In a table of indefinite integrals, there is no need for absolute-value signs. Further, it is unusual to assume that parameters and variables are real. The above is not an isolated instance. In some cases, when absolute value signs are not used, sufficient conditions are given, as in

$$\int \frac{DX}{X(A - BX)} = \frac{1}{2A} \text{LN}\left(\frac{X}{BX^2 - A}\right),$$

if $A < 0$ and $B < 0$ and $X > (A/B)^{1/2}$.

In summary, the principal virtue of the project is that computer techniques could be used to produce the table. This is currently an important consideration in view of cost of publication. The tables are useful though they are not new. Eventually, one must forever be mindful of the possibility of human error.

Y. L. L.

14 [7,10].—H. W. GOULD, *Research Bibliography of Two Special Number Sequences*, Number 12 of *Mathematica Monongaliae*, Department of Mathematics, West Virginia University, Morgantown, West Virginia, May 1971, iv + 25 pp. One copy deposited in the UMT file.

Herein are presented two definite bibliographies: the first, of 137 items, relates to the Bell (or exponential) numbers; the second, of 243 items, to the Catalan numbers (also studied originally by Euler, Fuss, and Segner, as noted by the author).

An introduction of four pages includes the various definitions of these two integer sequences, their generating functions, recurrence relations, and their relations to other numbers such as binomial coefficients and Stirling numbers of the second kind. This is supplemented by pertinent historical information and references to the numerous combinatorial interpretations of these numbers.

The present work supersedes earlier, related bibliographies, of which the most extensive are included in expository papers by Rota [1] and Brown [2] cited by the author. The most extensive table of Bell numbers appears to be that in a paper by Levine & Dalton [3], also included in the present bibliography.

This scholarly report should be of special value to researchers in such fields as combinatorial analysis and graph theory.

J. W. W.

1. GIAN-CARLO ROTA, "The number of partitions of a set," *Amer. Math. Monthly*, v. 71, 1964, pp. 498–504.

2. W. G. BROWN, "Historical note on a recurrent combinatorial problem," *Amer. Math. Monthly*, v. 72, 1965, pp. 973–977.

3. JACK LEVINE & R. E. DALTON, "Minimum periods, modulo *p*, of first-order Bell exponential integers," *Math. Comp.*, v. 16, 1962, pp. 416–423.

15 [9].—HIDEO WADA, "A table of fundamental units of purely cubic fields," *Proc. Japan Acad.*, v. 46, 1970, pp. 1135–1140.

The table gives the fundamental unit ϵ of the cubic field $Q(m^{1/3})$ for all such fields with $m < 250$ in the form

$$\epsilon = (A + B\alpha + C\alpha^2)/n \tag{1}$$

with $\alpha = m^{1/3}$ and $n = 1, 2, 3$, or 6. Reference is made to Markoff's table to $m \leqq 70$ which is reproduced in [1]. The present table is much to be preferred. We may discount Markoff because of typographical and other errors, and because his units are not given uniformly as in (1), but in a variety of forms:

$$55 + 24 \cdot 12^{1/3} + 21 \cdot 18^{1/3},$$

$$5/(5 - 2 \cdot 15^{1/3})^3,$$

$$(1 + 23^{1/3})^6/9(3 - 23^{1/3})^9,$$

etc. The form (1) has several advantages including a quicker, more accurate way of estimating the regulator.

The brief text mentions the methods of Voronoi and Billebič but gives no clue how the present table was computed. It required five hours of computer time. For $m = 239$, A is 188 digits long (and so $Q(239^{1/3})$ presumably has class number 1). These digits are printed 79 to a line with no spacing. I would hate to proofread it.

D. S.

1. B. N. Delone & D. K. Faddeev, *Theory of Irrationalities of the Third Degree*, Transl. Math. Monographs, vol. 10, Amer. Math. Soc., Providence, R. I., 1964, p. 304.

16 [12].—Clive B. Dawson & Thomas C. Wool, *From Bits to If's, An Introduction to Computers and Fortran* IV, Harper & Row, Publishers, New York, 1971, xii + 157 pp., 21 cm. Price $2.50.

This pocket book paperback makes for light, informative reading. It introduces the Fortran IV language in a somewhat breezy manner and the two authors are to be congratulated for not getting bogged down by too much technical matter.

The repertoire of Fortran IV is treated in a methodical manner and each of the nine chapters contains a set of exercises, with answers included for some of them. Programming techniques, per se, are not included. As the authors point out, the book is intended to serve as a basis and its object is to whet the appetite of the novice. This it should do admirably.

Henry Mullish

Courant Institute of Mathematical Sciences
New York University
251 Mercer Street
New York, New York 10012