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# Grokking Algorithms

## An Illustrated Guide

### For Programmers

### And Other Curious

### People

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Grokking Deep Reinforcement Learning  
Data Structures and Algorithms in Python  
Real-World Algorithms  
A Beginner's Guide  
Introduction To Algorithms  
The Practical Astronomer  
Explains Algorithms with Beautiful Pictures Learn  
it Easy Better and Well  
An Illustrated Guide for Programmers and Other  
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Python Algorithms  
Grokking Algorithms  
The Self-Taught Computer Scientist  
Algorithms in a Nutshell  
Understanding Distributed Systems  
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Grokking Deep Learning  
Guide to Competitive Programming  
Learn the Art of Solving Computational Problems

Human Resource Management for MBA and  
Business Masters

A Problem-Based Introduction

Algorithmic Thinking for Adventurous Minds

The Beginner's Guide to Data Structures &  
Algorithms

Elements of Programming Interviews in Python

Data Structure and Algorithmic Thinking with  
Python

Android Programming

Algorithms

A Common-Sense Guide to Data Structures and  
Algorithms

Advanced Algorithms and Data Structures

Pushing the Limits

Data Structures and Algorithms in C++

The Self-taught Programmer

Coders at Work

Learning and Improving Algorithms Through  
Contests

Grokking Algorithms

Grokking Machine Learning

The Definitive Guide to Programming

Professionally

Elegant Objects

Grokking Artificial Intelligence Algorithms

System Design Interview - An Insider's Guide  
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Grokking  
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An  
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Deep  
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Learning  
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AlgorithmsAn  
illustrated  
guide for  
programmers  
and other  
curious people  
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Deep Learning  
teaches you to  
build deep  
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neural  
networks from  
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style,  
seasoned  
deep learning  
expert Andrew

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Trask shows

you the science under the hood, so you grok for yourself every detail of training neural networks. Using only Python and its math-supporting library, NumPy, you'll train your own neural networks to see and understand images, translate text into different languages, and even write like Shakespeare! When you're done, you'll be fully prepared to move on to mastering deep learning

frameworks. What's inside The science behind deep learning Building and training your own neural networks Privacy concepts, including federated learning Tips for continuing your pursuit of deep learning About the Reader For readers with high school-level math and intermediate programming skills. About the Author Andrew Trask is a PhD student at Oxford University and

a research scientist at DeepMind. Previously, Andrew was a researcher and analytics product manager at Digital Reasoning, where he trained the world's largest artificial neural network and helped guide the analytics roadmap for the Synthesys cognitive computing platform. Table of Contents Introducing deep learning: why you should learn it Fundamental concepts: how

do machines learn?	ignoring noise:introduc	length data
Introduction to neural prediction: forward propagation	tion to regularization and batching	Introducing automatic optimization:
Introduction to neural learning: gradient descent	Modeling probabilities and nonlinearities: activation functions	let's build a deep learning framework
Learning multiple weights at a time: generalizing gradient descent	Neural learning about edges and corners: intro to convolutional neural networks	Learning to write like Shakespeare: long short-term memory
Building your first deep neural network: introduction to backpropagation	Neural networks that understand language: king - man + woman == ?	Deep learning on unseen data: introducing federated learning
How to picture neural networks: in your head and on paper	Neural networks that write like Shakespeare: recurrent layers for variable-	Where to go from here: a brief guide
Learning signal and		<a href="#">Data Structures and Algorithms in Python</a> MIT Press
		Summary Grokking Algorithms is a fully illustrated, friendly guide

that teaches you how to apply common algorithms to the practical problems you face every day as a programmer. You'll start with sorting and searching and, as you build up your skills in thinking algorithmically, you'll tackle more complex concerns such as data compression and artificial intelligence. Each carefully presented example includes helpful diagrams and fully annotated

code samples in Python. Learning about algorithms doesn't have to be boring! Get a sneak peek at the fun, illustrated, and friendly examples you'll find in *Grokking Algorithms* on Manning Publications' YouTube channel. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology An algorithm is nothing more

