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Algorithmic Puzzles

algorithmic PUZZLES

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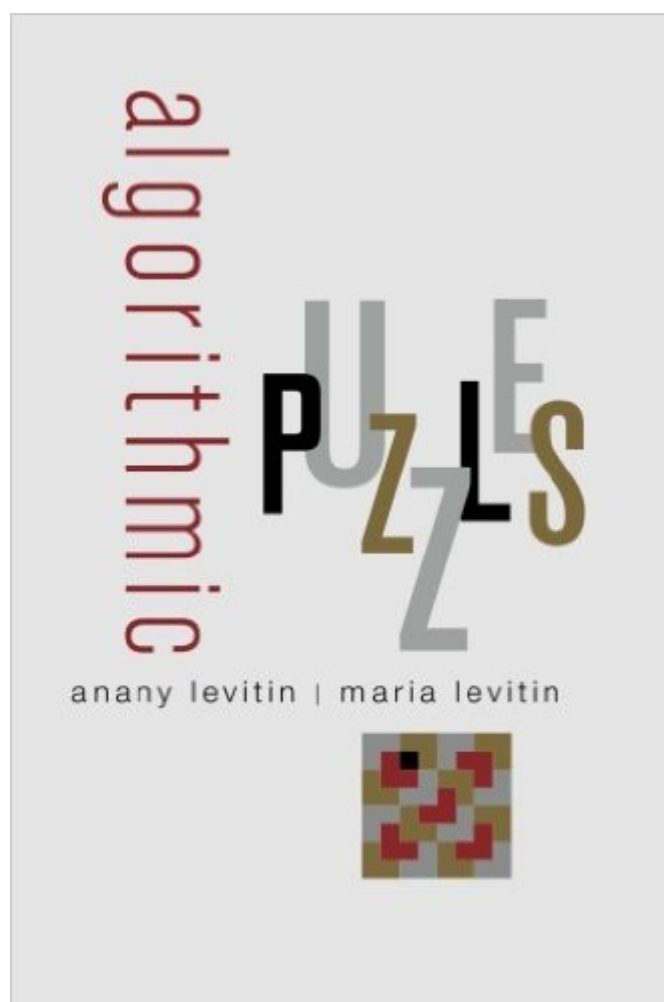
Synopsis

While many think of algorithms as specific to computer science, at its core algorithmic thinking is defined by the use of analytical logic to solve problems. This logic extends far beyond the realm of computer science and into the wide and entertaining world of puzzles. In Algorithmic Puzzles, Anany and Maria Levitin use many classic brainteasers as well as newer examples from job interviews with major corporations to show readers how to apply analytical thinking to solve puzzles requiring well-defined procedures.The book's unique collection of puzzles is supplemented with carefully developed tutorials on algorithm design strategies and analysis techniques intended to walk the reader step-by-step through the various approaches to algorithmic problem solving. Mastery of these strategies--exhaustive search, backtracking, and divide-and-conquer, among others--will aid the reader in solving not only the puzzles contained in this book, but also others encountered in interviews, puzzle collections, and throughout everyday life. Each of the 150 puzzles contains hints and solutions, along with commentary on the puzzle's origins and solution methods. The only book of its kind, Algorithmic Puzzles houses puzzles for all skill levels. Readers with only middle school mathematics will develop their algorithmic problem-solving skills through puzzles at the elementary level, while seasoned puzzle solvers will enjoy the challenge of thinking through more difficult puzzles.

Book Information

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Customer Reviews

My motivation for reading this book: preparing for coding interview puzzles.This is the perspective

from which I evaluate the book.Conclusion: if you are in the coding interview game do yourself a favor and read at least the first 30 pages. Best return on investment, unless you already have specific training on solving puzzles.I have at least 5 of the most popular titles specifically dedicated to coding interviews but I find that just the first 30 pages of this book are more valuable than all the other books combined. (This statement is limited to the general problem solving topics and not to technical trivia or dedicated computer science topics like tricky manipulations of a linked list.)The first pages review very clearly the major strategies for solving "puzzles," which is just another word for problems. If you have a computing or mathematics background then likely nothing on those pages will be new. Regardless, in my case the systematic review of these strategies makes the difference between "I know that I should be able to solve this in minutes but still I run around in loops and getting frustrated" to actually being able to convert the problem space to a graphical representation that helps getting the solution in minutes even with the most simplistic approach of exhaustive search. Of course those 30 pages are about describing the progression of the more sophisticated strategies that, even though I have been aware of them all, are extremely helpful to see in a system.Contrast to other books I've seen: other books usually start with the problem, then either provide the solution up front, or demonstrate one example of how you could start looking for the solution.

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