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Autore	Searle S. R (Shayle R.), <1928->
Titolo	Linear models [[electronic resource] /] / S. R. Searle
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ISBN	1-283-59289-4 9786613905345 1-118-49178-5 1-118-49176-9 1-118-49177-7
Descrizione fisica	1 online resource (560 p.)
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Disciplina	519.5 519.538
Soggetti	Linear models (Statistics) Statistics Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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Nota di contenuto	Linear Models; Contents; 1. Generalized Inverse Matrices; 1. Introduction; a. Definition and existence; b. An algorithm; 2. Solving linear equations; a. Consistent equations; b. Obtaining solutions; c. Properties of solutions; 3. The Penrose inverse; 4. Other definitions; 5. Symmetric matrices; a. Properties of a generalized inverse; b. Two methods of derivation; 6. Arbitrariness in a generalized inverse; 7. Other results; 8. Exercises; 2. Distributions and Quadratic Forms; 1. Introduction; 2. Symmetric matrices; 3. Positive definiteness; 4. Distributions; a. Multivariate density functions b. Momentsc. Linear transformations; d. Moment generating functions; e. Univariate normal; f. Multivariate normal; (i) Density function; (ii) Aitken's integral; (iii) Moment generating function; (iv) Marginal distributions; (v) Conditional distributions; (vi) Independence; g. Central 2, F and t; h. Non-central 2; i. Non-central F; j . Other non-central distributions; 5. Distribution of quadratic forms; a. Cumulants; b. Distributions; c. Independence; 6. Bilinear forms; 7. The singular normal distribution; 8. Exercises; 3. Regression, or the Full Rank Model;

1. Introduction; a. The model
 b. Observationsc. Estimation; d. Example; e. The general case of k x-variables; f. Example (continued); g. Intercept and no-intercept models; h. Example (continued); 2. Deviations from means; 3. Four methods of estimation; a. Ordinary least squares; b. Generalized least squares; c. Maximum likelihood; d. The best linear unbiased estimator (b.l.u.e.); 4. Consequences of estimation; a. Unbiasedness; b. Variances; c. Estimating $E(y)$; d. Residual error sum of squares; e. Estimating the residual error variance; f. Partitioning the total sum of squares; g. Multiple correlation
 h. Example (continued)5. Distributional properties; a. y is normal; b. b is normal; c. b and 2 are independent; d. $SSE/2$ has a 2-distribution; e. Non-central 2's; f. F-distributions; g. Analyses of variance; h. Pure error; i. Tests of hypotheses; j. Example (continued); k. Confidence intervals; l. Example (continued); 6. The general linear hypothesis; a. Testing linear hypotheses; b. Estimation under the null hypothesis; c. Four common hypotheses; (i) $H: b = 0$; (ii) $H: b = b_0$; (iii) $H: b = m$; (iv) $H: b_0 = 0$; d. Reduced models; (i) $K'b = m$; (ii) $K'b = 0$; (iii) $b_0 = 0$; 7. Related topics
 a. The likelihood ratio testb. Type I and II errors; c. The power of a test; d. Examining residuals; 8. Summary of regression calculations; 9. Exercises; 4. Introducing Linear Models: Regression on Dummy Variables; 1. Regression on allocated codes; a. Allocated codes; b. Difficulties and criticism; c. Grouped variables; d. Unbalanced data; 2. Regression on dummy (0, 1) variables; a. Factors and levels; b. The regression; 3. Describing linear models; a. A 1-way classification; b. A 2-way classification; c. A 3-way classification; d. Main effects and interactions; (i) Main effects
 (ii) Interactions

Sommario/riassunto

This 1971 classic on linear models is once again available--as a Wiley Classics Library Edition. It features material that can be understood by any statistician who understands matrix algebra and basic statistical methods.

2. Record Nr.	UNINA9910827896803321
Autore	Kiusalaas Jaan
Titolo	Numerical methods in engineering with Python 3 / / Jaan Kiusalaas [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
ISBN	1-107-23829-3 1-139-62616-7 1-107-25503-1 1-139-62244-7 1-139-61686-2 1-139-61314-6 1-139-52389-9 1-299-27646-6 1-139-61128-3
Edizione	[Third edition.]
Descrizione fisica	1 online resource (xi, 423 pages) : digital, PDF file(s)
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Disciplina	620.00285/5133
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Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di contenuto	Machine generated contents note: 1. Introduction to Python; 2. Systems of linear algebraic equations; 3. Interpolation and curve fitting; 4. Roots of equations; 5. Numerical differentiation; 6. Numerical integration; 7. Initial value problems; 8. Two-point boundary value problems; 9. Symmetric matrix eigenvalue problems; 10. Introduction to optimization.
Sommario/riassunto	This book is an introduction to numerical methods for students in engineering. It covers solution of equations, interpolation and data fitting, solution of differential equations, eigenvalue problems and optimisation. The algorithms are implemented in Python 3, a high-level programming language that rivals MATLAB® in readability and ease of use. All methods include programs showing how the computer code is utilised in the solution of problems. The book is based on Numerical

Methods in Engineering with Python, which used Python 2. This new edition demonstrates the use of Python 3 and includes an introduction to the Python plotting package Matplotlib. This comprehensive book is enhanced by the addition of numerous examples and problems throughout.
