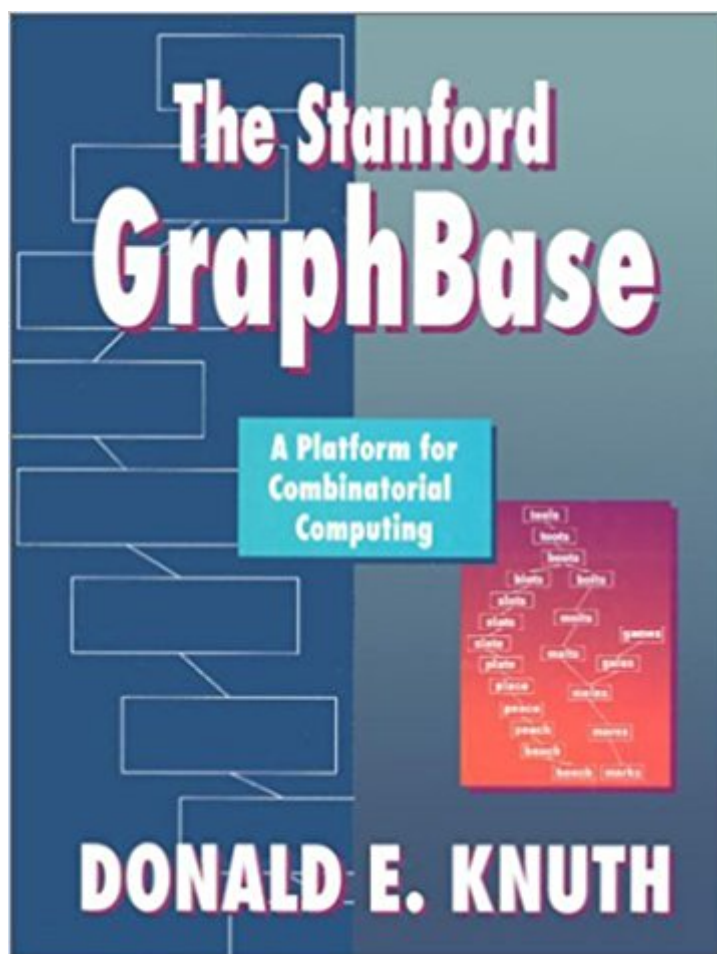The book was found

The Stanford GraphBase: A Platform For Combinatorial Computing

Synopsis

The Stanford GraphBase: A Platform for Combinatorial Computing represents the first efforts of Donald E. Knuth's preparation for Volume Four of The Art of Computer Programming. The book's first goal is to use examples to demonstrate the art of literate programming. Each example provides a programmatic essay that can be read and enjoyed as readily as it can be interpreted by machines. In these essays/programs, Knuth makes new contributions to several important algorithms and data structures, so the programs are of special interest for their content as well as for their style. The book's second goal is to provide a useful means for comparing combinatorial algorithms and for evaluating methods of combinatorial computing. To this end, Knuth's programs offer standard, freely available sets of data - the Stanford GraphBase - that may be used as benchmarks to test competing methods. The data sets are both interesting in themselves and applicable to a wide variety of problem domains. With objective tests, Knuth hopes to bridge the gap between theoretical computer scientists and programmers who have real problems to solve.As with all of Knuth's writings, this book is appreciated not only for the author's unmatched insight, but also for the fun and the challenge of his work. He illustrates many of the most significant and most beautiful combinatorial algorithms that are presently known and provides sample programs that can lead to hours of amusement. In showing how the Stanford GraphBase can generate an almost inexhaustible supply of challenging problems, some of which may lead to the discovery of new and improved algorithms, Knuth proposes friendly competitions. His own initial entries into such competitions are included in the book, and readers are challenged to do better. Features *Includes new contributions to our understanding of important algorithms and data structures *Provides a standard tool for evaluating combinatorial algorithms *Demonstrates a more readable, more practical style of programming *Challenges readers to surpass his own efficient algorithms 0201542757B04062001

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Customer Reviews

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Donald E. Knuth is known throughout the world for his pioneering work on algorithms and programming techniques, for his invention of the Tex and Metafont systems for computer

typesetting, and for his prolific and influential writing. Professor Emeritus of The Art of Computer Programming at Stanford University, he currently devotes full time to the completion of these fascicles and the seven volumes to which they belong.

To say that this is a dense book would be underselling it. There are portions that definitely show age, though I do not think that detracts too heavily from what is here. Probably the largest detractor for many will be that it is effectively in C. That said, the "literate" style is a massive boon in understanding the code.I am interested in any good contemporary takes on these ideas. Unfortunately, I do not know of any; though, this is likely from my ignorance as from their not existing.

This book is like Christmas morning to me! I've been looking for material on Graphbase analysis, and I discovered it from one of Dr. Knuth's web postings. I started off with Neo4j a while ago, and Network Graph Behavioristics has totally captivated my curiosity. This book is very well written, and very detailed on how to produce Graphbase analysis. It not only provides code examples but, the graphs it produces; backed by the mathematics it's derived from. It's a must have, if you're going to do any serious graph base analysis.

This is a stellar book. It's important, clear, and fun to read. Donald Knuth at his best.

it is very good

Full disclosure: I bought this book not so much because I am interested in the Stanford Graphbase and its capabilities, per se, but because it is one of the only (if not the only) full lengths books that Knuth has produced and published using his (with S. Levy) CWEB software documentation system. And I use this book regularly for that purpose: as an example of what I, too, can do with CWEB.Nonetheless, much of the book and its primary subject matter are eminently approachable even to the non-mathematician (such as I am, although being a professional software developer certainly helps).The book also showcases Knuth's legendary sense of humor and ruthless attention to detail. (After seeing Knuth in various youtube.com videos, you might wonder, as I do, how such a relentnessly exacting method and such a down-to-earth, good-natured personality can co-exist in one and the same person.) I highly recommend this book, "The Stanford GraphBase."

I found that Knuth's reputation for eccenctricity gets in the way of actually getting to the meat of the book. For example, getting the programs to compile under Windows was not as straightforward as it could be (although not that difficult). Much harder was to get used to the idea of using CTANGLE and CWEB in order to get Graphbase to a state where you can actually compile it.It does not help at all that Chapter 3 of the book is when how to install Graphbase is actually discussed. Just for these alone I have to give the book a 3 star rating. Perhaps I will change this once I have had the opportunity peruse the _real_ contents of the book.

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