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Algebra; 5.8 Basic Counting Principles; 5.9 Permutations and Combinations; 5.10 Principle of Inclusion and Exclusion (PIE); 5.11 Recurrence Relations; 5.12 Urn Models; 5.13 Partitions; 5.14 Axiomatic Approach; 5.15 The Classical Approach; 5.16 Frequency Approach 5.17 Bayes Theorem 5.18 Summary; Exercises; Chapter 6: Discrete Distributions; 6.1 Discrete Random Variables; 6.2 Binomial Theorem; 6.3 Mean Deviation of Discrete Distributions; 6.4 Bernoulli Distribution; 6.5 Binomial Distribution; 6.6 Discrete Uniform Distribution; 6.7 Geometric Distribution; 6.8 Negative Binomial Distribution; 6.9 Poisson Distribution; 6.10 Hypergeometric Distribution; 6.11 Negative Hypergeometric Distribution; 6.12 Beta Binomial Distribution; 6.13 Logarithmic Series Distribution; 6.14 Multinomial Distribution; 6.15 Summary; Exercises; Chapter 7: Continuous Distributions 7.1 Introduction 7.2 Mean Deviation of Continuous Distributions; 7.3 Continuous Uniform Distribution; 7.4 Exponential Distribution; 7.5 Beta Distribution; 7.6 The Incomplete Beta Function; 7.7 General Beta Distribution; 7.8 Arc-Sine Distribution; 7.9 Gamma Distribution; 7.10 Cosine Distribution; 7.11 The Normal Distribution; 7.12 Cauchy Distribution; 7.13 Inverse Gaussian Distribution; 7.14 Lognormal Distribution; 7.15 Pareto Distribution; 7.16 Double Exponential Distribution; 7.17 Central χ^2 Distribution; 7.18 Student's T Distribution; 7.19 Snedecor's F Distribution 7.20 Fisher's Z Distribution

Sommario/riassunto

This book provides the theoretical framework needed to build, analyze and interpret various statistical models. It helps readers choose the correct model, distinguish among various choices that best captures the data, or solve the problem at hand. This is an introductory textbook on probability and statistics. The authors explain theoretical concepts in a step-by-step manner and provide practical examples. The introductory chapter in this book presents the basic concepts. Next, the authors discuss the measures of location, popular measures of spread, and measures of skewness and kurtosis. P
