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