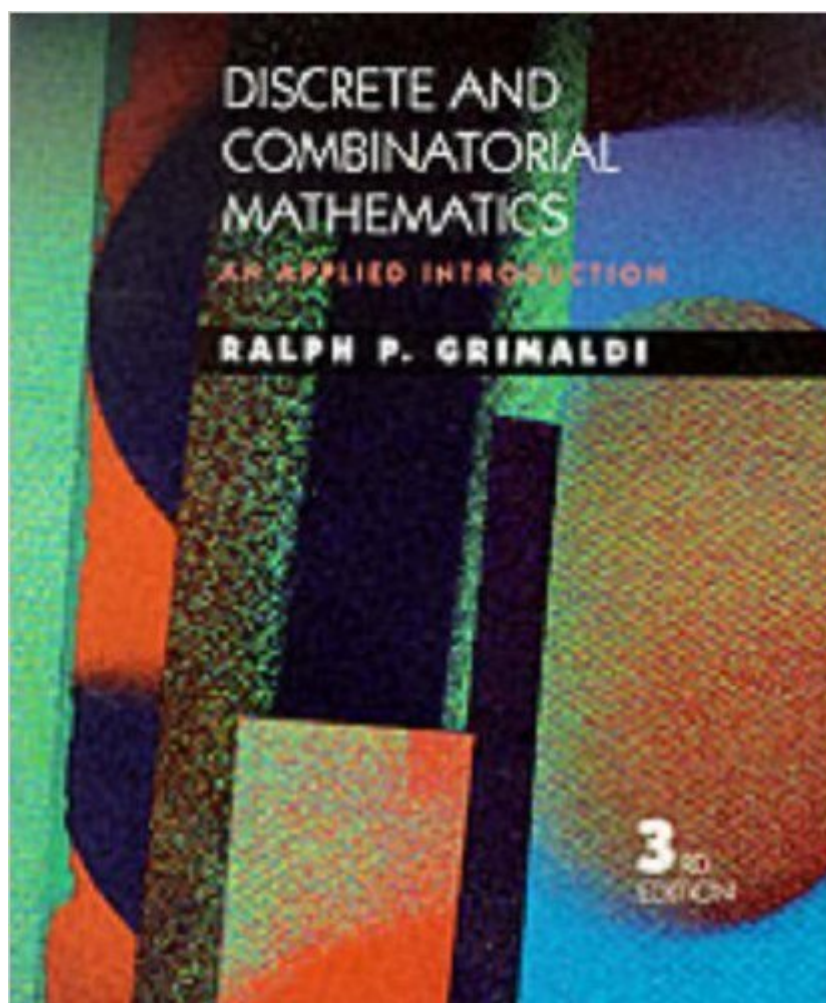


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# Discrete And Combinatorial Mathematics: An Applied Introduction



## Synopsis

This fourth edition continues to improve on the features that have made it the market leader. The text offers a flexible organization, enabling instructors to adapt the book to their particular courses: discrete mathematics, graph theory, modern algebra, and/or combinatorics. More elementary problems were added, creating a greater variety of level in problem sets, which allows students to perfect skills as they practice. This new edition continues to feature numerous computer science applications-making this the ideal text for preparing students for advanced study.

## Book Information

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## Customer Reviews

Finally! A math book which is actually well written, has enough examples to illustrate key concepts, and has enough problems to keep the math student busy. Discrete mathematics is a fairly involved subject and books on the topic range from relatively basic to extremely difficult treatises which only a PhD or a math professor could understand. *Discrete and Combinatorial Mathematics : An Applied Introduction* by Ralph Grimaldi is a book which will appeal to both sides of the spectrum. The book is written so that most undergraduate students will have little difficulty understanding, but graduate students will also find it indispensable as a reference. The illustrated examples are actually relevant to the homework problems, which is often missing in mathematical texts. Finally, the book does not try to overwhelm the reader with lofty proofs or stilted language. Each chapter builds on the previous subjects learned. That's all I can ask for in a math text. I like the coverage of combinatorics in the first chapter, which does a better job than many probability textbooks. And be sure to understand

Euclid's theorem and the examples given in the book. Quite a few high-tech companies will ask you about the problem Grimaldi gives as an example of Euclid's theorem in their job interviews.

The book is very well-written, clear and precise. I have read a couple of other books for discrete math courses, but found nothing exciting there; mostly frustrating errors, bad examples and confusion. Grimaldi's book covers pretty much everything you need to understand and apply in Discrete Mathematics. The exercises are well designed, in increasing difficulty. For most of the exercises, one can find similar examples in the text. Parts 1 and 2 of the book are by far the best read in Fundamentals and Enumeration I have ever encountered. Section 11 of Part 3 is a very nice introduction to Graph Theory. My only suggestion for improvement is some revision of sections 12 and 13 on graph algorithms - these can be simplified in terms of notation and description. Part 4 is for more advanced readers; it is usually used in a second course in Discrete mathematics. However, without being as exhaustive as the first three parts, the fourth part is presented with the same clarity and detail as the other three. I would strongly recommend this book not only to anyone who teaches Discrete mathematics, but also to any student who studies Discrete mathematics from a different book. If you are frustrated about the material; Grimaldi's book would give you the understanding and clarity you need. Definitely a five star product!

This book is perhaps the best reference for Discrete Math I have seen. The book is comprehensive. It gives an introduction to many topics every CS coding theory, number theory, partial orders, even automata. There are many examples and illustrations to understand the material. There are plenty of exercises. The text is well written; no errors or typos. It would be nice if the book had more proofs.

Grimaldi has produced a wonderful book. All the important topics in discrete math are explored, with many applications to computer science, the main client field of discrete math. The text is well balanced between theory and application. Especially nice is the introduction to modern algebra, with applications to coding theory. I highly recommend this text to anyone wishing to explore discrete mathematics. A good understanding of the concepts presented by Grimaldi will prepare the reader for more advanced work in discrete math (Aigner), computer science (Knuth), or theory of computation (Sipser).

This is an excellent book for self study. However, there are parts in this book that must be

rearranged or deleted. For example, I think Catalan numbers should be deleted. This might be useful for the matrix chaining problem, but that's in the realms of algorithm design (specifically in dynamic programming). Also, I do not understand why Grimaldi sandwiched in a chapter on Finite State Machines between two chapters on Functions and Relations. Maybe he should make a section on languages for FSMs, but I recommend Sipser's Introduction to the Theory of Computation if you want to learn about FSMs.

Plenty of exercises and answers. Very well explained; this book is a must for those who want to learn combinatorics, elementary graph theory, and many other extremely useful topics.

Grimaldi surveys the world of discrete math and combinatorics in his book, which is suitable for a full-year college course in the subject. The book is chock full of examples and proofs, although explanations would sometimes be more effective if less terse and more conversational. Grimaldi's book focuses on the practical, focusing on elements of discrete and combinatorial math that are used in engineering, science, and computer science. For example, the book teaches about finite state machines and graph theory; I've made good use of both subjects in my work in the software industry. Disclaimer: I, too, am a former student of Grimaldi's.

I used this book for my second year discrete math course and I found it quite useful. The book covers a whole lot of material and therefore it is great for an introductory course but does not get into them too deep. If you need further explanation on something there are references listed at the end of each chapter. There were two major problems with this book however, one of them being some of the examples used in the book are too simple and trivial and the tougher problems are left for the reader as an exercise. Also the solutions to the problems in the book contain only the final answer and no further explanation.

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Combinatorial Enumeration (Dover

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