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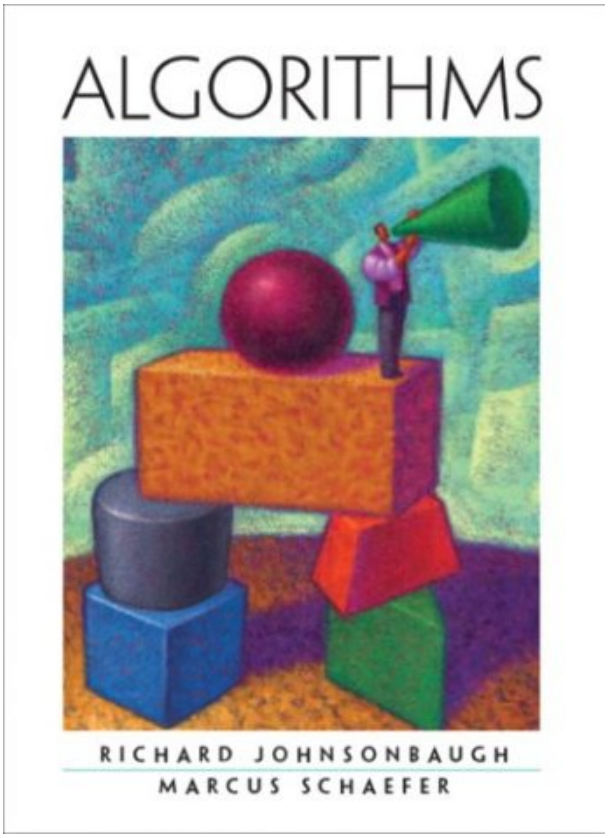

