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## A Test for Lack-of-Fit

2.4.3 Inference on the Parameters of the Model  
2.4.4 Prediction and Prediction Intervals; 2.5 Examining the Data and the Model; 2.5.1 Residuals; 2.5.2 Outliers, Extreme Points, and Influence; 2.5.3 Normality, Independence, and Variance Homogeneity; 2.6 Polynomial Regression Models; 2.6.1 The Quadratic Model; 2.6.2 Higher Ordered Polynomial Models; 2.6.3 Orthogonal Polynomials; 2.6.4 Regression through the Origin; Exercises; 3 Transforming the Data; 3.1 The Need for Transformations; 3.2 Weighted Least Squares; 3.3 Variance Stabilizing Transformations  
3.4 Transformations to Achieve a Linear Model  
3.4.1 Transforming the Dependent Variable; 3.4.2 Transforming the Predictors; 3.5 Analysis of the Transformed Model; 3.5.1 Transformations with Forbes Data; Exercises; 4 Regression on Functions of Several Variables; 4.1 The Multiple Linear Regression Model; 4.2 Preliminary Data Analysis; 4.3 Analysis of the Multiple Linear Regression Model; 4.3.1 Fitting the Model in Centered Form; 4.3.2 Estimation and Analysis of the Original Data; 4.3.3 Model Assessment and Residual Analysis; 4.3.4 Prediction; 4.3.5 Transforming the Response  
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4.4.1 Partial Correlation; 4.4.2 Added-Variable Plots; 4.4.3 Simple Versus Partial Correlation; 4.5 Variable Selection; 4.5.1 The Case of Orthogonal Predictors; 4.5.2 Criteria for Deletion of Variables; 4.5.3 Nonorthogonal Predictors; 4.5.4 Computational Considerations; 4.5.5 Selection Strategies; 4.6 Model Specification; 4.6.1 Application to Subset Selection; 4.6.2 Improved Mean Squared Error; 4.6.3 Development of the Cp Statistic; Exercises; 5 Collinearity in Multiple Linear Regression; 5.1 The Collinearity Problem; 5.1.1 Introduction  
5.1.2 A Simple Example

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### Sommario/riassunto

"The new edition of this "essential desktop reference book. [that] should definitely be on your bookshelf" (Technometrics) features a newly reorganized approach to linear regression that promotes the understanding of theory and models concurrently, featuring newly-developed topics in the field and the use of software applications. It includes numerous exercises; graphics and computations developed using JMP software; a new chapter on recent developments with the distribution of linear and quadratic forms; and new topical coverage of least squares, the cell means model, and more"--

"The objective of this book is to present a discussion and a formal definition of a general class of linear models"--

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