than a step-by-step procedure for solving a problem. The algorithms you'll use most often as a programmer have already been discovered, tested, and proven. If you want to understand them but refuse to slog through dense multipage proofs, this is the book for you. This fully illustrated and engaging guide makes it easy to learn how to use the most important algorithms effectively in

your own programs. About the Book Grokking Algorithms is a friendly take on this core computer science topic. In it, you'll learn how to apply common algorithms to the practical programming problems you face every day. You'll start with tasks like sorting and searching. As you build up your skills, you'll tackle more complex problems like data compression and artificial intelligence. Each carefully

presented example includes helpful diagrams and fully annotated code samples in Python. By the end of this book, you will have mastered widely applicable algorithms as well as how and when to use them. What's Inside Covers search, sort, and graph algorithms Over 400 pictures with detailed walkthroughs Performance trade-offs between algorithms

Python-based code samples About the Reader This easy-to-read, picture-heavy introduction is suitable for self-taught programmers, engineers, or anyone who wants to brush up on algorithms. About the Author Aditya Bhargava is a Software Engineer with a dual background in Computer Science and Fine Arts. He blogs on programming at [adit.io](http://adit.io). Table of Contents Introduction to algorithms

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Publishing	and error. We	introduces this
Platform	avoid the	powerful
Grokking	things that	machine
Deep	cause us to	learning
Reinforcement	experience	approach,
Learning uses	pain and	using
engaging	failure. We	examples,
exercises to	embrace and	illustrations,
teach you how	build on the	exercises, and
to build deep	things that	crystal-clear
learning	give us reward	teaching.
systems. This	and success.	You'll love the
book	This common	perfectly
combines	pattern is the	paced
annotated	foundation of	teaching and
Python code	deep	the clever,



engaging writing style as you dig into this awesome exploration of reinforcement learning fundamentals, effective deep learning techniques, and practical applications in this emerging field. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology We learn by interacting with our environment, and the rewards or punishments

we experience guide our future behavior. Deep reinforcement learning brings that same natural process to artificial intelligence, analyzing results to uncover the most efficient ways forward. DRL agents can improve marketing campaigns, predict stock performance, and beat grand masters in Go and chess. About the book Grokking Deep Reinforcement Learning uses

engaging exercises to teach you how to build deep learning systems. This book combines annotated Python code with intuitive explanations to explore DRL techniques. You'll see how algorithms function and learn to develop your own DRL agents using evaluative feedback. What's inside An introduction to reinforcement learning DRL agents with human-like behaviors Applying DRL

to complex situations  
 About the reader For developers with basic deep learning experience.  
 About the author Miguel Morales works on reinforcement learning at Lockheed Martin and is an instructor for the Georgia Institute of Technology's Reinforcement Learning and Decision Making course. Table of Contents 1  
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**Real-World Algorithms**  
 Hachette UK  
 Strengthen your understanding of data structures and their algorithms for the foundation you need to successfully design, implement and maintain virtually any software system.  
 Theoretical,

yet practical, DATA STRUCTURES AND ALGORITHMS IN C++, 4E by experienced author Adam Drozdek highlights the fundamental connection between data structures and their algorithms, giving equal weight to the practical implementation of data structures and the theoretical analysis of algorithms and their efficiency. This edition provides critical new coverage of treaps, k-d

trees and k-d B-trees, generational garbage collection, and other advanced topics such as sorting methods and a new hashing technique. Abundant C++ code examples and a variety of case studies provide valuable insights into data structures implementation. DATA STRUCTURES AND ALGORITHMS IN C++ provides the balance of theory and practice to

prepare readers for a variety of applications in a modern, object-oriented paradigm. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. [A Beginner's Guide](#) Simon and Schuster Algorithms and data structures are much more than abstract concepts. Mastering them enables you to write

code that runs faster and more efficiently, which is particularly important for today's web and mobile apps. Take a practical approach to data structures and algorithms, with techniques and real-world scenarios that you can use in your daily production code, with examples in JavaScript, Python, and Ruby. This new and revised second edition features new

