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Morris, Carla C.; Stark, Robert M.
Finite mathematics. Models and applications.
Hoboken, NJ: John Wiley & Sons (ISBN 978-1-119-01550-5/hbk; 978-1-119-01559-8/ebook; 978-1-119-01553-6/set). xvi, 518 p. (2016).

This book is dedicated to the topic of finite mathematics, which emerged with great emphasis after the WWII. The book is divided into 6 main topics, as follows. The first topic, "Linear equations and mathematical concepts" introduces the reader to the algebra skills necessary to read the next chapters. The second topic, "Mathematics of finance addresses the importance of complex finance considerations on modern life". The authors discusses the basics of "consumer financial products and more advanced topics". The third topic, "Matrix algebra" represents "one of the pillars of finite mathematics courses". This chapter presents "the encoding the data into matrices, their characteristics, algebraic manipulation of matrices". Also some applications are presented, such as solving systems of equations using Gauss-Jordan elimination schemes, applications in cryptology, I/O analysis and even in sociology. The forth topic, "Linear programming" is "another pillar of finite mathematic courses". This topic divided in three parts: "Geometric solutions", "Simplex method" and "Application models". Application such as "knapsack, trim waste and caterer" are also discussed. "Probability and statistics" is the fifth main topic of this book and form "another pillar of a finite mathematics course". Within this topic there are 4 chapters as follows: "Set and probability relationships", "Random variables and and probability distributions", "Markov chains" and "Mathematical statistics". Chapter "Set and probability relationships" presents "ample examples to illustrate the basics of sets and relations to probabilities". Chapter "Random variables and and probability distributions", aside from the "customary basic topics of distributions" also discusses "the hypergeometric and Poisson distributions". The fifth topic of this book is "Enrichment". "Each section of this chapter deals with a nontraditional and useful topic related to finite mathematics". "This book is accompanied by a companion website: `http://www.wiley.com/go/morris/finitemathematics`". I would recommend this book to undergraduate students in mathematics, economics, engineering who are interested in finite mathematics. Also, researchers in the above fields might be interested in this book.   *Răzvan Răducanu (Iaşi)*

Classification: M15 I25 H35 H65 K65 K55 K45 M35 N65
Keywords: finite mathematics; linear equations; graphs; annuity; amortization; matrix algebra; linear programming; simplex method; set; probability; random variables; probability distributions; Markov chains; statistics; game theory; Monte Carlo method; dynamic programming