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Autore	Freund Rudolf J (Rudolf Jakob), <1927-2014.>
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the Coefficient of Determination; 3.9 Getting Results; 3.10 Summary and a Look Ahead; 3.11 Chapter Exercises; Part II: Problems and Remedies; Chapter 4. Problems with Observations; 4.1 Introduction; 4.2 Outliers and Influential Observations; 4.3 Unequal Variances; 4.4 Robust Estimation; 4.5 Correlated Errors; 4.6 Summary; 4.7 Chapter Exercises; Chapter 5. Multicollinearity; 5.1 Introduction; 5.2 The Effects of Multicollinearity
5.3 Diagnosing Multicollinearity 5.4 Remedial Methods; 5.5 Summary; 5.6 Chapter Exercises; Chapter 6. Problems with the Model; 6.1 Introduction; 6.2 Specification Error; 6.3 Lack of Fit Test; 6.4 Overspecification: Too Many Variables; 6.5 Variable Selection Procedures; 6.6 Reliability of Variable Selection; 6.7 Usefulness of Variable Selection; 6.8 Variable Selection and Influential Observations; 6.9 Summary; 6.10 Chapter Exercises; Part III: Additional Uses of Regression; Chapter 7. Curve Fitting; 7.1 Introduction; 7.2 Polynomial Models with One Independent Variable
7.3 Segmented Polynomials with Known Knots 7.4 Polynomial Regression in Several Variables; Response Surfaces; 7.5 Curve Fitting without a Model; 7.6 Summary; 7.7 Chapter Exercises; Chapter 8. Introduction to Nonlinear Models; 8.1 Introduction; 8.2 Intrinsically Linear Models; 8.3 Intrinsically Nonlinear Models; 8.4 Summary; 8.5 Chapter Exercises; Chapter 9. Indicator Variables; 9.1 Introduction; 9.2 The Dummy Variable Model; 9.3 Unequal Cell Frequencies; 9.4 Empty Cells; 9.5 Models with Dummy and Continuous Variables; 9.6 A Special Application: The Analysis of Covariance
9.7 Heterogeneous Slopes in the Analysis of Covariance

Sommario/riassunto

The book provides complete coverage of the classical methods of statistical analysis. It is designed to give students an understanding of the purpose of statistical analyses, to allow the student to determine, at least to some degree, the correct type of statistical analyses to be performed in a given situation, and have some appreciation of what constitutes good experimental design.* Examples and exercises contain real data and graphical illustration for ease of interpretation* Outputs from SAS 7, SPSS 7, Excel, and Minitab are used for illustration, but any major