chapters on recursion, dynamic programming, and using Big O in your daily work. Use Big O notation to measure and articulate the efficiency of your code, and modify your algorithm to make it faster. Find out how your choice of arrays, linked lists, and hash tables can dramatically affect the code you write. Use recursion to solve tricky problems and create algorithms that run exponentially

faster than the alternatives. Dig into advanced data structures such as binary trees and graphs to help scale specialized applications such as social networks and mapping software. You'll even encounter a single keyword that can give your code a turbo boost. Practice your new skills with exercises in every chapter, along with detailed solutions. Use these techniques

today to make your code faster and more scalable. *Introduction To Algorithms* Roberto Vitillo Peter Seibel interviews 15 of the most interesting computer programmers alive today in *Coders at Work*, offering a companion volume to *Apress's* highly acclaimed best-seller *Founders at Work* by Jessica Livingston. As the words "at work" suggest, Peter Seibel focuses on how his interviewees

tackle the day-to-day work of programming, while revealing much more, like how they became great programmers, how they recognize programming talent in others, and what kinds of problems they find most interesting. Hundreds of people have suggested names of programmers to interview on the *Coders at Work* web site: [www.codersatwork.com](http://www.codersatwork.com). The complete list was 284

names. Having digested everyone's feedback, we selected 15 folks who've been kind enough to agree to be interviewed: Frances Allen: Pioneer in optimizing compilers, first woman to win the Turing Award (2006) and first female IBM fellow Joe Armstrong: Inventor of Erlang Joshua Bloch: Author of the Java collections framework, now at Google Bernie Cosell: One of the main software

guy behind the original ARPANET IMPs and a master debugger Douglas Crockford: JSON founder, JavaScript architect at Yahoo! L. Peter Deutsch: Author of Ghostscript, implementer of Smalltalk-80 at Xerox PARC and Lisp 1.5 on PDP-1 Brendan Eich: Inventor of JavaScript, CTO of the Mozilla Corporation Brad Fitzpatrick: Writer of LiveJournal, OpenID, memcached,

and Perlbal Dan Ingalls: Smalltalk implementor and designer Simon Peyton Jones: Coinventor of Haskell and lead designer of Glasgow Haskell Compiler Donald Knuth: Author of The Art of Computer Programming and creator of TeX Peter Norvig: Director of Research at Google and author of the standard text on AI Guy Steele: Coinventor of Scheme and part of the Common Lisp

Gang of Five, currently working on Fortress Ken Thompson: Inventor of UNIX Jamie Zawinski: Author of XEmacs and early Netscape/Mozilla hacker **The Practical Astronomer** Simon and Schuster TL;DR Compound variable names, validators, private static literals, configurable objects, inheritance, annotations, MVC, dependency injection containers,

reflection, ORM and even algorithms are our enemies. Explains Algorithms with Beautiful Pictures Learn it Easy Better and Well Manning Publications mmers better use the energy of algorithms in daily projects.1. Classic reference book in the field of algorithms: reflects the core knowledge system of algorithms2. Comprehensive content: Comprehensive discussion of

sorting, linked list, search, hash, graph and tree algorithms and data structures, covering the algorithms commonly used by every programmer3. The C implementation code, using a modular programming style, gives the actual code of the algorithm. Simple is the beginning of wisdom. From the essence of practice, this book to briefly explain the concept and vividly cultivate programming

interest, you will learn it easy, fast and well An Illustrated Guide for Programmers and Other Curious People EPI The first edition won the award for Best 1990 Professional and Scholarly Book in Computer Science and Data Processing by the Association of American Publishers. There are books on algorithms that are rigorous but incomplete and others

that cover masses of material but lack rigor. Introduction to Algorithms combines rigor and comprehensiveness. The book covers a broad range of algorithms in depth, yet makes their design and analysis accessible to all levels of readers. Each chapter is relatively self-contained and can be used as a unit of study. The algorithms are described in English and in a pseudocode designed to be readable

by anyone who has done a little programming. The explanations have been kept elementary without sacrificing depth of coverage or mathematical rigor. The first edition became the standard reference for professionals and a widely used text in universities worldwide. The second edition features new chapters on the role of algorithms, probabilistic analysis and

randomized algorithms, and linear programming, as well as extensive revisions to virtually every section of the book. In a subtle but important change, loop invariants are introduced early and used throughout the text to prove algorithm correctness. Without changing the mathematical and analytic focus, the authors have moved much of the mathematical foundations material from



Part I to an appendix and have included additional motivational material at the beginning.

