

1. Record Nr.	UNINA9910143572703321
Autore	Weisberg Sanford <1947->
Titolo	Applied linear regression [[electronic resource]]
Pubbl/distr/stampa	Hoboken, : Wiley, 2005
ISBN	1-118-62595-1 1-280-53981-X 9786610539819 0-470-36037-2 0-471-70409-1 0-471-70408-3
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (336 p.)
Collana	Wiley Series in Probability and Statistics ; ; v.528
Disciplina	519.536
Soggetti	Regression analysis Mathematics Physical Sciences & Mathematics Mathematical Statistics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Applied Linear Regression; Contents; Preface; 1 Scatterplots and Regression; 1.1 Scatterplots; 1.2 Mean Functions; 1.3 Variance Functions; 1.4 Summary Graph; 1.5 Tools for Looking at Scatterplots; 1.5.1 Size; 1.5.2 Transformations; 1.5.3 Smoothers for the Mean Function; 1.6 Scatterplot Matrices; Problems; 2 Simple Linear Regression; 2.1 Ordinary Least Squares Estimation; 2.2 Least Squares Criterion; 2.3 Estimating (2); 2.4 Properties of Least Squares Estimates; 2.5 Estimated Variances; 2.6 Comparing Models: The Analysis of Variance; 2.6.1 The F-Test for Regression 2.6.2 Interpreting p-values 2.6.3 Power of Tests; 2.7 The Coefficient of Determination, R(2); 2.8 Confidence Intervals and Tests; 2.8.1 The Intercept; 2.8.2 Slope; 2.8.3 Prediction; 2.8.4 Fitted Values; 2.9 The Residuals; Problems; 3 Multiple Regression; 3.1 Adding a Term to a Simple Linear Regression Model; 3.1.1 Explaining Variability; 3.1.2 Added-Variable Plots; 3.2 The Multiple Linear Regression Model; 3.3

Terms and Predictors; 3.4 Ordinary Least Squares; 3.4.1 Data and Matrix Notation; 3.4.2 Variance-Covariance Matrix of e ; 3.4.3 Ordinary Least Squares Estimators
 3.4.4 Properties of the Estimates
 3.4.5 Simple Regression in Matrix Terms; 3.5 The Analysis of Variance; 3.5.1 The Coefficient of Determination; 3.5.2 Hypotheses Concerning One of the Terms; 3.5.3 Relationship to the t -Statistic; 3.5.4 t -Tests and Added-Variable Plots; 3.5.5 Other Tests of Hypotheses; 3.5.6 Sequential Analysis of Variance Tables; 3.6 Predictions and Fitted Values; Problems; 4 Drawing Conclusions; 4.1 Understanding Parameter Estimates; 4.1.1 Rate of Change; 4.1.2 Signs of Estimates; 4.1.3 Interpretation Depends on Other Terms in the Mean Function
 4.1.4 Rank Deficient and Over-Parameterized Mean Functions
 4.1.5 Tests; 4.1.6 Dropping Terms; 4.1.7 Logarithms; 4.2 Experimentation Versus Observation; 4.3 Sampling from a Normal Population; 4.4 More on $R(2)$; 4.4.1 Simple Linear Regression and $R(2)$; 4.4.2 Multiple Linear Regression; 4.4.3 Regression through the Origin; 4.5 Missing Data; 4.5.1 Missing at Random; 4.5.2 Alternatives; 4.6 Computationally Intensive Methods; 4.6.1 Regression Inference without Normality; 4.6.2 Nonlinear Functions of Parameters; 4.6.3 Predictors Measured with Error; Problems; 5 Weights, Lack of Fit, and More
 5.1 Weighted Least Squares
 5.1.1 Applications of Weighted Least Squares; 5.1.2 Additional Comments; 5.2 Testing for Lack of Fit, Variance Known; 5.3 Testing for Lack of Fit, Variance Unknown; 5.4 General F Testing; 5.4.1 Non-null Distributions; 5.4.2 Additional Comments; 5.5 Joint Confidence Regions; Problems; 6 Polynomials and Factors; 6.1 Polynomial Regression; 6.1.1 Polynomials with Several Predictors; 6.1.2 Using the Delta Method to Estimate a Minimum or a Maximum; 6.1.3 Fractional Polynomials; 6.2 Factors; 6.2.1 No Other Predictors; 6.2.2 Adding a Predictor: Comparing Regression Lines
 6.2.3 Additional Comments

Sommario/riassunto

Master linear regression techniques with a new edition of a classic text
 Reviews of the Second Edition: "I found it enjoyable reading and so full of interesting material that even the well-informed reader will probably find something new . . . a necessity for all of those who do linear regression."-Technometrics, February 1987 "Overall, I feel that the book is a valuable addition to the now considerable list of texts on applied linear regression. It should be a strong contender as the leading text for a first serious course in regression analysis."-American Scientist, May-Jun
