The critical comments on the typography in the companion tables of $(\sin x)/x$ apply equally to these tables.

J. W. W.

49[D].—D. G. MARTIN, *Tables of* $(\sin x)/x$ *to Six Decimal Places*, Report 4934, Atomic Energy Research Establishment, Harwell, England, 115 pp., 29 cm. Available from H. M. Stationery Office. Price 16s.

In an introduction to these extensive tables the author states that they were prepared on an IBM 7030 system to facilitate computation of the scattering of long-wavelength neutrons by defects in irradiated solids. He cites, as a further application, calculations of the diffraction of electrons and X-rays by polyatomic molecules in liquids, gases, and amorphous solids. Pertinent references to such applications are included in a short bibliography, which follows a concluding introductory paragraph describing the use of the tables.

These double-entry tables consist of 6D approximations to $(\sin x)/x$ for $x = 0(0.001)50(0.01)100$, together with first differences. As the author notes, the only comparable table is that of Reynolds [1], which gives 8D values for $x = 0(0.001)49.999$, *without* differences.

Unfortunately, the photographic reproduction of the computer sheets here has left much to be desired with respect to legibility; indeed, many entries contain figures that are completely, or almost completely, undecipherable. Apparently little effort was expended in assuring that these useful tables were printed in an acceptable manner.

J. W. W.

1. G. E. REYNOLDS, *Table of* $(\sin x)/x$, Technical Report 57-103, Air Force Cambridge Research Center, Cambridge, Massachusetts, 1957.

50[D, E, H, L, P, X].—KEITH A. SWITZER, *Tables of Roots of Certain Transcendental Equations Arising in Eigenfunction Expansions*, Circular 23, College of Engineering, Washington State University, Pullman, Washington, 1965, 61 pp., 28 cm.

The numerical tables herein were motivated by a need for a more extensive compilation than those already available of eigenvalues associated with boundary-value problems arising in analyses of heat transfer and of mechanical vibrations.

The first table (Table A) consists of 5D values of the first eight roots S_n of the transcendental equation $C = S_n \tan S_n$, corresponding to $C = 0.001(0.001)0.1(0.01)1(0.1)10(1)100(10)400$.

In Table B there appear, to the same precision, the first eight roots of the equation $C + S_n \cot S_n = 0$, for $C = -0.999(0.001)-0.1(0.01)1(0.1)10(1)100(10)400$.

Finally, Table C presents, again to 5D, the first eight roots of the equation $C = S_n J_1(S_n)/J_0(S_n)$, for the same range of the parameter C as in Table A.

The computational scheme followed in evaluating the tabular entries consisted of successive halving of the interval containing the desired root, starting with an increment of 0.1. This algorithm is written in ALGOL in this report, and the author states that the FORTRAN programs actually used to develop the tables may be obtained by communicating with him.

The most extensive previously published tables of such eigenvalues are those of Carslaw and Jaeger [1], which extend to 4D, and which the present author found inadequate for his purposes.

J. W. W.

51[F, Z, X].—*Revue Française de Traitement de l'Information*, Dunod, Éditeur, Paris, 1965, 158 pp., 22 cm. Price 12 f.

This little magazine has three articles in French, an algorithm section, and a bulletin describing computing activities in France. The three articles are:

(1) "Sur la résolution des programmes à solutions entières," M. Courtillot,

(2) "Algorithms d'analyse syntaxique pour langages 'Context-Free'," M. Basseur and J. Cohen and

(3) "Point de vue sur la programmation," G. Lettelier and J. Weber.

The last article, which is of wider interest than the other two, discusses a new language, MICMAC, for the CDC 3600. Before giving details of this language, the authors write an interesting discussion of various programming language entities and notions. Among these are compatibility, static vs. dynamic languages, assembly languages and algorithmic languages and notions such as conditional assembly and macro instructions. MICMAC itself appears to be a powerful macro language compiler with pseudo instructions for declaring arrays of various types. The authors claim that MICMAC facilitates the reprogramming problem by clarifying programs so that they can be easily understood.

The second article is the first part of a two part paper on context free syntactic analysis for compilers. After a section on theoretical aspects of the problem, different types of analyses and reviews of existing work on syntactic analysis, the authors develop the subject of top down analysis in fine detail and end part one of the paper with an ALGOL algorithm for such an analysis. The bibliography (mostly in English) on syntactic analysis and theory of languages is extensive and interesting in itself.

The first article, which is of comparatively restricted interest, describes a method which has already been the object of several notes published inside the Shell Company and has also been presented at the International Symposium on Mathematical Programming in London, 1964. If f is a numerical concave function in R^n and g a concave function from R^n into R^m, the method presented permits solution of programs of the type:

$$\max [f(x) \mid g(x) \geqq 0, x \in Z^n].$$

The method of all-integer-programming of R. Gomory is a special case of this method when f and g are linear with integer components.

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52[G].—MARVIN MARCUS & HENRYK MINC, *Introduction to Linear Algebra*, The Macmillan Company, New York, 1965, x + 261 pp., 25 cm. Price $7.95.