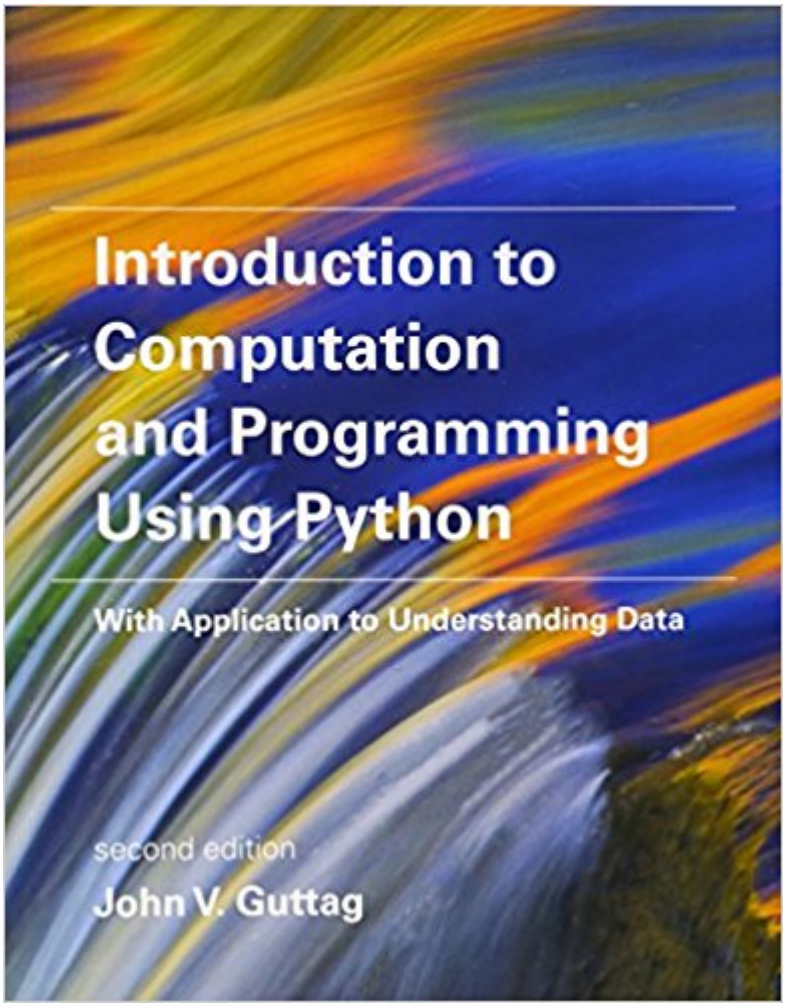
Introduction To Computation And Programming Using Python: With Application To Understanding Data (MIT Press)



Synopsis

This book introduces students with little or no prior programming experience to the art of computational problem solving using Python and various Python libraries, including PyLab. It provides students with skills that will enable them to make productive use of computational techniques, including some of the tools and techniques of data science for using computation to model and interpret data. The book is based on an MIT course (which became the most popular course offered through MIT's OpenCourseWare) and was developed for use not only in a conventional classroom but in in a massive open online course (MOOC). This new edition has been updated for Python 3, reorganized to make it easier to use for courses that cover only a subset of the material, and offers additional material including five new chapters.Students are introduced to Python and the basics of programming in the context of such computational concepts and techniques as exhaustive enumeration, bisection search, and efficient approximation algorithms. Although it covers such traditional topics as computational complexity and simple algorithms, the book focuses on a wide range of topics not found in most introductory texts, including information visualization, simulations to model randomness, computational techniques to understand data, and statistical techniques that inform (and misinform) as well as two related but relatively advanced topics: optimization problems and dynamic programming. This edition offers expanded material on statistics and machine learning and new chapters on Frequentist and Bayesian statistics.

