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7 Random Variables: Multivariate Case  
7.1 Bivariate Distributions; 7.2 Marginal Distributions; Independence; 7.3 Conditional Distributions; 7.4 Bivariate Transformations; 7.5 Multidimensional Distributions; 8 Expectation; 8.1 Introduction; 8.2 Expected Value; 8.3 Expectation as an Integral; 8.4 Properties of Expectation; 8.5 Moments; 8.6 Variance; 8.7 Conditional Expectation; 8.8 Inequalities; 9 Selected Families of Distributions; 9.1 Bernoulli Trials and Related Distributions; 9.2 Hypergeometric Distribution; 9.3 Poisson Distribution and Poisson Process

9.4 Exponential, Gamma and Related Distributions  
9.5 Normal Distribution; 9.6 Beta Distribution; 10 Random Samples; 10.1 Statistics and their Distributions; 10.2 Distributions Related to Normal; 10.3 Order Statistics; 10.4 Generating Random Samples; 10.5 Convergence; 11.5 Sampling; 10.6 Central Limit Theorem; 11 Introduction to Statistical Inference; 11.1 Overview; 11.2 Descriptive Statistics; 11.3 Basic Model; 11.4 Bayesian Statistics; 11.6 Measurement Scales; 12 Estimation; 12.1 Introduction; 12.2 Consistency; 12.3 Loss, Risk, and Admissibility; 12.4 Efficiency

12.5 Methods of Obtaining Estimators  
12.6 Sufficiency; 12.7 Interval Estimation; 13 Testing Statistical Hypotheses; 13.1 Introduction; 13.2 Intuitive Background; 13.3 Most Powerful Tests; 13.4 Uniformly Most Powerful Tests; 13.5 Unbiased Tests; 13.6 Generalized Likelihood Ratio Tests; 13.7 Conditional Tests; 13.8 Tests and Confidence Intervals; 13.9 Review of Tests for Normal Distributions; 13.10 Monte Carlo, Bootstrap, and Permutation Tests; 14 Linear Models; 14.1 Introduction; 14.2 Regression of the First and Second Kind; 14.3 Distributional Assumptions

14.4 Linear Regression in the Normal Case

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#### Sommario/riassunto

Now updated in a valuable new edition-this user-friendly book focuses on understanding the ""why"" of mathematical statistics Probability and Statistical Inference, Second Edition introduces key probability and statistical concepts through non-trivial, real-world examples and promotes the development of intuition rather than simple application. With its coverage of the recent advancements in computer-intensive methods, this update successfully provides the comprehensive tools needed to develop a broad understanding of the theory of statistics and its probabilistic foundations. This outstanding

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