

34[10].—HILLEL KUMIN, *Some Enumeration Tables for Rooted Trees by Height and Diameter*, University of Oklahoma, Norman, Oklahoma, undated ms. of 21 typewritten sheets deposited in the UMT file.

Let r_{ph} be the number of rooted trees with p points and height h , and let t_{pd} be the number of trees with p points and diameter d . Then these manuscript tables give r_{ph} and t_{pd} for $p = 1(1)35$, $h = 1(1)34$, and $d = 2(1)34$, respectively.

All the calculations were performed on a CDC 1604 system, and the results confirm and extend the similar tables of Riordan [1], for which the upper limit of p is 20 and that for h and d is 19.

The introductory text gives definitions of the relevant graph-theoretic terms and the combinatorial formulas used in the calculations, as well as a list of seven references.

J. W. W.

1. J. RIORDAN, "The enumeration of trees by height and diameter," *IBM J. Res. Develop.*, v. 4, 1960, pp. 473-478.

35[12].—C. T. FIKE, *PL/I for Scientific Programmers*, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1970, xiii + 241 pp., 24 cm. Price \$7.50.

Mr. Fike has made a worthy contribution to the literature with his hard-cover book *PL/I for Scientific Programmers*. In it he clearly states the important differences between PL/I and Fortran in an attempt to help experienced Fortran programmers to adapt to the language as quickly as possible.

The treatment of the various facets of PL/I is excellently handled and while it is by no means a comprehensive treatment of the vast PL/I repertoire, it does, nevertheless, provide the interested reader with the necessary tools in a quick and palatable manner.

HENRY MULLISH

Courant Institute of Mathematical Sciences
New York University
New York, New York 10012

36[12].—J. M. FOSTER, *Automatic Syntactic Analysis*, American Elsevier Publishing Co., Inc., New York, 1970, 65 pp., 24 cm. Price \$4.00.

This is a rather simple introductory book to the field of syntactic analysis. It explains what a context-free (BNF) grammar is, and then goes on to explain some of the principal parsing methods. None of the material is covered in great depth, but the explanations of what is covered are generally clear. There are unfortunately some misprints that may lead to confusion, e.g., on the top line of p. 38, the = should be \leq . Though such difficulties would not deter the experienced reader, they could well cause problems for the novice. And an experienced reader would do far better to read the article by Feldman and Gries in *Comm. ACM*, February 1968.

The first three chapters explain why parsing is necessary, its role in the compilation

process, the formal definition of a context-free grammar, and a generalized description of the parsing process that is independent of the particular method chosen. The fourth chapter discusses the unmodified top-to-bottom and bottom-to-top methods. The fifth chapter considers how parsing can be speeded up by working with a restricted class of grammars. Precedence methods are treated in this chapter. The sixth chapter examines how a grammar may be transformed to a restricted form, and also explains how associated semantic actions must be manipulated. There are also short appendices on elementary list processing and on a particular top-to-bottom algorithm given in list processing notation.

This is not a particularly substantive book, but it may prove useful to one desiring a rapid tutorial overview of its subject.

PAUL ABRAHAMS

Courant Institute of Mathematical Sciences
New York University
New York, New York 10012