

Introduction to Numerical Analysis, by C.-E. Fröberg. Addison-Wesley Publishing Co., Inc., Reading, Mass., 1965. x + 340 pages. \$8.95.

The present book is a translation of the Swedish edition published in 1962. The author is in the Department of Numerical Analysis at the University of Lund. The book is intended for those students with a mathematical background of elementary differential and integral calculus and differential equations.

The first chapter discusses number systems, errors in computation and the computation of functions using binary representation. The second chapter considers the solution of nonlinear equations, and deals with the Newton-Raphson, Bairstow, Graeffe and Quotient - Difference methods. Chapter 3 gives a review of those parts of matrix algebra necessary in numerical analysis, and serves as an introduction to the following three chapters on the solution of systems of linear algebraic equations, inversion of matrices and eigenvalue problems. In Chapter 7 the calculus of finite difference is introduced. The following five chapters consider interpolation, numerical differentiation and integration, summation and multiple integration. Difference equations and the numerical solution of ordinary and partial differential equations are considered in the next three chapters. Chapter 16 considers least-square polynomial approximation, least-square trigonometric approximation, and approximation with exponential functions, Chebyshev polynomials, continued fractions and rational functions. Chapter 17 gives a very brief discussion of random number generation and Monte Carlo problems. Chapter 18 introduces the simplex method of solving the special case of linear programming problems known as transportation problems.

This book should serve as an excellent text at the senior undergraduate or graduate level as a thorough introduction to the modern aspects of numerical analysis. Although flow diagrams and computer programs for particular algorithms are not given, the treatment of numerical analysis in the text reflects the great influence of high-speed digital computers.

Finally, the translation into English is of high quality throughout the book.

K. W. Smillie, Edmonton

The Elements of Computational Mathematics, edited by S.B. Norkin. Pergamon Press, New York, 1965. xiii + 192 pages. \$6.00.

This is a translation of a book written by several Russian mathematicians, on the basic theory of computation. The approach to the subject is classical, but the exposition is extremely clear and the topics