

range of applications of computers including statistics, educational research, crystallography, medicine, public health, psychology, economics, information retrieval, and number theory. It might be best described in a few words by quoting the first and last sentences of the introduction: "The purpose of this volume is to present to the reader a cross section of university research, actual or planned, related to computers. . . . There are omissions - music and theology, for instance, are not represented - but, on the whole, the reader who glances at all papers, stopping for a longer look where his interests dictate, can be assured that he has visited most of the places where computers are already at home and some into which they are about to move."

This is a most handsome looking volume which sells, unfortunately, for a most handsome price.

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Numerical Methods in Fortran, by John M. McCormick and Mario G. Salvadori. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1964. xii + 324 pages. \$10.50.

This book is, according to the cover, "an elementary book on numerical analysis in which, for the first time, each numerical method is programmed for use on electronic computers". The book virtually consists of three parts. The first part offers the material usually given in elementary texts on numerical methods, including sections on boundary- and characteristic value problems in ordinary differential equations. The second part consists of more than 40 complete programs and subroutines in Fortran, accompanied by flow-charts and prints of results, in which the methods discussed in the first part can be seen at work. Several peculiarities of Fortran are explained. The book does not, however, make formal Fortran references dispensable. The third part offers a few routines "based on techniques beyond the scope of the analytical part of this book", like a complex square root routine (?) and routines for computing Bessel functions, for solving simultaneous complex equations and for computing integrals with interval halving. "They are included to make the book more valuable as a handbook of useful Fortran programs." Speaking from the numerical analyst's point of view, the programs are not very sophisticated, the only bit of glamour being a Richardson extrapolation step at the end of a number of them. Iterative procedures are either stopped when two successive iterates coincide (Newton Raphson) or differ by a prescribed epsilon (Simpson's interval halving), or after a prescribed number of iterations has been performed (Laplace's equation), or by manual interruption. Therefore, the book is more valuable for those seeking to gain some experience in Fortran programming than for those wishing to learn numerical analysis. The book is well-written and excellently edited.

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