1. H. T. DAVIS & VERA J. FISHER, *Tables of the Mathematical Functions: Arithmetical Tables*, Volume III, Principia Press, San Antonio, Texas, 1962. See *Math. Comp.*, v. 17, 1963, pp. 459–461, RMT **68.**
2. A. FLETCHER, J. C. P. MILLER, L. ROSENHEAD & L. J. COMRIE, *An Index of Mathematical Tables*, second edition, Addison-Wesley Publishing Co., Reading, Massachusetts, 1962.
3. H. T. DAVIS & VERA FISHER, *A Bibliography and Index of Mathematical Tables*, Northwestern University, Evanston, Illinois, 1949.
4. *MTAC*, v. 10, 1956, p. 180, MTE **248.**

132[M].—MAX MORRIS & ORLEY E. BROWN, *Differential Equations*, Fourth Edition, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1964, vi + 366 pp., 22 cm. Price $11.35.

The first edition of this book was published in 1933. At that time it was stated in the preface that the text had been designed for use in colleges and engineering schools for students with a background of only a first-year course in calculus. The present edition differs from the original only in the addition or deletion of certain topics. A short section on Laplace transforms has been added and considerably more emphasis is placed on numerical solution of both ordinary and partial differential equations. Throughout the text the manipulatory aspects of differential equations are stressed. There is little emphasis on proving theorems of any kind. A number of the most important theorems are stated without proof.

It is possible to get a general idea of the coverage of this book from the list of the chapter titles. Thus, we have Chapter 1, "Introduction," Chapter 2, "Differential Equations of the First Order and First Degree," Chapter 3, "Equations of the First Order But Not of the First Degree," Chapter 4, "Linear Differential Equations," Chapter 5, "Numerical Methods for Ordinary Differential Equations," Chapter 6, "Integration in Series," Chapter 7, "Linear Partial Differential Equations with Constant Coefficients," and Chapter 8, "Numerical Solutions of Partial Differential Equations." The treatment of the various topics in the different chapters is similar to that contained in many of the older or more elementary text books on differential equations.

The topics introduced in this edition have been chosen with an eye to modernizing the text book. This has not been wholly successful. For example, the treatment of the Laplace transform is purely formal and hardly gives the student sufficient material to make use of it. The additional material on the numerical solution of ordinary and partial differential equations has been more successfully introduced. It represents very useful and important material. Several items involving the formal solution of partial differential equations in terms of arbitrary functions have been deleted from the present edition. The reviewer feels that this represents a distinct improvement in the text. Much of this formal material does not represent the approach to differential equations usually taken in more modern texts. In addition, it does not aid the student in any way when he is forced to approach the solution of a practical problem by using numerical techniques.

The outstanding feature of this particular text has been retained through all the editions. This is the large number of carefully selected problems together with answers. Any student who works through this large group of problems will certainly be able to produce formal solutions of many types of ordinary differential equations. This particular feature of the book would recommend its adoption over other texts

which present the same material in a similar manner but do not include so many problems. This text should still be very useful for engineering and technical students. Its old-fashioned approach to differential equations, however, will find little favor with the present modern approach taken in more purely mathematical texts.

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133[M].—G. SANSONE & R. CONTI, *Non-linear Differential Equations*, The Macmillan Company, New York, 1965, xiii + 535 pp., 24 cm. Price $15.00.

This is a superb book devoted to the classical and modern theory of linear and nonlinear ordinary differential equations. It covers existence and uniqueness theorems, stability theory, perturbation techniques, asymptotic behavior, periodic solutions, and Briot-Bouquet theory, with encyclopedic thoroughness and in careful detail. Perhaps most valuable is the way in which ideas and concepts are illustrated by means of specific examples. An almost complete set of references to important papers in the field is given.

Students in mathematics, engineering, and physics will find this book of great value, and it will be equally useful to research workers. The authors have written a beautiful and lucid exposition of this area of analysis which can be used as a basis for a variety of different courses. It is unreservedly recommended.

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134[X].—DIETER GAIER, *Konstruktive Methoden der konformen abbildung*, Springer-Verlag, Berlin, 1964, xiii + 294 pp., 23 cm. Price DM 68.

This book is a very thorough survey of those aspects of the theory of conformal mapping which relate to the numerical computation of conformal maps. Theory (and occasionally proof) are followed in close order by numerical techniques and, whenever available, the results of numerical experiment. This book is an absolute "must" for every computer lab; but because of the wealth of material it contains, it will also be of considerable use to people whose interest is purely theoretical. There is a bibliography of 480 items.

The five chapters are entitled, respectively: The Conformal Mapping of Simply Connected Domains by means of Integral Equations with a Neumann Kernel; The Method of Theodorsen for the Conformal Mapping of $|z| < 1$ on a Region; Approximation of Conformal Maps by means of Polynomials with Extremal Properties; Additional Methods for the Conformal Mapping of Simply Connected Regions; Conformal Mapping of Multiply Connected Regions on Canonical Regions.

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