**Python Algorithms**

Simon and Schuster Grokking Artificial Intelligence Algorithms is a fully-illustrated and interactive tutorial guide to the different approaches and algorithms that underpin AI. Written in simple language and with lots of visual references and hands-on

examples, you'll learn the concepts, terminology, and theory you need to effectively incorporate AI algorithms into your applications. Summary Grokking Artificial Intelligence Algorithms is a fully-illustrated and interactive tutorial guide to the different approaches and algorithms that underpin AI. Written in simple language and with lots of visual references

and hands-on examples, you'll learn the concepts, terminology, and theory you need to effectively incorporate AI algorithms into your applications. And to make sure you truly grok as you go, you'll use each algorithm in practice with creative coding exercises—including building a maze puzzle game, performing diamond data analysis, and even exploring drone material optimization.

Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Artificial intelligence touches every part of our lives. It powers our shopping and TV recommendations; it informs our medical diagnoses. Embracing this new world means mastering the core algorithms at the heart of AI. About the book Grokking Artificial

Intelligence Algorithms uses illustrations, exercises, and jargon-free explanations to teach fundamental AI concepts. All you need is the algebra you remember from high school math class. Explore coding challenges like detecting bank fraud, creating artistic masterpieces, and setting a self-driving car in motion. What's inside Use cases for different AI algorithms Intelligent search for

decision making Biologically inspired algorithms Machine learning and neural networks Reinforcement learning to build a better robot About the reader For software developers with high school-level algebra and calculus skills. About the author Rishal Hurbans is a technologist, startup and AI group founder, and international speaker. Table of Contents 1 Intuition of artificial

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AlgorithmsAn  
illustrated  
guide for  
programmers  
and other

curious  
peopleSimon  
and Schuster  
**The Self-  
Taught  
Computer  
Scientist** John  
Wiley & Sons  
The system  
design  
interview is  
considered to  
be the most  
complex and  
most difficult  
technical job  
interview by  
many. Those  
questions are  
intimidating,  
but don't  
worry. It's just  
that nobody  
has taken the  
time to  
prepare you  
systematically  
. We take the  
time. We go  
slow. We draw  
lots of  
diagrams and

use lots of  
examples.  
You'll learn  
step-by-step,  
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explain how  
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*Algorithms in a Nutshell*

Pragmatic Bookshelf

This book is about how to work smart to avoid unnecessary work.

Algorithmic thinking is about identifying the most efficient steps to solve a seemingly complex problem without detouring. It is a necessary skill for future jobs. Through a magical lens, CalliLens, you will observe abstraction and recognize patterns in the Land of Apple

Pi. The authors, along with Python, transform into the main characters, the BestFour. They will accompany you through each challenge, naturally come up with the solution steps, and master algorithmic thinking without you forcefully knowing it. The authors have been teaching CS and USA Computing Olympiad (USACO) classes since 2016 and formed their

unique approach to engaging with both visual learners and reading/writing learners. The rigid concepts like Fibonacci, graph, recursion, queue, stack, Greedy, Dynamic Programming, Prim, Kruskal, Dijkstra, BFS, DFS are expressed in visualizations, graphs, miniature poems, and fun facts. Oh, if coding is coffee, the flowchart will be the coffee mate. You will receive a good taste of

"coffee" and "coffee mate" from this book. Both children and parents are welcome to the adventure. The only prerequisite is to keep an open mind and open eyes. If you don't know coding yet, flowcharts are your friendly starting point. What? Some of you say that you want to dive into coding? Alright, Python code and Pygames are a bonus for you to craft your programming skills. Understanding

Distributed Systems MIT Press  
Based on the authors' market leading data structures books in Java and C++, this textbook offers a comprehensive, definitive introduction to data structures in Python by authoritative authors. Data Structures and Algorithms in Python is the first authoritative object-oriented book available for the Python data structures course.

