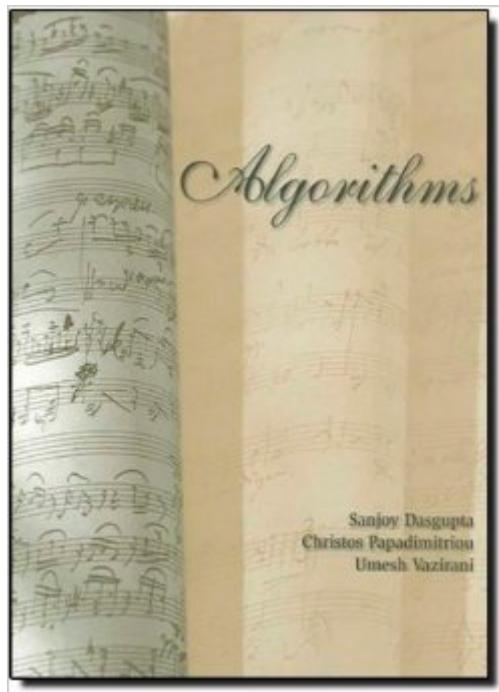


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# Algorithms



## **Synopsis**

This text, extensively class-tested over a decade at UC Berkeley and UC San Diego, explains the fundamentals of algorithms in a story line that makes the material enjoyable and easy to digest. Emphasis is placed on understanding the crisp mathematical idea behind each algorithm, in a manner that is intuitive and rigorous without being unduly formal. Features include: The use of boxes to strengthen the narrative: pieces that provide historical context, descriptions of how the algorithms are used in practice, and excursions for the mathematically sophisticated. Carefully chosen advanced topics that can be skipped in a standard one-semester course, but can be covered in an advanced algorithms course or in a more leisurely two-semester sequence. An accessible treatment of linear programming introduces students to one of the greatest achievements in algorithms. An optional chapter on the quantum algorithm for factoring provides a unique peephole into this exciting topic. In addition to the text, DasGupta also offers a Solutions Manual, which is available on the Online Learning Center. "Algorithms is an outstanding undergraduate text, equally informed by the historical roots and contemporary applications of its subject. Like a captivating novel, it is a joy to read." Tim Roughgarden Stanford University

## **Book Information**

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## **Customer Reviews**

I have just this past year finished a Masters of IT. Considering that my professional reference library has some rather out-of-date books, I decided to refresh the library with a view to polishing up a number of topics studied and not studied whilst 'seeking gainful employment.' Now, while for my purpose this work is a bit disappointing, it looks to be an excellent textbook for first year computer

science students ... Why do I so conclude? Let's distinguish between so called computer science students doing more nuts and bolts and technical studies who typically learn Java then C++ and sometimes take an assembler subject, and information systems students who typically learn Java and then systems analysis and design and database and sometimes never even take a low level programming subject. The former would in my opinion be well served by this work; the latter might find the mathematical content perhaps a bit challenging. That said, the first year computer science student should realise that algorithms is a deep subject that leads in many surprising directions deep into many fields of mathematics, and that one could spend years studying just the history of algorithms ... Therefore, this is a reference work to be dipped into to find the content that is needed by the task at hand. The use of the table of contents and index to find such content as is relevant to the task at hand is required. But, during the break before second year read this work cover to cover, as there is so much knowledge to absorb as one learns to appreciate the many and varied algorithms available to solve various problems and begin to acquire judgment as to what kind of algorithm would suit a particular problem situation with its time and space and cost constraints ... including the cost if required to code it up and carefully and properly test it! An educational textbook well suited to that purpose; but not recommended for the professional reference library market.

It's written well, provides clear explanations and is not loaded with repeat explanations. The fact that it's a flexible paperback makes it great for 1handed reading as well, bonus.

This book is quite a nice read. It explains algorithms clearly and is comprehensible, though it does require work on the reader's part. If you really want to understand algorithms, you're going to have to think through the problems within the book, which may arguably mean that the book isn't doing its job, but I feel that if you are to fully understand a subject, you're going to have to grapple with it. Furthermore, the problems in the back of the book are great to work with, though it is a little unfortunate that I haven't been able to find a solutions manual or anything of the sort. Regardless, it's a good book to pick up, and not a very dense read through. At least, this is speaking from the perspective of someone who actually is interested in algorithms and has some discrete mathematics knowledge. If you are looking for something with more general knowledge (though I'm not really sure what I mean by that), this might be a tad bit hard to read, but I feel it's still worth the challenge.

As expected

my go to algorithms text.

Some professors and students I know like this book. I personally find the language just a bit obtuse, and in general, as is confirmed here (imho), I am weary of CS books that try to accomplish so much in so few words. This book is meant to explain these topics well, but I find the explanations lacking and the deductions to be not so obvious. I was so encouraged when I saw how short some of the topics were, thinking I'd still get a solid explanation and be able to read the book leisurely. Ultimately that was not the case...

Best book on algorithms I've found in 20 years of teaching. Not an encyclopedia, rather this book presents a tasteful mix of basic and advanced material, and really helps the reader learn how to think.

Our instructor tried using this book as a standalone - I absolutely do NOT recommend. I had to refer to the Cormen Algorithms book so many times as well as other resources to actually get the help/understanding I needed. This book made so many steps without explaining itself, etc, that it was near impossible to follow. Also, the online version actually gave more hints and whatnot, and is available completely free. What a waste of money. I give the authors a lot of credit for trying, and I'm sure that for someone who is already an algorithms master that this is a great reference, but this book was not for me. Still got an A in the course, before anyone makes any assumptions.

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