101[X, Z].—JOHN M. McCORMICK & MARIO G. SALVADORI, *Numerical Methods in FORTRAN*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1964, 324 pp., 23 cm. Price $14.00.

This is an elementary numerical analysis book designed for undergraduate use. According to the dust jacket, "The only mathematical prerequisites are a knowledge of elementary calculus and an awareness of the existence and importance of differential equations." A unique feature is that most of the numerical methods are illustrated by complete programs written in FORTRAN II. The dust jacket also states, "Explanatory notes, flow charts, and beginners hints provide a complete handbook in FORTRAN."

The FORTRAN programs have been placed in a separate section, occupying somewhat more than half of the book. There is ample cross-referencing to the numerical methods which are presented in the first section. The topics covered are indicated by the chapter heading: (1) Computers and Programming, (2) Approximate Computations, (3) Differentiation, Integration, Interpolation and Extrapolation, (4) Solution of Algebraic and Transcendental Equations, (5) Simultaneous Linear Algebraic Equations, (6) Ordinary Initial-Value Problems, (7) Two-Dimensional Problems. The numerical analysis section covers 146 pages. The FORTRAN programs cover 171 pages.

A textbook which tries to cover two complementary subjects often fails to cover either adequately. This book suffers from this difficulty. The chapters on numerical analysis are very brief. Since they contain a good number of problems and worked examples, it is clear that theory gets the short end of things. The last chapter, on two-dimensional methods, includes interpolation, integration, and partial differential equations, all in 21 pages. This is pretty thin stuff. The other chapters are more satisfactory and present standard numerical methods in a terse cookbook style. The last part of the book gives a set of complete FORTRAN programs together with flow charts, hints, and printouts of results. Many students and teachers would find this section useful. It does not, however, constitute a complete course in FORTRAN programming, and needs to be supplemented with additional material.

There have been a number of books published which purport to teach numerical analysis and computer programming. Even with their faults, it is often convenient to have one textbook instead of two, particularly if the price of the book is reasonable. At the quoted price of this book, the reviewer feels that one would get more for his money by buying two books which treat each subject separately.

RICHARD C. ROBERTS

U.S. Naval Ordnance Laboratory
White Oak, Silver Spring, Maryland

102[Z].—FRANZ L. ALT & MORRIS RUBINOFF, Editors, *Advances in Computers*, Volume 5, Academic Press Inc., New York, 1964, xiii + 397 pp., 24 cm. Price $14.00.

The volume under review consists of seven articles by specialists.

The first, "The role of computers in election night broadcasting," by Jack Moshman, is very interesting and carries the weight of one of the leading experts in the field.