REVIEWS AND DESCRIPTIONS OF TABLES AND BOOKS

The numbers in brackets are assigned according to the revised indexing system printed in Volume 28, Number 128, October 1974, pages 1191–1194.

5 [9].—HARVEY J. HINDIN, *Tables of m-ary Partitions,* State University of New York, Empire State College, Old Westbury, New York, 1976, 3 introductory pages and 25 sheets of computer output deposited in the UMT file.

The function tabulated here is $t_m(n)$, defined for any positive integer m by

$$\sum_{n=0}^{\infty} t_m(n)x^n = \prod_{k=0}^{\infty} (1 - x^{m^k})^{-1}.$$

The recurrence formula

$$t_m(n) = t_m(n-1) + t_m(n/m),$$

where $t_m(n/m)$ is understood to be zero if m does not divide n, was used to tabulate the function, and also allows compression of the table by omission of values for which $t_m(n/m) = 0$. The values given are for $3 \leqslant m \leqslant 11$ and corresponding values of n (determined by the FORTRAN programming) ranging from 4478 for $m = 3$ to 4674 for $m = 11$. The author's purpose in compiling the tables was as an aid in demonstrating known congruences involving $t_m(n)$, and in searching for new ones. An article elucidating these is in the course of preparation by the author.

M. N.

6 [9].—MORRIS NEWMAN, *The Number of Subgroups of the Classical Modular Group of Index N,* National Bureau of Standards, 1976, 6 sheets of computer output deposited in the UMT file.

For $N = 1(1)100$ there was listed in [1] a table of $M(N)$, the number of subgroups of the classical modular group of index N. The undersigned noted that $M(N)$ is odd, in this range of N, only for $N = 1, 2, 5, 10, 13, 26, 29, 58$ and 61. He boldly predicted that $M(122)$ would be odd also. The definitive conjecture was given by Charles R. Johnson: $M(N)$ is odd if and only if $N = 2^n - 3$ or $N = 2(2^n - 3)$ for $n = 2, 3, 4, \ldots$. Newman's extended table deposited here lists $M(N)$ for $N = 1(1)255$, and $M(N)$ is odd in the extension only for $N = 122, 125, 250, 253$. While Johnson's conjecture is probably true, its group-theoretic meaning remains a complete mystery.

D. S.

1. MORRIS NEWMAN, "Asymptotic formulas related to free products of cyclic groups," *Math. Comp.*, v. 30, 1976, pp. 838–846.

7 [10].—ARTHUR GILL, *Applied Algebra for the Computer Sciences,* Prentice-Hall, Inc., Englewood Cliffs, N. J., 1976, xv + 432 pp., 23.5 cm. Price \$16.50.

There is by now a countless set of textbooks which attempt to teach applied algebra to the computer scientist. I think this is one of the better written members of the set, but none of them satisfies me. Most of these books, including this one, attempt to cover all the topics mentioned in the ACM Curriculum 68, Course B3. At Cornell, we have never found that these topics fit together meaningfully. What often happens is that the student sees in a very superficial way a number of mathematical ideas that are not directly applicable in computer science and which are far better presented in a mathematics course. In this book by Professor Gill, the first three chapters on sets,