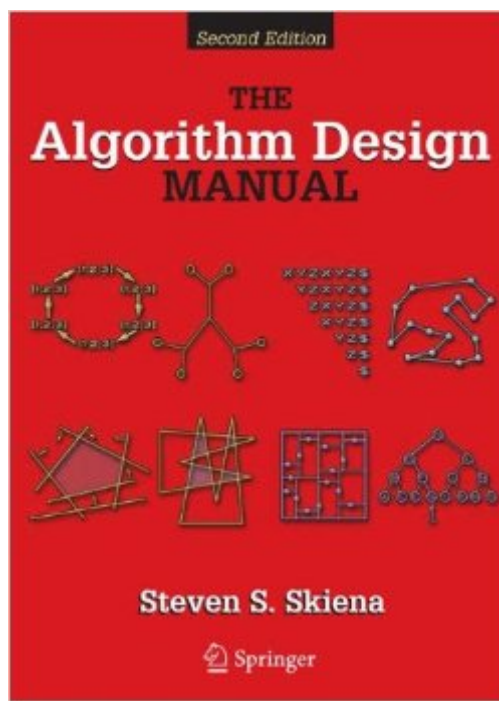The book was found

The Algorithm Design Manual

Synopsis

Most professional programmers that Iâ™ve encountered are not well prepared to tackle algorithm design problems. This is a pity, because the techniques of algorithm design form one of the core practical technologies of computer science. Designing correct, efficient, and implementable algorithms for real-world problems requires access to two distinct bodies of knowledge: â ¢ Techniques â " Good algorithm designers understand several fundamental algorithm design techniques, including data structures, dynamic programming, depth first search, backtracking, and heuristics. Perhaps the single most important design technique is modeling, the art of abstracting a messy real-world application into a clean problem suitable for algorithmic attack. â ¢ Resources â " Good algorithm designers stand on the shoulders of giants. Rather than laboring from scratch to produce a new algorithm for every task, they can figure out what is known about a particular problem. Rather than re-implementing popular algorithms from scratch, they seek existing implementations to serve as a starting point. They are familiar with many classic algorithmic problems, which provide sufficient source material to model most any application. This book is intended as a manual on algorithm design, providing access to combinatorial algorithm technology for both students and computer professionals.

Book Information

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Customer Reviews

This book was recommended to me by a member of a large company that starts with G and rhymes with noodle...He explained that it "the best" for learning algorithmns. Being out of university for many

years, and being a mechanical/software engineer vs a computer scientist, I needed something to refresh my memory and teach me what I did not know about algorithms.So the good first:1. I was able to read (almost, see point 4) the whole book (663 actual pages to read) in 5 nights (at 4-5 hours per night), so it is good if you need the knowledge in a rush.2. Most of the knowledge is quite comprehensible. Specifically the basic concepts: Big-O notation, logarithmic behaviour, data structures, graph traversal.3. The second part of the book is more like a reference, so if you have a problem to solve, you can go there and use that to direct you to the appropriate algorithms.4. I did not read the "war stories", lack of time and lack of interest. Those are where the author tells us his brave battles against the algorithms.The Bad:1. Some topics are not explained clear enough: I could NOT understand the important sorts (Quick, Merge, Heap) just by reading the book. I tried as hard as I could, but only when I went to "the net", read it again, and actually coded the things myself + going line by line with the debugeer I finally understood them.2. The code samples actually make function calls to functions that are not written there. You are left hangin' - what do we do now?3. Trees: Splay trees, black red trees, AVL trees, B-Trees and tries - they are barely mentioned or given a few words. Not enough, in my humble opinion.4. Weighted graph problems: Either the topic is for genius level only, or I am an idiot, or the explanation was horrible. Chose any two... Didn't understand anything.Well, hope I didn't bore you too much. Good luck with your algorithms!CheersAri

I've got the Cormen book as well, which I love. This book is a much more readable text, by far. I think that others here have broken down the areas covered quite well; so I'll just give a stream of consciousness version of what I liked about the book.It gives the subject matter with from a need to know standpoint. It also gives you real world examples of how the author has had to utilize algorithms not just to implement a particular solution, but to also optimize existing solutions. Although it doesn't give the hardcore theoretical breakdowns in Cormen's text, don't think that the subject matter is presented in a lightweight format. You will still be given some level of mathematical proof for some algorithms and data structure optimizations.Although less terse than the typical text on Algorithms, it doesn't try too hard to be cute and quirky. The humor is well placed and not too overbearing.Though less academic than "Introduction To Algorithms", this ain't the book to pickup to learn about coding algorithms for a quick study prior to an interview. However, if you're planning to get ready for interviews maybe a few months down the road...go for it!A caveat...I got the Kindle version for the Android, which is none too forgiving when it comes to images. So diagrams look horrible on the phone (even with the DroidX's big-assed screen). It looks fine on the laptop,

however.Enjoy!

My Dad loved to cook and one of his favorite cookbooks was "The Joy of Cooking." By the time he died, the pages of his copy were stained and dusted with flour from being constantly used in his kitchen.Why did he like it so much? Because not only did it have great recipes, it also explored the basic ingredients and methods and told interesting stories about cooking.That's why "The Algorithm Design Manual" could be called "The Joy of Algorithms." Not only has it become my "goto" book for finding the right algorithmic approach to a problem, it is a joy to read with Skiena's "war stories" and his lively writing style.Just like my Dad's "The Joy of Cooking" was never far from his stove, "The Algorithm Design Manual" will never be far from my computer.

[update - Feb, 2014]Several other reviewers say that the problems I reported originally with the Kindle edition of this book have been fixed. I no longer own the book (got a refund in 2012), so can't confirm that directly. Changing the review title and upgrading to 5 stars accordingly (I would prefer just to delete the review entirely but that does not appear to be possible).--------[original review - Oct, 2012]It's a good book but I have discovered that key parts of the Kindle edition are garbled, making the book useless. Buy the physical book, not the Kindle edition, don't make my mistake!For example, take a look at the "ClosestPair(P)" algorithm described on p7 of the hardcover edition, see the preview

http://www..com/Algorithm-Design-Manual-Steven-Skiena/dp/1848000693/ref=tmm_hrd_title_0 . Compare that to the same algorithm shown in the Kindle edition:

http://www..com/The-Algorithm-Design-Manual-ebook/dp/B0016H523Q/ref=tmm_kin_title_0 . The indentation is completely messed up and worse yet, there are other mistakes like "if dist(s, t)

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