Book Information

Series: MIT Press
Paperback: 472 pages
Publisher: The MIT Press; second edition edition (August 12, 2016)
Language: English
ISBN-10: 0262529629
ISBN-13: 978-0262529624
Product Dimensions: 7 x 0.8 x 9 inches
Shipping Weight: 1.6 pounds (View shipping rates and policies)
Average Customer Review: 4.5 out of 5 stars 17 customer reviews
Best Sellers Rank: #10,257 in Books (See Top 100 in Books) #15 inÃ Â Books > Computers & Technology > Programming > Languages & Tools > Python #19 inÃ Â Books > Computers & Technology > Programming > Introductory & Beginning #24 inÃ Â Books > Computers & Technology > Programming > Web Programming

Customer Reviews

This is the ’computational thinking’ book we have all been waiting for! With humor and historical anecdotes, John Guttag conveys the breadth and joy of computer science without compromising technical detail.Ã Â The second edition includes brand new material that focuses on computational approaches to understanding data, complementing traditional computational problem solving. (Jeannette M. Wing, Corporate Vice President, Microsoft Research, and Consulting Professor of Computer Science and former Department Head, Carnegie Mellon University)John Guttag is an extraordinary teacher and an extraordinary writer. This is not ’a Python book,’ although you will learn Python. Nor is it a ’programming book,’ although you will learn to program. It is a rigorous but eminently readable introduction to computational problem solving, and now also to data science -- this second edition has been expanded and reorganized to reflect Python’s role as the language of data science. (Ed Lazowska, Bill & Melinda Gates Chair in Computer Science & Engineering, and Director of the eScience Institute, University of Washington)

John V. Guttag is the Dugald C. Jackson Professor of Computer Science and Electrical Engineering at MIT.

If you’re taking MITx 6.00.1x on edX, you NEED this book. This book has a lot of clarifications and examples that will make your progress on the course so much easier. Also, there are free editions of this book available elsewhere, but they don’t cover Python 3, and this book does. Well worth the money!

A different approach. Very application based

This is a great book for learning not only Python but also the principles of CS and strategies for implementing applications too. I took the online course on MIT Open Courseware some time ago; this new edition is super!!!

Great Book. If you take the course this book will help you immensely. Highly recommended.

It’s a good read

A wonderful text.

Fast shipping. Good book.

I chose this book for teaching a small intro CS class in Python (3), after reviewing a lot of other books. So many are focused on all the details of the language, but I wanted a book that taught more of the big ideas of computer science/programming. Like: exhaustive enumeration is an amazingly powerful tool in 2016 where our processors go way faster than our programmers go. And bisection search. There's other good, practical outlook in the book. Go read the table of contents. I wish the introduction of OOP were a little easier for beginners. I enjoy Guttag's footnotes and musings.

Python: Programming: Your Step By Step Guide To Easily Learn Python in 7 Days (Python for Beginners, Python Programming for Beginners, Learn Python, Python Language) Introduction to Computation and Programming Using Python: With Application to Understanding Data (MIT Press) Python Programming: Python Programming for Beginners, Python Programming for Intermediates, Python Programming for Advanced Python: The Complete Python Quickstart Guide (For Beginner's) (Python, Python Programming, Python for Dummies, Python for Beginners) Hacking with Python: Beginner's Guide to Ethical Hacking, Basic Security, Penetration Testing, and Python Hacking (Python Programming, Hacking, Python Coding, Python and Hacking Book 3) PYTHON: PYTHON'S COMPANION, A STEP BY STEP GUIDE FOR BEGINNERS TO START CODING TODAY! (INCLUDES A 6 PAGE PRINTABLE CHEAT SHEET)(PYTHON FOR BEGINNERS, PYTHON FOR DUMMIES, PYTHON PROGRAMMING) Data Analytics and Python Programming: 2 Bundle Manuscript: Beginners Guide to Learn Data Analytics, Predictive Analytics and Data Science with Python Programming PYTHON: LEARN PYTHON in A Day and MASTER IT WELL. The Only Essential Book You Need To Start Programming in Python Now. Hands On Challenges INCLUDED! (Programming for Beginners, Python) Python Programming: An In-Depth Guide Into The Essentials Of Python Programming (Included: 30+ Exercises To Master Python in No Time!) C++ and Python Programming: 2 Manuscript Bundle: Introductory Beginners Guide to Learn C++ Programming and Python Programming C++ and Python Programming 2 Bundle Manuscript. Introductory Beginners Guide to Learn C++ Programming and Python Programming Python Programming: The Complete Step By Step Guide to Master Python Programming and Start Coding Today! (Computer Programming Book 4) Data Analytics: Applicable Data Analysis to Advance Any Business Using the Power of Data Driven Analytics (Big Data Analytics, Data Science, Business Intelligence Book 6) Python: Learn Python in a Day and Master It Well: The Only Essential Book

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