



Python Algorithms: Mastering Basic Algorithms in the Python Language

Magnus Lie Hetland

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Python Algorithms, Second Edition explains the Python approach to algorithm analysis and design. Written by Magnus Lie Hetland, author of *Beginning Python*, this book is sharply focused on classical algorithms, but it also gives a solid understanding of fundamental algorithmic problem-solving techniques.

The book deals with some of the most important and challenging areas of programming and computer science in a highly readable manner. It covers both algorithmic theory and programming practice, demonstrating how theory is reflected in real Python programs. Well-known algorithms and data structures that are built into the Python language are explained, and the user is shown how to implement and evaluate others.

What you'll learn

- How to transform new problems to well-known algorithmic problems with efficient solutions, or show that the problems belong to classes of problems thought not to be efficiently solvable
- How to analyze algorithms and Python programs using both mathematical tools and basic experiments and benchmarks
- How to understand several classical algorithms and data structures in depth, and be able to implement these efficiently in Python
- How to design and implement new algorithms for new problems, using time-tested design principles and techniques
- How to speed up implementations, using a plethora of tools for high-performance computing in Python

Who this book is for

The book is intended for Python programmers who need to learn about algorithmic problem-solving, or who need a refresher. Data and computational scientists employed to do big data analytic analysis should find this book useful. Game programmers and financial analysts/engineers may find this book applicable too. And, students of computer science, or similar programming-related topics, such as bioinformatics, may also find the book to be quite useful.

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