

ori transformations". The last term denotes efforts to facilitate the computation of a neighboring solution of a given (or computed) solution. The techniques range from old classical approaches to the use of local or moving coordinate systems which combine analytic and computational methods. The authors state no theorems nor do they give rigorous derivations; instead, they demonstrate the rationale of the various lines of attack and try to illuminate them by well-chosen examples. Naturally, they refer to the relevant literature for a more thorough treatment.

The third part of the book is preceded by a section on basic facts about differential equations (selected so as to prepare for the later discussion) and a section on numerical methods which, very briefly, gives some of the principal concepts. In this section, a variety of classes of numerical methods is discussed (including some not so well-known ones). The authors make an interesting attempt at an evaluation of their relative merit. Again, the reader has to resort to the quoted literature for any hard-core facts, if he does not already know them. Throughout the book, the main emphasis rests on initial-value problems. In the first two parts of the book, some attention is given to boundary-value problems.

While these parts may serve as a welcome guide to the literature, it is the third part on transformations which makes the book a very valuable contribution to numerical analysis as well as to scientists who have to solve differential equations. Though many of the techniques described will need some further development and computational experience (as the authors freely admit), it is hoped that their exhibition will stimulate worthwhile efforts in that direction.

H. J. S.

42[7].—JACQUES DUTKA, *The Square Root of 2 to 1,000,000 Decimals*, ms. of 200 computer sheets + 1 supplementary page, deposited in the UMT file.

The decimal value of the square root of 2 to one million places is herein presented on 200 computer sheets, each containing 5000 decimal digits. A supplementary page gives the succeeding 82 decimal places.

This carefully checked calculation required a total of about 47.5 hours of computer time on the IBM 360/91 system at Columbia University.

Further details and pertinent background information have been given by the author in a paper [1] appearing elsewhere in this journal.

J. W. W.

1. JACQUES DUTKA, "The square root of 2 to 1,000,000 decimals," *Math. Comp.*, v. 25, 1971, pp. 927–930.

43[8].—H. LEON HARTER & D. B. OWEN, Editors, *Selected Tables in Mathematical Statistics*, Markham Publishing Co., Chicago, 1970, vii + 405 pp., 29 cm. Price \$5.80 cloth.

This book is Volume I of a projected series of volumes of mathematical tables prepared under the aegis of the Institute of Mathematical Statistics. A list of the tables and their authors follows: