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4.1 Continuous Uniform Distribution; 4.2 Gamma Function; 4.3 Gamma Family (Exponential, Chi-Square, Gamma); 4.4 Exponential Distribution; 4.5 Chi-Square Distribution; 4.6 Normal Distribution; 4.7 Student t Distribution; 4.8 Beta Distribution; 4.9 Weibull Distribution; 4.10 F Distribution; 4.11 Summary; Chapter 5. Sampling, Data Displays, Measures of Central Tendencies, Measures of Dispersion, and Simulation; 5.0 Introduction; 5.1 Data Displays; 5.2 Measures of Location; 5.3 Measures of Dispersion; 5.4 Joint Distribution of X-and S^2 ; 5.5 Simulation of Random Variables; 5.6 Using Monte Carlo for Integration; 5.7 Order Statistics; 5.8 Summary; Chapter 6. Point and Interval Estimation; 6.0 Introduction; 6.1 Unbiased Estimators and Point Estimates; 6.2 Methods of Finding Point Estimates; 6.3 Interval Estimates (Confidence Intervals); 6.4 Prediction Intervals; 6.5 Central Limit Theorem (Revisited); 6.6 Parametric Bootstrap Estimation; 6.7 Summary; Chapter 7. Hypothesis Testing; 7.0 Introduction; 7.1 Terminology in Statistical Tests of Hypotheses; 7.2 Hypothesis Tests: Means; 7.3 Hypothesis Tests: Proportions; 7.4 Hypothesis Tests for Difference between Two Means: Small Samples ($n < 30$) a) Known σ ; 7.5 Hypothesis Test with Paired Samples; 7.6 Hypothesis Tests: Variances; 7.7 Hypothesis Tests for Independence, Homogeneity, and Goodness of Fit; 7.8 Summary; Chapter 8. Regression; 8.0 Introduction; 8.1 Review of Joint and Conditional Densities; 8.2 Simple Linear Regression; 8.3 Distribution of Estimators with Inference on Parameters; 8.4 Variation; 8.5 Residual Analysis; 8.6 Convertible Nonlinear Forms for Linear Regression; 8.7 Polynomial Regression; 8.8 Multiple Linear Regression; 8.9 Multiple Regression Techniques

Sommario/riassunto

Probability & Statistics with Integrated Software Routines is a calculus-based treatment of probability concurrent with and integrated with statistics through interactive, tailored software applications designed to enhance the phenomena of probability and statistics. The software programs make the book unique. The book comes with a CD containing the interactive software leading to the Statistical Genie. The student can issue commands repeatedly while making parameter changes to observe the effects. Computer programming is an excellent skill for problem solvers, involving design,
