

REVIEWS AND DESCRIPTIONS OF TABLES AND BOOKS

The numbers in brackets are assigned according to the indexing system printed in Volume 22, Number 101, January 1968, page 212.

1[2, 3, 4].—A. CÉSAR DE FREITAS, *Introdução à Análise Numérica*, Vol. I, Universidade de Lourenço Marques, Moçambique, 1968, xii + 194 pp., 23 cm. Price \$5.50.

This is the first of two volumes of an introductory textbook on Numerical Analysis. It contains the usual material on errors, finite differences, interpolation, numerical differentiation and quadratures, a very short review of numerical integration of ordinary differential equations, and a fairly extensive (relatively speaking) treatment of basic numerical linear algebra. This is probably one of the few books on the subject originally written in the Portuguese language and in that sense has special interest. The printing and general presentation are good.

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2[2, 3, 4].—I. P. MYSOVSKIĖ, *Lectures on Numerical Methods*, Wolters-Noordhoff Publishing, Groningen, 1969, iii + 344 pp., 23 cm. Price \$12.50.

The Russian version of this book appeared in 1962 and the subject matter appears to predate 1960. This is an excellent book when considered as a mathematical text. However, the author imposes a guideline which the computational scientist will find very restrictive. This is:

The only computational problems considered seriously are those for which it is possible to place a rigorous numerical bound on the accuracy of the result.

For example, to illustrate how to locate a zero, the problem treated is one for which it is known that $f(a) \cdot f(b)$ is negative and $f'(x)$ is positive between a and b . The numerical quadrature section is extensively illustrated by integrating $\sin x/x$ between 0 and 1. It happens here that the n th derivative is bounded by $(n + 1)^{-1}$. Using this information, one starts by deciding which quadrature rule to use on the basis of the standard bound on the discretisation error. In the section on numerical differentiation, the words 'round-off error' do not occur.

This reviewer is a stranger to the world where numerical problems are so tractable, but I did enjoy reading about it. The book has four chapters. These treat numerical solution of equations, algebraic interpolation, numerical quadrature and initial value ordinary differential equations respectively. In each chapter a few methods are chosen and are given a careful, clear and rigorous treatment. The section on