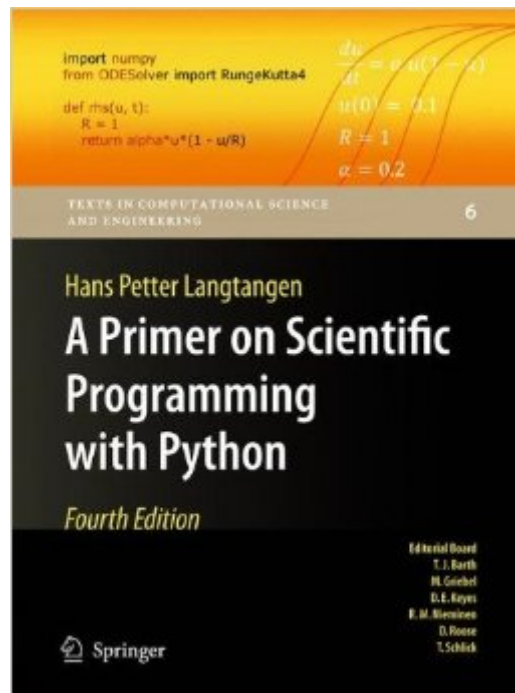# A Primer On Scientific Programming With Python (Texts In Computational Science And Engineering)

# Synopsis

The book serves as a first introduction to computer programming of scientific applications, using the high-level Python language. The exposition is example and problem-oriented, where the applications are taken from mathematics, numerical calculus, statistics, physics, biology and finance. The book teaches "Matlab-style" and procedural programming as well as object-oriented programming. High school mathematics is a required background and it is advantageous to study classical and numerical one-variable calculus in parallel with reading this book. Besides learning how to program computers, the reader will also learn how to solve mathematical problems, arising in various branches of science and engineering, with the aid of numerical methods and programming. By blending programming, mathematics and scientific applications, the book lays a solid foundation for practicing computational science.From the reviews: Langtangen â | does an excellent job of introducing programming as a set of skills in problem solving. He guides the reader into thinking properly about producing program logic and data structures for modeling real-world problems using objects and functions and embracing the object-oriented paradigm. â | Summing Up: Highly recommended. F. H. Wild III, Choice, Vol. 47 (8), April 2010Those of us who have learned scientific programmingâ in Python â ˆon the streetsâ ™ could be a little jealous of students who have the opportunity to take a course out of Langtangenâ ™s Primer.â •Â John D. Cook, The Mathematical Association of America, September 2011This book goes through Python in particular, and programming in general, via tasks that scientists will likely perform. It contains valuable informationÂ 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), Marchâ /April 2012 Â Â

# Book Information

Series: Texts in Computational Science and Engineering (Book 6)

Hardcover: 872 pages

Publisher: Springer; 4th ed. 2014 edition (August 2, 2014)

Language: English

ISBN-10: 3642549586

ISBN-13: 978-3642549588

Product Dimensions:  10.3 x 7.1 x 1.7 inches

Shipping Weight: 4.9 pounds (View shipping rates and policies)

Average Customer Review:  4.7 out of 5 starsÂ Â See all reviewsÂ (3 customer reviews)

Best Sellers Rank: #374,404 in Books (See Top 100 in Books)   #229 inÂ Books > Science & Math > Physics > Mathematical Physics   #250 inÂ Books > Computers & Technology > Databases & Big Data > Data Processing   #317 inÂ Books > Computers & Technology > Programming > Languages & Tools > Python

## Customer Reviews

After years away from any programming at work I decided to pick it up again. Python was an obvious choice. I started from page 1 and worked my way through all the exercises. Some very tough for me but I kept pushing. Now I can manage myself at work. In that respect I am very happy about the book.It does however have its flaws:- Way too many exercises have errors (e.g. traces from older versions of some exercises)- The structure of the book is a bit confusing. A bit portion of it is appendices which I won't be spending a lot of time on, to name an example. However, those are easy to ignore (they just make the book heavier)- My focus was to learn scripting and put Python into my engineering toolbox at work. Some parts of the book took me away from that objective (but fair enough, I am not blaming the book for this, at it is written for a variety of purposes)- Some exercises seemed to rely on the person to have read the lecture notes from the author, which he presents when he himself teaches his students. Fair enough, they are available on the internet, but it would have been if the book was self-contained, i.e. that the exercises were solely based on the book text and no outside sourceThat said, for those who want to start from "square one", I can recommend the book. It did a great job with me.-

Clear, valuable, useful! A wonderful intro to Python in general and using it to do science.

GREAT book on practical use of Python in science and engineering.

*Download to continue reading...*

Python: PYTHON CRASH COURSE - Beginner's Course To Learn The Basics Of Python Programming In 24 Hours!: (Python, Python Programming, Python for Dummies, Python for Beginners, python crash course) Python: Learn Python In A DAY! - The Ultimate Crash Course to Learning the Basics of Python In No Time (Python, Python Course, Python Development, Python Books, Python for Beginners) Programming #45: Python Programming Professional Made Easy & Android Programming In a Day! (Python Programming, Python Language, Python for beginners, ... Programming Languages, Android Programming) A Primer on Scientific Programming with Python (Texts in Computational Science and Engineering) Python: Learn Python FAST - The Ultimate

Crash Course to Learning the Basics of the Python Programming Language In No Time (Python, Python Programming, ... (Learn Coding Fast with Hands-On Project 7) PYTHON: Python in 8 Hours, For Beginners, Learn Python Fast! A Smart Way to Learn Python, Plain & Simple, Learn Python Programming Language in Easy Steps, A Beginner's Guide, Start Coding Today! Programming Raspberry Pi 3: Getting Started With Python (Programming Raspberry Pi 3, Raspberry Pi 3 User Guide, Python Programming, Raspberry Pi 3 with Python Programming) Python: Learn Web Scraping with Python In A DAY! - The Ultimate Crash Course to Learning the Basics of Web Scraping with Python In No Time (Web Scraping ... Python Books, Python for Beginners) Scientific Computing with MATLAB and Octave (Texts in Computational Science and Engineering) Programming #8:C Programming Success in a Day & Android Programming In a Day! (C Programming, C++programming, C++ programming language, Android , Android Programming, Android Games) Programming #57: C++ Programming Professional Made Easy & Android Programming in a Day (C++ Programming, C++ Language, C++for beginners, C++, Programming ... Programming, Android, C, C Programming) Programming: Computer Programming for Beginners: Learn the Basics of Java, SQL & C++ - 3. Edition (Coding, C Programming, Java Programming, SQL Programming, JavaScript, Python, PHP) Hacking: Hacking Made Easy 1: Beginners: Python: Python Programming For Beginners, Computer Science, Computer Programming Swift and Python Programming Guide: Programming Language For Beginners: Learn in a Day! Box Set Collection (Swift, Python, JAVA, C++. PHP) Python: Learn Python in One Day and Learn It Well. Python for Beginners with Hands-on Project. (Learn Coding Fast with Hands-On Project Book 1) Python Data Analytics: Data Analysis and Science using pandas, matplotlib and the Python Programming Language Python: Ultimate Crash Course to Learn It Well and Become an Expert in Python Programming (Hands-on Project, Learn Coding Fast, Machine Learning, Data Science) Python: A Beginner to Expert Guide to Learning the basics of Python Programming (Computer Science Series) The Scientific Endeavor: A Primer on Scientific Principles and Practice DOS: Programming Success in a Day: Beginners guide to fast, easy and efficient learning of DOS programming (DOS, ADA, Programming, DOS Programming, ADA ... LINUX, RPG, ADA Programming, Android, JAVA)