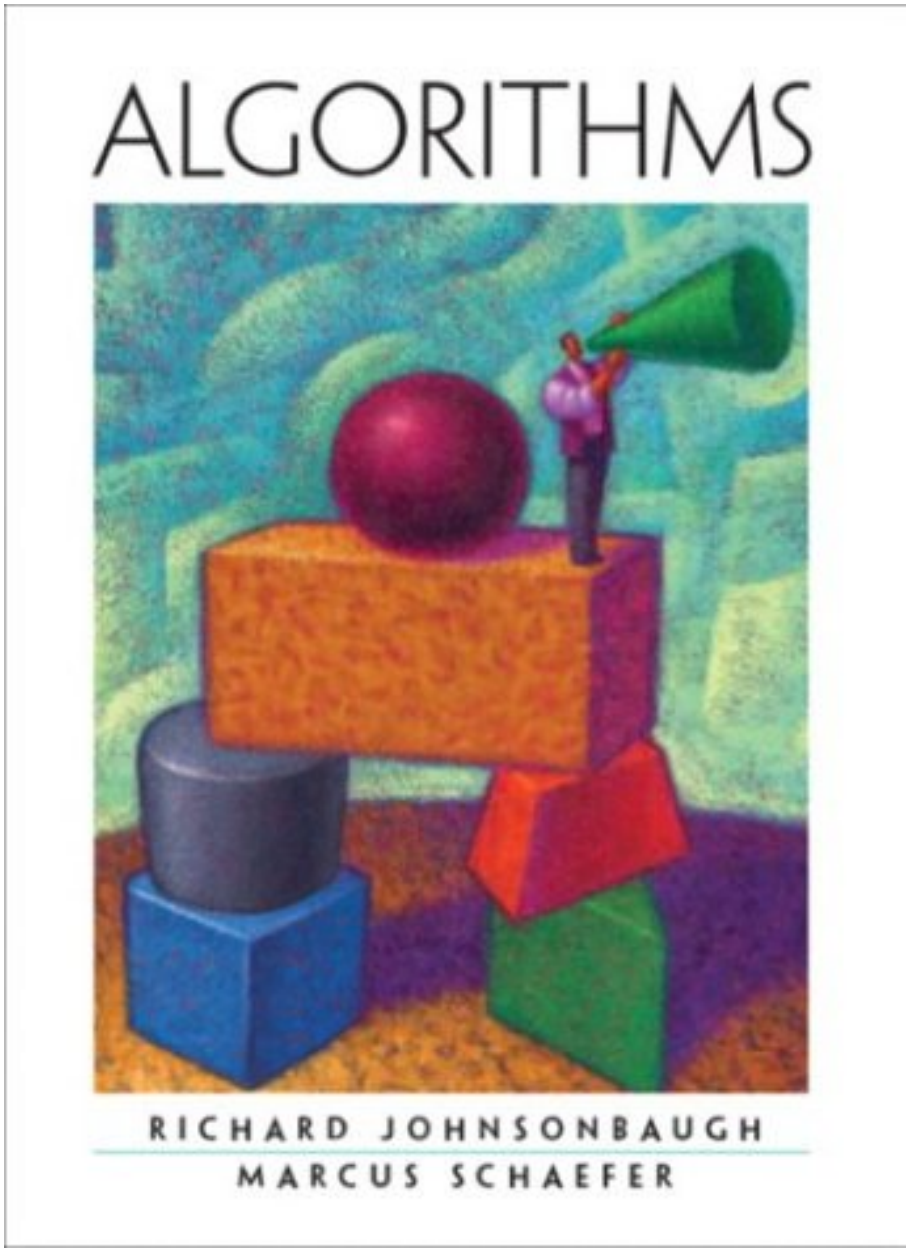

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3 of 3 people found the following review helpful.
Difficult Introduction to Algorithms
By Thomas Manning
We are using this book as a text in our Computer Science II course. Unfortunately, this is a somewhat

difficult book to try and learn from. The descriptions are very dense, filled with many proofs, and little in the way of an explanation as to what an algorithm does, or what it's purpose is. In other words, rather than simply stating what an algorithm is used for and the general ideas behind it in a couple clear paragraphs, it spreads this information out between unclear and hard to follow proofs (that skip over important steps), using difficult language, and between multiple "failed attempts" which try to show how to arrive at the optimal way of implementing an algorithm without clearly stating so.

I want to state now that I spend a lot of time reading dense texts from other computer science books, to Microsoft documentation, to even some Wikipedia articles. While I can bear through this book, it is one of the more difficult things I've had to deal with. In my opinion, its worse than the level of perceived greatness from teachers, and practical uselessness to students as is found in many math books that can prove everything and explain almost nothing.

However, I have not had a chance to check out any other computer science texts, so perhaps as the last reviewer stated, this *IS* one of the better ones...

If you're a professor, before choosing this book, or any other really, try to see if it at least has clear explanations in addition to whatever else one might want. Because, as a student who often relies on the textbook for learning things, this one is near impossible.

2 of 2 people found the following review helpful.
Algorithms Richard Johnsonbaugh
By bikejpmz
Good book, explains many algorithms in more plain, easier to understand English than the Introduction to Algorithms by Cormen, Lieserson, Rivest, and Stein. Although it is different in the amount and focus of material. Both books used in conjunction is helpful.

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Pedagogy

Each section (except Section 12.1, which is an introductory section) concludes with Section Exercises. The book contains over 1100 Section Exercises. Some of these exercises check for basic understanding of the material (e.g., some ask for a trace of an algorithm), while others check for a deeper understanding of the material (e.g., some investigate alternative algorithms). Exercises that are more challenging than average are indicated with a star, *.

Each chapter ends with a Notes section, which is followed by Chapter Exercises. Notes sections contain suggestions for further reading and pointers to references. Chapter Exercises, some of which have hints, integrate the material of the chapter. The book contains over 350 Chapter Exercises. They are, on the whole, more challenging than the Section Exercises. We have included some very challenging Chapter Exercises

marked with two stars. These will probably require instructor guidance, and some are appropriate for a small project.

Lower bounds for problems are integrated into the chapters that discuss those problems rather than being segregated into separate chapters. For example, after presenting several sorting algorithms, we discuss a lower bound for comparison-based sorting (Section 6.3).

We present and discuss many recent results, for example, parameterized complexity (Section 11.4), a recent area of research.

Algorithms are written in pseudocode that is close to the syntax of the familiar C, C++, and Java family of languages. Data types, semicolons, obscure features of the languages, and so on, are not used because we have found that specifying algorithms by writing actual code obscures the algorithm description and makes it difficult for someone not familiar with the language to understand the algorithm. The pseudocode used is completely described

Figures illustrate concepts, show how algorithms work, elucidate proofs, and motivate the material. Several figures illustrate proofs of theorems. The captions of these figures provide additional explanation and insight into the proofs.

Attention has been given to finding the most direct and comprehensible proofs of correctness as examples, see Theorem 7.2.5 from which the correctness of both Kruskal's and Prim's algorithms are derived and the proof of the correctness of Dijkstra's algorithm (Theorem 7.4.5).

We present several examples and arguments to show that our time bounds for algorithms are sharp. See, for example, the subsection in Section 7.3, Lower Bound Time Estimate, which shows that the upper bound for the worst-case time of Prim's algorithm using a binary heap is sharp, and the discussion just before Theorem 7.5.4, which shows that the upper bound for the worst-case time of Huffman's algorithm is sharp.,