Designed to provide a comprehensive introduction to data structures and algorithms, including their design, analysis, and implementation, the text will maintain the same general structure as Data Structures and Algorithms in Java and Data Structures and Algorithms in C++.  
*An Illustrated Guide for Programmers and Other Curious People* Apress  
Have you ever... -  
Wanted to work at an

exciting futuristic company? - Struggled with an interview problem that could have been solved in 15 minutes? - Wished you could study real-world computing problems? If so, you need to read *Elements of Programming Interviews* (EPI). EPI is your comprehensive guide to interviewing for software development roles. The core of EPI is a collection of over 250 problems with detailed

solutions. The problems are representative of interview questions asked at leading software companies. The problems are illustrated with 200 figures, 300 tested programs, and 150 additional variants. The book begins with a summary of the nontechnical aspects of interviewing, such as strategies for a great interview, common mistakes, perspectives from the other

side of the table, tips on negotiating the best offer, and a guide to the best ways to use EPI. We also provide a summary of data structures, algorithms, and problem solving patterns. Coding problems are presented through a series of chapters on basic and advanced data structures, searching, sorting, algorithm design principles, and concurrency. Each chapter

stars with a brief introduction, a case study, top tips, and a review of the most important library methods. This is followed by a broad and thought-provoking set of problems. A practical, fun approach to computer science fundamentals, as seen through the lens of common programming interview questions. Jeff Atwood/Co-founder, Stack Overflow and Discourse  
*Grokking*

*Deep Learning*  
Wiley Global Education  
Advanced Algorithms and Data Structures introduces a collection of algorithms for complex programming challenges in data analysis, machine learning, and graph computing.  
Summary As a software engineer, you'll encounter countless programming challenges that initially seem confusing, difficult, or even impossible.

Don't despair! Many of these "new" problems already have well-established solutions. *Advanced Algorithms and Data Structures* teaches you powerful approaches to a wide range of tricky coding challenges that you can adapt and apply to your own applications. Providing a balanced blend of classic, advanced, and new algorithms, this practical

guide upgrades your programming toolbox with new perspectives and hands-on techniques. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Can you improve the speed and efficiency of your applications without investing in new hardware? Well, yes, you can: Innovations in algorithms

and data structures have led to huge advances in application performance. Pick up this book to discover a collection of advanced algorithms that will make you a more effective developer. About the book *Advanced Algorithms and Data Structures* introduces a collection of algorithms for complex programming challenges in data analysis, machine learning, and

graph computing. You'll discover cutting-edge approaches to a variety of tricky scenarios. You'll even learn to design your own data structures for projects that require a custom solution. What's inside Build on basic data structures you already know Profile your algorithms to speed up application Store and query strings efficiently Distribute clustering algorithms



with	data	QUERIES 8
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An introduction to graphs: Finding paths of minimum distance 15	<u>Programming</u> "O'Reilly Media, Inc." Algorithms are the lifeblood of computer science. They are the machines that proofs build and the music that programs play. Their history is as old as mathematics itself. This textbook is a wide-ranging, idiosyncratic treatise on the design and analysis of algorithms, covering several fundamental techniques, with an emphasis on intuition and the problem-	solving process. The book includes important classical examples, hundreds of battle-tested exercises, far too many historical digressions, and exactly four typos. Jeff Erickson is a computer science professor at the University of Illinois, Urbana-Champaign; this book is based on algorithms classes he has taught there since 1998.
Graph embeddings and planarity: Drawing graphs with minimal edge intersections 16		
Gradient descent: Optimization problems (not just) on graphs 17		
Simulated annealing: Optimization beyond local minima 18		
Genetic algorithms: Biologically inspired, fast-converging optimization		
<u>Guide to Competitive</u>		<b>Learn the Art of Solving Computation</b>

