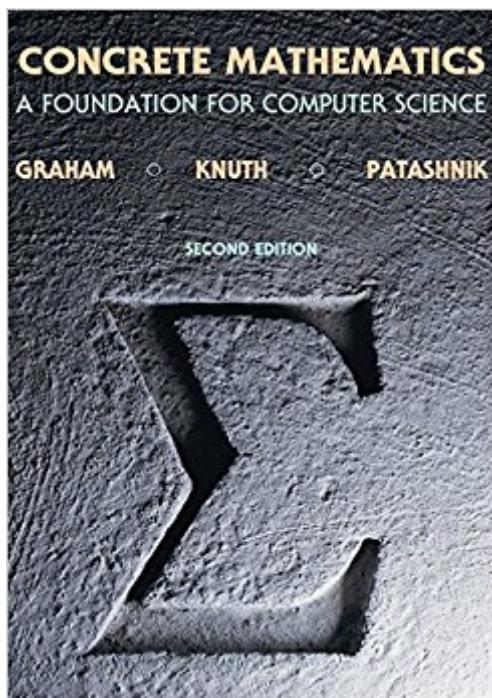The book was found

Concrete Mathematics: A Foundation For Computer Science (2nd Edition)

Synopsis

This book introduces the mathematics that supports advanced computer programming and the analysis of algorithms. The primary aim of its well-known authors is to provide a solid and relevant base of mathematical skills - the skills needed to solve complex problems, to evaluate horrendous sums, and to discover subtle patterns in data. It is an indispensable text and reference not only for computer scientists - the authors themselves rely heavily on it! - but for serious users of mathematics in virtually every discipline. Concrete Mathematics is a blending of CONtinuous and disCRETE mathematics. "More concretely," the authors explain, "it is the controlled manipulation of mathematical formulas, using a collection of techniques for solving problems." The subject matter is primarily an expansion of the Mathematical Preliminaries section in Knuth's classic Art of Computer Programming, but the style of presentation is more leisurely, and individual topics are covered more deeply. Several new topics have been added, and the most significant ideas have been traced to their historical roots. The book includes more than 500 exercises, divided into six categories. Complete answers are provided for all exercises, except research problems, making the book particularly valuable for self-study. Major topics include: Sums Recurrences Integer functions Elementary number theory Binomial coefficients Generating functions Discrete probability Asymptotic methods This second edition includes important new material about mechanical summation. In response to the widespread use of the first edition as a reference book, the bibliography and index have also been expanded, and additional nontrivial improvements can be found on almost every page. Readers will appreciate the informal style of Concrete Mathematics. Particularly enjoyable are the marginal graffiti contributed by students who have taken courses based on this material. The authors want to convey not only the importance of the techniques presented, but some of the fun in learning and using them.

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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.

This book is an expansion of the Preliminary Mathematics section of Book 1 of TAOCP by Knuth. Unlike TAOCP, the tone is much less dense, very relaxed and actually fun to read. Especially the sometimes tangential and sometimes downright funny graffitis.The book is great for self -study. As with TAOCP, problems are graded. Solutions exist to all problems - except research ones- but trying to solve them yourself will be the best way to use this book.Overall, worth every penny. A classic reference and must have.

This book is the best thing what could happen to me. Last few months I'm reading it constantly, doing exercises and understanding better whole math.Graham, Patashnik and Knuth have done great job. Thank you guys!

This is a wonderful and desk reference, proving holistic coverage of all the math-oriented themes in CS study and practice. It is especially helpful if you already have a solid background in math, up to at least College Calculus I. If you need to write a proof of some algorithm, it has countless examples of proofs to draw inspiration from, and includes many examples of the (genius) author's thinking when they work their way to proofs. I'm quite glad I own it as Concrete Mathematics is a monumental achievement and quite comprehensive.It gets 4 instead of 5 stars because despite having, as advertised, complete coverage of the mathematical topics needed for Computer Science, it is NOT a math book designed to teach you how to *conceptualize* the content it covers. It is heavy on examples and light on theory, and so is not particularly apt for developing one's math schemas. Let me reiterate this point: "Concrete Mathematics" will NOT teach you Pre-Calculus, Discrete Mathematics, or Calculus concepts. If you don't already have a robust mathematical repertoire, this book will not instill a sense of confidence that you're doing things correctly when working on your own. In the Introduction, it says it was written based on an undergraduate class the authors routinely taught... but what seems missing from this book is the *teaching part* of their lecture series. One gets the impression reading it that students who took the course must have all been math aces prior to setting foot in the lecture hall, that they needed only to learn how to apply their considerable math talents to the Computer Science problem domain. I was fine reading and applying the content in this book, but I felt I should warn people looking for math instruction that they will need to supplement this volume with additional "pure math instruction" textbooks (Brief Applied Calculus, Discrete Math, etc.).

High quality and delivered on time.

I love this book.It's extremely dense, which is great for me because I will keep learning from it for months or years to come.If you're relatively new to the subject, like me, a lot of this book won't be easy to comprehend the first time around, however with determination and online resources for help, you can get through it.Even without online resources, if you keep going when you don't understand something, and try to work out the examples on paper, you will get far.After studying this book for a while, go back to the sections that you missed the first time and they should make more sense.Try as many of the exercises as you can, some are very difficult, but others can be accomplished the first time around.This book is not for the faint of heart. If you aren't using it for a class, it will take a lot of dedication to make it through. That said, it's one of the best resources for learning discrete and continuous mathematics that relate to computer science.A great precursor to many of the great algorithm books.

This is fun stuff. It's an interesting take on discrete math. In fact, it's really not discrete math; in includes discrete math but also includes other elements. I think this is especially good for the CS people, which is actually the intended audience.

now obviously this is Knuth, so lots of information there, im still going through the book but sometimes i feel im lost at certain points which needs me to do some search somewhere else, other than this it's good knowledge

Very nice to find a rare book to give as a Christmas present. Speedy delivery. Nice

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