book, you'll tackle dozens of coding challenges, ranging from simple tasks like binary search algorithms to clustering data using k-means. As you work through examples for web development, machine learning, and more, you'll remember important things you've forgotten and discover classic solutions that will save you hours of time. What You Will Learn Search algorithms Common techniques for graphs Neural networks Genetic algorithms Adversarial search Uses type hints throughout This Book Is Written For For intermediate Python programmers. About The Author David Kopec is an assistant professor of Computer Science and Innovation at Champlain College in Burlington, Vermont. He is the author of Dart for Absolute Beginners (Apress, 2014), Classic Computer Science Problems in Swift (Manning, 2018), and Classic Computer Science Problems in Java (Manning, 2020) Table of Contents Small problems Search problems Constraint-satisfaction problems Graph problems Genetic algorithms K-means clustering Fairly simple neural networks Adversarial search Miscellaneous problems Google and YouTube use Python because it's highly adaptable, easy to maintain, and allows for rapid development. If you want to write high-quality, efficient code that's easily integrated with other languages and tools, this hands-on book will help you be productive with Python quickly — whether you're new to programming or just new to Python. It's an easy-to-follow self-paced tutorial, based on author and Python expert Mark Lut's popular training course. Each chapter contains a stand-alone lesson on a key component of the language, and includes a unique Test Your Knowledge section with practical exercises and quizzes, so you can practice new skills and test your understanding as you go. You'll find 188 of annotated examples and illustrations to help you get started with Python 3.0. Learn about Python's major built-in object types, such as numbers, lists, and dictionaries Create and process objects using Python statements, and learn Python's general syntax model Structure and reuse code using functions, Python's basic procedural tool Learn about Python's modules: packages of statements, functions, and other tools, organized into larger components Discover Python's object-oriented programming tool for structuring code Learn about the exception-handling model and development tools for writing larger programs Explore advanced Python tools including decorators, descriptors, metaclasses, and Unicode processing

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**Python Tutorial**
**A Step-by-Step Guide to Programming**

"Highly recommended to everyone interested in deepening their understanding of Python and practical computer science." —Daniel Kenney-Jung, MD, University of Minnesota Key Features Master formal techniques taught in college computer science classes Connect computer science theory to real-world applications, data, and performance Prepare for programmer interviews Recognize the core ideas behind most "new" challenges Covers Python 3.7 Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Programming problems that seem new or unique are usually rooted in well-known engineering principles. Classic Computer Science Problems in Python guides you through time-tested scenarios, exercises, and algorithms that will prepare you for the "new" problems you'll face when you start your next project. In this amazing book, you'll tackle dozens of coding challenges, ranging from simple tasks like binary search algorithms to clustering data using k-means. As you work through examples for web development, machine learning, and more, you'll remember important things you've forgotten and discover classic solutions that will save you hours of time. What You Will Learn Search algorithms Common techniques for graphs Neural networks Genetic algorithms Adversarial search Uses type hints throughout This Book Is Written For For intermediate Python programmers. About The Author David Kopec is an assistant professor of Computer Science and Innovation at Champlain College in Burlington, Vermont. He is the author of Dart for Absolute Beginners (Apress, 2014), Classic Computer Science Problems in Swift (Manning, 2018), and Classic Computer Science Problems in Java (Manning, 2020) Table of Contents Small problems Search problems Constraint-satisfaction problems Graph problems Genetic algorithms K-means clustering Fairly simple neural networks Adversarial search Miscellaneous problems Google and YouTube use Python because it's highly adaptable, easy to maintain, and allows for rapid development. If you want to write high-quality, efficient code that's easily integrated with other languages and tools, this hands-on book will help you be productive with Python quickly — whether you're new to programming or just new to Python. It's an easy-to-follow self-paced tutorial, based on author and Python expert Mark Lut's popular training course. Each chapter contains a stand-alone lesson on a key component of the language, and includes a unique Test Your Knowledge section with practical exercises and quizzes, so you can practice new skills and test your understanding as you go. You'll find 188 of annotated examples and illustrations to help you get started with Python 3.0. Learn about Python's major built-in object types, such as numbers, lists, and dictionaries Create and process objects using Python statements, and learn Python's general syntax model Structure and reuse code using functions, Python's basic procedural tool Learn about Python's modules: packages of statements, functions, and other tools, organized into larger components Discover Python's object-oriented programming tool for structuring code Learn about the exception-handling model and development tools for writing larger programs Explore advanced Python tools including decorators, descriptors, metaclasses, and Unicode processing