**al Problems**

Kogan Page  
Publishers  
An  
introduction to  
algorithms for  
readers with  
no  
background in  
advanced  
mathematics  
or computer  
science,  
emphasizing  
examples and  
real-world  
problems.  
Algorithms are  
what we do in  
order not to  
have to do  
something.  
Algorithms  
consist of  
instructions to  
carry out  
tasks—usually  
dull, repetitive  
ones. Starting  
from simple  
building  
blocks,

computer  
algorithms  
enable  
machines to  
recognize and  
produce  
speech,  
translate  
texts,  
categorize and  
summarize  
documents,  
describe  
images, and  
predict the  
weather. A  
task that  
would take  
hours can be  
completed in  
virtually no  
time by using  
a few lines of  
code in a  
modern  
scripting  
program. This  
book offers an  
introduction to  
algorithms  
through the  
real-world

problems they  
solve. The  
algorithms are  
presented in  
pseudocode  
and can  
readily be  
implemented  
in a computer  
language. The  
book presents  
algorithms  
simply and  
accessibly,  
without  
overwhelming  
readers or  
insulting their  
intelligence.  
Readers  
should be  
comfortable  
with  
mathematical  
fundamentals  
and have a  
basic  
understanding  
of how  
computers  
work; all other  
necessary

concepts are explained in the text. After presenting background in pseudocode conventions, basic terminology, and data structures, chapters cover compression, cryptography, graphs, searching and sorting, hashing, classification, strings, and chance. Each chapter describes real problems and then presents algorithms to solve them. Examples illustrate the wide range of applications,

including shortest paths as a solution to paragraph line breaks, strongest paths in elections systems, hashes for song recognition, voting power Monte Carlo methods, and entropy for machine learning. Real-World Algorithms can be used by students in disciplines from economics to applied sciences. Computer science majors can read it before using a more

technical text. *Human Resource Management for MBA and Business Masters* No Starch Press Unleash the power of the Android OS and build the kinds of brilliant, innovative apps users love to use If you already know your way around the Android OS and can build a simple Android app in under an hour, this book is for you. If you're itching to see just how far you can push it and discover what Android

is really capable of, it's for you. And if you're ready to learn how to build advanced, intuitive, innovative apps that are a blast to use, this book is definitely for you. From custom views and advanced multi-touch gestures, to integrating online web services and exploiting the latest geofencing and activity recognition features, ace Android developer, Erik Hellman, delivers expert tips,

tricks and little-known techniques for pushing the Android envelope so you can: Optimize your components for the smoothest user experience possible Create your own custom Views Push the boundaries of the Android SDK Master Android Studio and Gradle Make optimal use of the Android audio, video and graphics APIs Program in Text-To-Speech and Speech

Recognition Make the most of the new Android maps and location API Use Android connectivity technologies to communicate with remote devices Perform background processing Use Android cryptography APIs Find and safely use hidden Android APIs Cloud-enable your applications with Google Play Services Distribute and sell your applications on Google Play Store

<p>Learn how to unleash the power of Android and transform your apps from good to great in Android Programming: Pushing the Limits. <i>A Problem-Based Introduction</i> Independently Published Python Algorithms, Second Edition explains the Python approach to algorithm analysis and design. Written by</p>	<p>Magnus Lie Hetland, author of <i>Beginning Python</i>, 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</p>	<p>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.</p>
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Best Sellers - Books :

- [Too Late: Definitive Edition By Colleen Hoover](#)
- [Flash Cards: Sight Words By Scholastic Teacher](#)

### Resources

- [The Inmate: A Gripping Psychological Thriller By Freida Mcfadden](#)
- [Twisted Lies \(twisted, 4\)](#)
- [I Love You To The Moon And Back By Amelia Hepworth](#)
- [How To Win Friends & Influence People \(dale Carnegie Books\) By Dale Carnegie](#)
- [What To Expect When You're Expecting](#)
- [Rich Dad Poor Dad: What The Rich Teach Their Kids About Money That The Poor And Middle Class Do Not! By Robert T. Kiyosaki](#)
- [My First Learn-to-write Workbook: Practice For Kids With Pen Control, Line Tracing, Letters, And More!](#)
- [Outlive: The Science And Art Of Longevity](#)