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Bootstrap Percentile Intervals; 5.4 Two Sample Bootstrap; 5.5 Other Statistics; 5.6 Bias; 5.7 Monte Carlo Sampling: The "Second Bootstrap Principle"; 5.8 Accuracy of Bootstrap Distributions; 5.9 How Many Bootstrap Samples are Needed?; 5.10 Exercises; Chapter 6: Estimation; 6.1 Maximum Likelihood Estimation; 6.2 Method of Moments; 6.3 Properties of Estimators; 6.4 Exercises; Chapter 7: Classical Inference: Confidence Intervals; 7.1 Confidence Intervals for Means; 7.2 Confidence Intervals in General
7.3 One-Sided Confidence Intervals
7.4 Confidence Intervals for Proportions; 7.5 Bootstrap t Confidence Intervals; 7.6 Exercises; Chapter 8: Classical Inference: Hypothesis Testing; 8.1 Hypothesis Tests for Means and Proportions; 8.2 Type I and Type II Errors; 8.3 More on Testing; 8.4 Likelihood Ratio Tests; 8.5 Exercises; Chapter 9: Regression; 9.1 Covariance; 9.2 Correlation; 9.3 Least-Squares Regression; 9.4 The Simple Linear Model; 9.5 Resampling Correlation and Regression; 9.6 Logistic Regression; 9.7 Exercises; Chapter 10: Bayesian Methods; 10.1 Bayes' Theorem
10.2 Binomial Data, Discrete Prior Distributions
10.3 Binomial Data, Continuous Prior Distributions; 10.4 Continuous Data; 10.5 Sequential Data; 10.6 Exercises; Chapter 11: Additional Topics; 11.1 Smoothed Bootstrap; 11.2 Parametric Bootstrap; 11.3 The Delta Method; 11.4 Stratified Sampling; 11.5 Computational Issues in Bayesian Analysis; 11.6 Monte Carlo Integration; 11.7 Importance Sampling; 11.8 Exercises; Appendix A: Review of Probability; A.1 Basic Probability; A.2 Mean and Variance; A.3 The Mean of A Sample of Random Variables; A.4 The Law of Averages; A.5 The Normal Distribution
A.6 Sums of Normal Random Variables

Sommario/riassunto

This book bridges the latest software applications with the benefits of modern resampling techniques. Resampling helps students understand the meaning of sampling distributions, sampling variability, P-values, hypothesis tests, and confidence intervals. This groundbreaking book shows how to apply modern resampling techniques to mathematical statistics. Extensively class-tested to ensure an accessible presentation, *Mathematical Statistics with Resampling and R* utilizes the powerful and flexible computer language R to underscore the significance and benefits of modern resampling techniques.
