Volume II covers topics in finite differences and approximate representation of functions, polynomial interpolation, numerical integration and differentiation, ordinary differential equations and partial differential equations. As in Vol. I the work is illustrated by well chosen examples. The methods presented are standard ones, but the author gives many hints and much practical advice on using the various numerical procedures. The weakest chapter in the book is one on partial differential equations. Only the heat equation and Laplace's equation are actually considered. Even here the author manages to say a lot in a very small space.

These volumes are part of the University Mathematical Text series. The price of each volume is quite modest. In fact, the two volumes can be obtained for considerably less than many single volume treatments of numerical analysis.

RICHARD C. ROBERTS

137[X, Z].—LADIS D. KOVACH, *Computer-Oriented Mathematics*, Holden-Day, Inc., San Francisco, Calif., 1964, vii + 98 pp., 23 cm. Price $3.95.

The purpose of this small volume is to acquaint the interested reader with the ideas behind some of the algorithms which are commonplace in computer programs. It is designed for use in lower-level college programming courses and for advanced high school students. The only concept from elementary calculus which appears is the derivative, and this occurs but once.

Topics included are: characteristics of computers, number bases, initial guesses, interpolation, approximation methods, iteration, relaxation, and Monte Carlo methods.

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138[X, Z].—WILLIAM PRAGER, *Introduction to Basic FORTRAN Programming and Numerical Methods*, Blaisdell Publishing Company, New York, 1965, ix + 203 pp., 28 cm. Price $6.00.

This book, written by one of the most distinguished applied mathematicians of the present time, admirably illustrates that trend in the writing of textbooks on numerical analysis (visible in a number of recent works) in which the author seeks to impart to the student practical experience in the use of a digital computer, to acquaint him with the theory of computation, and to do so within the framework of a balanced and integrated course of study.

With regard to the specific scope and intention of the book it would seem impossible to do better than quote from the publisher's advertisement.

"This text corresponds to a sophomore course, which the author has been teaching for several years. The timing of this course and the choice of its contents was motivated by the desire to introduce students in engineering and the sciences to automatic computation as early as is possible without inviting uncritical use of the new tool.

"An introductory chapter, in which the program for a simple computation (selected partial sums of a series) is presented first in English and then in FOR-

TRAN, is followed by two chapters on FORTRAN Terminology and Ground Rules and Essential FORTRAN Statements. In Chapter IV several programs are discussed, which use only these essential FORTRAN statements. Chapter V is concerned with error analysis and control and Chapter VI with additional FORTRAN statements. Chapters VII–IX are devoted to Computing with Polynomials, Interpolation, and Quadrature. Chapter X reverts to programming and treats the Manipulation of Alphameric Information, the Use of Magnetic Tapes, and Sorting. Chapters on the Solution of Equations and the Integration of Ordinary Differential Equations and an Appendix on the organization of a Monitor conclude the book. Graduated exercises at the end of each chapter enable the reader to practice what he has learned and to check his progress."

This book is not a book for the research student in numerical analysis: vast areas of the subject are left untouched (eigenvalue problems, the numerical solution of partial differential equations, and many other topics are not dealt with). But as a textbook for a one-semester course it is quite outstanding. Given teaching staff of sufficient competence and student material of a suitable calibre it seems probable that this book will serve to introduce to numerous young applied mathematicians, physicists, engineers and many others, the theory, practice, limitations, and possibilities of digital computation.

The book is pleasantly produced: the writing is invested with that degree of formal elegance and clarity in exposition which distinguishes the works of Professor Prager.

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139[Z].—LILIAN TROLLHANN & ALFRED WITTMANN, *Dictionary of Data Processing*, Elsevier Publishing Company, Inc., New York, 1965, 300 pp., 23 cm. Price $17.00.

There are no definitions of words here. The book contains translations of data-processing terms between English/American and German and French. The first section (214 pages long) contains numbered, categorized English/American terms and their translations into German and French. Thus: "**O134 output unit** (dig)" is followed by "Ausgabeeinheit *f*" and "unité *f* de sortie". The category here, (dig), refers to "digital computers". There are 11 other categories: (anal), (math), (tron) = electronics, (datatr) = data transmission, etc. The subsequent German and French lists contain only the term's number, e.g. **O134,** so that one translates between German and French, say, by utilizing the main, English/American listing.

The listings are heavily orientated toward hardware and contain, for example, **relaxation oscillator** (tron) but not **relaxation method** (math). The authors have both worked in the Translation Dept. of Siemens & Halske AG. Although ostensibly English/American is given the central position, it appears likely, from some of the translations, that the authors often began with the German terms. Some of the English/American has a Germanic flavor. On occasion, the definitions do not quite touch bottom. Thus "**F7 factoring** (math) (e.g. an equation containing fractions)" is erroneously translated as "durchmultiplizieren (z.B. eine Bruche enhaltende Gleichung)" while the French translation is given as "_____". Whether the latter