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

Easy to understand and fun to read, this updated edition of Introducing Python is ideal for beginning programmers as well as those new to the language. Author Bill Lubanovic takes you from the basics to more involved and varied topics, mixing tutorials with cookbook-style code recipes to explain concepts in Python 3. End-of-chapter exercises help you practice what you've learned. You'll gain a strong foundation in the language, including best practices for testing, debugging, code reuse, and other development tips. This book also shows you how to use Python for applications in business, science, and the arts, using various Python tools and open source packages. Learn simple data types, and basic math and text operations Use data-wrangling techniques with Python's built-in data structures Explore Python code structure, including the use of functions Write large programs in Python, with modules and packages Dive into objects, classes, and other object-oriented features Examine storage from flat files to relational databases and NoSQL Use Python to build web clients, servers, APIs, and services Manage system tasks such as programs, processes, and threads Understand the basics of concurrency and network programming

**Today, anyone in a scientific or technical discipline needs programming skills. Python is an ideal first programming language, and Introduction to Programming in Python is the best guide to learning it.** Princeton University's Robert Sedgewick, Kevin Wayne, and Robert Dondoro have crafted an accessible, interdisciplinary introduction to programming in Python that emphasizes important and engaging applications, not toy problems. The authors supply the tools needed for students to learn that programming is a natural, satisfying, and creative experience. This example-driven guide focuses on Python's most useful features and brings programming to life for every student in the sciences, engineering, and computer science. Coverage includes basic elements of programming: variables, assignment statements, built-in data types, conditionals, loops, arrays, and I/O, including graphics and sound Functions, modules, and libraries: organizing programs into components that can be independently debugged, maintained, and reused Object-oriented programming and data abstraction: objects, modularity, encapsulation, and more Algorithms and data structures: sort/search algorithms, stacks, queues, and symbol tables Examples from applied math, physics, chemistry, biology, and computer science—all compatible with Python 2 and 3 Drawing on their extensive classroom experience, the authors provide Q&As, exercises, and opportunities for creative practice throughout. An extensive amount of supplementary information is available at [introcs.cs.princeton.edu/python](http://introcs.cs.princeton.edu/python). With source code, I/O libraries, solutions to selected exercises, and much more, this companion website empowers people to use their own computers to teach and learn the material.
**Would you like to gather big datasets, analyze them, and visualize the results, all in one program?** If this describes you, then Introduction to Python Programming for Business and Social Science Applications is the book for you. Authors Frederick Kaefee and Paul Kaefee walk you through each step of the Python package installation and analysis process, with frequent exercises throughout so you can immediately try out the functions you've learned. Written in straightforward language for those with no programming background, this book will teach you how to use Python for your research and data analysis. Instead of teaching you the principles and practices of programming as a whole, this application-oriented text focuses on only what you need to know to research and answer social science questions. The text features two types of examples, one set from the General Social Survey and one set from a large taxi trip dataset from a major metropolitan area, to help readers understand the possibilities of working with Python. Chapters on installing and working within a programming environment, basic skills, and necessary commands will get you up and running quickly, while chapters on programming logic, data input and output, and data frames are the basic framework for conducting analyses. Further chapters on web scraping, statistical analysis, machine learning, and data visualization help you apply your skills to your research. More advanced information on developing graphical user interfaces (GUIs) help you create functional data products using Python to inform general users of data who don't work within Python. First there was IBM® SPSS®, then there was R, and now there's Python. Statistical software is getting more aggressive - let authors Frederick Kaefee and Paul Kaefee help you tame it!
**Introduction to Python Programming for Business and Social Science Applications.**

**An Interdisciplinary Approach**
**Learning Python**
**Python Basics**
**Introduction to Machine Learning with Python**
**Python Tutorial**
**A Step-by-Step Guide to Programming**
**Clear, Concise, and Effective Programming**
**Revised and updated with improvements conceived in parallel programming courses, The Art of Multiprocessor Programming is an authoritative guide to multicore programming. It introduces a higher level set of software development skills than that needed for efficient single-core programming. This book provides comprehensive coverage of the new principles, algorithms, and tools necessary for effective multiprocessor programming. Students and professionals alike will benefit from thorough coverage of key multiprocessor programming issues. This revised edition incorporates much-demanded updates throughout the book, based on feedback and corrections reported from classrooms since 2008 Learn the fundamentals of programming multiple threads accessing shared memory Explore mainstream concurrent data structures and the key elements of their design, as well as synchronization techniques from object-locks to transactional memory systems Visit the companion site and download source code, example Java programs, and materials to support and enhance the learning experience**
**This book is designed for use as a primary introduction to Python and can be used as an introductory text or as a resource for professionals in industry. The book has been divided into four sections. The first section deals with the language fundamentals, primarily the procedural part of the language, the second introduces the object-oriented paradigms, the third section deals with data structures, and the last is devoted to advanced topics like handling multi-dimensional arrays using NumPy and visualization using Matplotlib. Regular expressions and multi-threading have been introduced in the appendices. FEATURES
• Includes sections dedicated to data structures
• Offers in-depth treatment of topics such as classes, inheritance, BST, and NumPy
• Introduces topics like Matplotlib and PIL
• Contains exercises for practice and a review of essential programming concepts**
**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.**
**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 appreciate this 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 jump a boat load of theoretical information on 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 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**

