6[7.45].—S. CONDE & S. L. KALLA, *A Table of Gauss' Hypergeometric Function* ${}_2F_1(a, b; c; x)$, Facultad de Ingeniería, División de Postgrado, Universidad del Zulia, Maracaibo, Venezuela. Text of 8 pages plus computer output of tables. Deposited in the UMT file.

The function in the title is tabulated for $a = 0.5(0.5)5.0$, $b = 0.5(0.5)5.0$, $b \geqslant a$, $c = 0.5(0.5)12$ and $x = -2.50(0.05)0.95$ to 8S. The introduction explains the method of computation and checks applied, Wronskians continuation formulas, special cases, etc. to insure the stated accuracy.

Aside from tables of the first two complete elliptic integrals, Legendre functions and polynomials, Chebyshev polynomials (both kinds) and the incomplete beta function, tables of the ${}_2F_1$ are scant. From this point of view, the present tables fill a noted gap. On the other hand, in this day of computers together with rational approximations, Padé approximations and expansions in series of Chebyshev polynomials, I believe workers will program a machine with an appropriate algorithm and generate needed values of the ${}_2F_1$ as required.

Y. L. L.

7[7.45].—S. CONDE & S. L. KALLA, *On the Zeros of* ${}_2F_1(a, b; c; x)$, División de Postgrado, Facultad de Ingeniería, Universidad del Zulia, Maracaibo, Venezuela. Twelve page report including computer output of 7 pages. Deposited in the UMT file.

The x zeros of the title function are tabulated to 7D for $a = 1.0(0.5)5.0$, $b = 1.0(0.5)5.0$, $b \geqslant a$, $c = 0.5(0.5)12.0$, $-8 < x < 1$. On the basis of the tables of ${}_2F_1(a, b; c; x)$ (see preceding review) noted above and some finer tabulations in $x(\Delta x = 0.01)$, an approximation for a zero is readily defined and then improved by the recent methods. To the best of my knowledge the tables are new.

Y. L. L.

8[9.10, 9.15].—D. W. MACLEAN, *Residue Classes of the Partition Function*, University of Saskatchewan, Saskatoon, Canada, 1979, 2 folders of approximately 80 pages each deposited in the UMT file.

These tables were computed in connection with [1].

Let $A(m, k, x) = \{n: p(n) \equiv k \pmod{m} \text{ and } n \leqslant x\}$, $s(m, k, x) = \text{card } A(m, k, x)$, where $p(n)$ is the number of unrestricted partitions of n.

Tables of values of:

(a) $s(m, k, 19000)$, $0 \leqslant k \leqslant m - 1$, m a prime between 29 and 97,

(b) $A(m, 0, 19000)$, $m = 5^2, 5^3, 5^4, 5^5, 7^2, 7^3, 7^4, 11^2, 11^3, 11^4$,

(c) $p(n)$, $n \leqslant 1435$,

were computed on a PDP 11/60 using Euler's pentagonal number equation $p(n) = p(n-1) + p(n-2) - p(n-5) - p(n-7) + \cdots$ with a program written in the PASCAL language.

AUTHOR'S SUMMARY

1. D. W. MACLEAN, "Residue classes of the partition function," *Math. Comp.*, v. 34, 1980, pp. 313–317.