

- GREVILLE, T. N. E. (1959). The Pseudoinverse of a Rectangular or Singular Matrix and its Application to the Solution of Systems of Linear Equations, *SIAM Rev.*, Vol. 1, pp. 38-43
- GREVILLE, T. N. E. (1960). Some Applications of the Pseudoinverse of a Matrix, *SIAM Rev.*, Vol. 2, pp. 15-22
- GREVILLE, T. N. E. (1961). Note on Fitting of Functions of Several Independent Variables, *J. Soc. Indust. Appl. Math.*, Vol. 9, pp. 109-115
- HALMOS, P. R. (1958). *Finite-Dimensional Vector Spaces* (Sections 24 and 52), Van Nostrand
- HAYES, J. G., and HALLIDAY, J. (1974). The Least-Squares Fitting of Cubic Spline Surfaces to General Data Sets, *J. Inst. Maths. Applics.*, Vol. 14, pp. 89-103
- PEREYRA, V., and SCHERER, G. (1973). Efficient Computer Manipulation of Tensor Products with Applications to Multidimensional Approximation, *Maths. Comp.*, Vol. 27, pp. 595-605
- PETERS, G., and WILKINSON, J. H. (1970). The Least-Squares Problem and Pseudo-Inverses, *The Computer Journal*, Vol. 13, pp. 309-316
- REID, J. K. (1967). A note on the Least-Squares Solution of a Band System of Linear Equations by Householder Reductions, *The Computer Journal*, Vol. 10, pp. 188-189
- RICE, J. R. (1969). *The Approximation of Functions: Vol. 2, Nonlinear and Multivariate Theory* (Section 12-3), Addison-Wesley
- SCHOENBERG, I. J., and WHITNEY, A. (1953). On Polya Frequency Functions III, *Trans. Amer. Math. Soc.*, Vol. 74, pp. 246-259
- WEINSTEIN, S. E. (1971). Product Approximations of Functions of Several Variables, *SIAM J. Numer. Anal.*, Vol. 8, pp. 178-189

Book review

Fortran Programming—A spiral approach, by C. B. Kreitzburg and B. Schneiderman, 1976; 437 pages. (*Jarcout Brace Jovanovitch*, £4.25)

Simplified ANSI FORTRAN IV Programming, second edition by G. A. and Joan B. Silver, 1976; 334 pages. (*Harcourt Brace Jovanovitch*, £5.50)

After preparing lecture notes on FORTRAN programming, many lecturers, including the above authors, publish their notes in book form. In a market already saturated by at least sixty very similar books, these additions seem superfluous. However, both books could form the basic material for an introductory course if supplemented with practical experience and tutorial advice.

By British standards, both books would be considered 'oversized'. Presumably the American market believes that the more pages, the better the book. British students, as well as hesitating at the price, would consider them tedious reading and tend to skip text in search of the next matter of substance. Both are slightly oriented towards the authors' local FORTRAN compilers.

Fortran Programming—A spiral approach has been thoughtfully prepared. During the gradual advance from the simple to the complex, the student is introduced to new concepts in a well ordered

sequence. Good programming style is emphasised, and then illustrated in an ANSI standard FORTRAN context. It is one of the better text books on this topic. Lecturers would be encouraged to use it if the Instructor's Manual mentioned in the preface could be obtained.

The second edition of *Simplified ANSI FORTRAN IV programming* claims to adhere to ANSI Standard FORTRAN. It also contains a brief section on structured programming. Some inaccuracies (e.g. Page 59 TRACE and DISPLAY debugging facilities are erroneously attributed to ANSI) and misleading definitions (e.g. Page 32 'Top/down programming means that the logic in the main program can be followed by reading it from top to bottom') should be corrected. Overall I prefer the spiral approach.

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Erratum

Formula (3) of *Hit ratios* by S. J. Waters (*Computer Journal*, Volume 19, No. 1, February 1976) should read:

$$BHR = 1 - \frac{N - B \leq H}{N < H}$$

Similarly in Appendix 3.