**Head First Python**

**A Practical Introduction to Python 3**

**Python Programming for the Absolute Beginner: CD-ROM**

**Introduction to Computing Using Python: An Application Development Focus**

**Recipes for Mastering Python 3**

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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

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

Take your Python skills to the next level to develop scalable, real-world applications for local as well as cloud deployment Key FeaturesAll code examples have been tested with Python 3.7 and Python 3.8 and are expected to work with any future 3.x releaseLearn how to build modular and object-oriented applications in PythonDiscover how to use advanced Python techniques for the cloud and clustersBook Description Python is a multipurpose language that can be used for multiple use cases. Python for Geeks will teach you how to advance in your career with the help of expert tips and tricks. You'll start by exploring the different ways of using Python optimally, both from the design and implementation point of view. Next, you'll understand the life cycle of a large-scale Python project. As you advance, you'll focus on different ways of creating an elegant design by modularizing a Python project and learn best practices and design patterns for using Python. You'll also discover how to scale out Python beyond a single thread and how to implement multiprocessing and multithreading in Python. In addition to this, you'll understand how you can not only use Python to deploy on a single machine but also use clusters in private as well as in public cloud computing environments. You'll then explore data processing techniques, focus on reusable, scalable data pipelines, and learn how to use these advanced techniques for network automation, serverless functions, and machine learning. Finally, you'll focus on strategizing web development design using the techniques and best practices covered in the book. By the end of this Python book, you'll be able to do some serious Python programming for large-scale complex projects. What you will learnUnderstand how to design and manage complex Python projectsStrategize test-driven development (TDD) in PythonExplore multithreading and multiprogramming in PythonUse Python for data processing with Apache Spark and Google Cloud Platform (GCP)Deploy serverless programs on public clouds such as GCPUse Python to build web applications and application programming interfacesApply Python for network automation and serverless functionsGet to grips with Python for data analysis and machine learningWho this book is for This book is for intermediate-level Python developers in any field who are looking to build their skills to develop and manage large-scale complex projects. Developers who want to create reusable modules and Python libraries and cloud developers building applications for cloud deployment will also find this book useful. Prior experience with Python will help you get the most out of this book.

Introducing PythonModern Computing in Simple PackagesO'Reilly Media, Inc.\*

A Guide for Data Scientists

Violent Python

A Hands-On Introduction to Using Python in the Atmospheric and Oceanic Sciences

Build production-ready applications using advanced Python concepts and industry best practices

Python

An Introduction to Programming

Easy to understand and fun to read, this updated edition of Introducing Python is ideal for beginning programmers as well as those new to the language. Author Bill Lubanovic takes you from the basics to more involved and varied topics, mixing tutorials with cookbook-style code recipes to explain concepts in Python 3. End-of-chapter exercises help you practice what you've learned. You'll gain a strong foundation in the language, including best practices for testing, debugging, code reuse, and other development tips. This book also shows you how to use Python for applications in business, science, and the arts, using various Python tools and open source packages.

Want to learn the Python language without slogging your way through how-to manuals? With Head First Python, you'll quickly grasp Python's fundamentals, working with the built-in data structures and functions. Then you'll move on to building your very own webapp, exploring database management, exception handling, and data wrangling. If you're intrigued by what you can do with context managers, decorators, comprehensions, and generators, it's all here. This second edition is a complete learning experience that will help you become a bonafide Python programmer in no time. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Pythonuses a visually rich format to engage your mind, rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multi-sensory learning experience is designed for the way your brain really works.

Move from zero knowledge of programming to comfortably writing small to medium-sized programs in Python. Fully updated for Python 3, with code and examples throughout, the book explains Python coding with an accessible, step-by-step approach designed to bring you comfortably into the world of software development. Real-world analogies make the material understandable, with a wide variety of well-documented examples to illustrate each concept. Along the way, you'll develop short programs through a series of coding challenges that reinforce the content of the chapters. Learn to Program with Python 3 guides you with material developed in the author's university computer science courses. The author's conversational style feels like you're working with a personal tutor. All material is thoughtfully laid out, each lesson building on previous ones. What You'll Learn Understand programming basics with Python, based on material developed in the author's college courses Learn core concepts: variables, functions, conditionals, loops, lists, strings, and more Explore example programs including simple games you can program and customize Build modules to reuse your own code Who This Book Is For This book assumes no prior programming experience, and would be appropriate as text for a high school or college introduction to computer science.

The Quick Python Book

A Hands-On, Project-Based Introduction to Programming

Deep Learning with Python

Release 3, 6, 6c1

Practical Programming