

The book is not without its flaws. The Hermite polynomials defined are different from the customary ones. The term spectral decomposition is used without apparent definition. There is no motivation for the inclusion of the last two chapters; the extensive development of the properties of Bessel functions does not mention that they are important in problems in cylindrical coordinates. I would also have liked to see references for the omitted proofs of the deeper theorems.

J.D. Talman, University of Western Ontario

Algebraic structure theory of sequential machines, by J. Hartmanis and R.E. Stearns. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1966. viii + 241 pages. \$11.50.

A recent and exciting new area of applied mathematics is the study of abstract models of digital computers. The authors, who have played a major role in this field, present here a unified and up-to-date account of a theory which has had a remarkably complete development between the years 1960 and 1965. The mathematical core of the book is the chapter on pair algebras (closely related to Galois connections between partially ordered sets); this theory is then applied to loop-free structures, state splitting, and feedback. The final chapter is an application of semigroup theory to capability problems about loop-free realizations. The book is strongly recommended not only to the worker in machine theory, but to anyone interested in examining a new and highly significant area of applied mathematics.

H. Kaufman, McGill University

An introduction to the foundations and fundamental concepts of mathematics, by H. Eves and C.V. Newsom. Holt, Rinehart and Winston, revised edition, 1965. xi + 398 pages. \$9.95.

This book is unusual in its content, and it is unusually well written. The topics are well chosen and, although very few are carried beyond a very early introductory stage, this is done in such a way that the urge to read further works must be nearly irresistible.

Interesting historical snippets occur on almost every page. Occasionally they are distracting, yet their cumulative effect, regardless of irrelevant details, is a strongly effective reminder that mathematics is a human activity. The book has in this regard some of the characteristics of a Fireside Book of Mathematics - it is good for browsing in small doses. Among its more solid historical merits is a remarkable 5-page condensed history of the transition from Greek mathematics to modern mathematics (distilled from another work by one of the authors). As an outline on which to base extended reading this would be hard to beat.