Each section is concluded by a set of relevant examples and exercises. The text of the book is clear, only in some places burdened by notational innovations leading to duplications which, in the reviewer's opinion, cannot be helpful to the average reader. Further experiments with this book in undergraduate courses will be interesting for students and instructors and should be recommended.

H. Schwerdtfeger, McGill University

Elementary Mathematical Programming, by Robert W. Metzger. Wiley, New York, 1958. 246 pages. $5.95.

As implied by the title, this book is devoted to a detailed and elementary exposition of a number of methods of mathematical programming, including the simplex method and the "stepping-stone" method of Cooper and Charres. Applications covered include the transportation problem, production planning, stock slitting, scheduling, and job and salary evaluation.

A minimum of mathematical background is required, and proofs are omitted. The mathematically mature reader will find the spelled-out detail somewhat tedious. The author's attempt to avoid the term "vector" leads to such peculiarities of language as "c = the objective coefficients of the variables.", "x = the variables of the problem", (p. 111), etc.

However, within the self-imposed limitations, the author has achieved his aims. The book can be recommended to management analysts or industrial engineers who require some knowledge of the techniques for solving the subject problems.

H. Kaufman, McGill University

Mathematical Programming and Electrical Networks, by Jack B. Dennis. Wiley, New York, 1959. 186 pages. $4.50.

This book represents the author's research for his doctoral thesis at M.I.T. The work is an outgrowth of the observation that simple linear programming problems can be solved by equivalent electrical networks. This equivalence is fully exploited for both the linear and quadratic programming problems, and leads to an algorithm for solving network flow problems.

Additional chapters are devoted to a breakpoint tracing procedure, which is applied to the solution of general linear and quadratic programming problems. Two algorithms are presented, one similar to the simplex method, and the second equivalent to the primal-dual method of Dantzig, Ford and

Fulkerson. The second algorithm is also applicable to quadratic problems.

The last chapter describes a method of steepest descent for general programming problems. This method is an extension of gradient methods used for finding the unconstrained minimum of a function of several variables.

There are eight valuable appendices devoted to a variety of topics from programming theory.

H. Kaufman, McGill University

A Short Course in Differential Equations, by Earl D. Rainville. Macmillan, New York; Brett-Macmillan, Galt, Ont., second edition, 1958. 255 pages. $4.50.

This is the second, enlarged edition of a book which deals with ordinary differential equations in real variables for beginners. It contains the elementary facts and procedures in readable form. Applications to physics and mechanics are given in brief special chapters following the exposition of theory. Various methods, including the operational method, are discussed for the integration of linear differential equations with constant coefficients. The general existence theorem for equations of the first order is stated and the reader is invited to apply the iterative process, as given without convergence proof, to an elementary example. The book contains about 1250 exercise examples with answers. It should appeal to Science and Engineering students with a modest knowledge of the calculus.

Hanna Schwerdtfeger, McGill University

Applications of Finite Groups, by J.S. Lomont. Academic Press, New York and London. 346 pages. $11.

The classical works of Weyl, Van der Waerden and Wigner dealing with the applications of group theory to physics were written with a zeal to convert their reluctant fellow physicists to the powerful global tools of this branch of mathematics. They succeeded so well in their task that now, after nearly three decades, there is a growing need for a new and comprehensive book devoted to the impressive accumulation of group theoretical methods in quantum mechanics, field theory and elementary particle physics which has taken place meanwhile. While the new developments connected with the rotation group are well covered by recent books on angular momentum, it is still extremely difficult to find a good text book account of the representations of the proper and improper Lorentz groups or