The explanatory text also includes outlines of the various methods available for the multiple-precision computation of the tabulated quantiles, the probability integral and frequency function for the t-distribution, and the normal probability integral and its inverse.

The exceptionally high precision of this definitive table, as well as its accuracy, should make it a basic reference table for statisticians, as implied in the title.

J. W. W.

54[9].—J. C. P. MILLER, *Primitive Root Counts*, University Mathematical Laboratory, Cambridge, England. Ms. of 15 pp. deposited in the UMT file.

This tabulation of counts of primes with specified primitive roots was started in connection with the preparation of a set of tables of indices and primitive roots compiled by the present author in collaboration with A. E. Western [1]. The counts listed therein (Table 8) have been considerably extended in the present tables, which are based on calculations completed in 1966 on EDSAC 2, using programs prepared by M. J. Ecclestone.

The main listing of counts herein includes all those primes less than 250,000 for which the integer a is a primitive root, where $\pm a = 2(1)60$. These counts are given for such primes occurring in successive intervals of 10^4 integers, with subtotals for successive intervals of $5 \cdot 10^4$ and 10^5 integers, as well as a grand total for each a. Corresponding to $\pm a = 3, 5, 7, 11, 13$, and 17, these counts are extended in a supplementary table to all such primes less than 10^6, appearing in successive intervals of $5 \cdot 10^4$ integers, with subtotals at every fifth interval, and the corresponding grand totals. The corresponding counts of all primes in these intervals are also given, and a numerical comparison is made between the cumulative tabular counts and the corresponding counts predicted from Artin's conjecture as elaborated upon in [1].

The large amount of new material in this manuscript certainly provides a valuable supplement to the corresponding data in [1], which will be of particular interest to number theorists.

J. W. W.

1. A. E. WESTERN & J. C. P. MILLER, *Indices and Primitive Roots*, Royal Society Mathematical Tables, Vol. 9, University Press, Cambridge, 1968. (See *Math. Comp.*, v. 23, 1969, pp. 683–685, RMT **51**.)

55[9].—SAMUEL YATES, *Partial List of Primes with Decimal Periods Less than* 3000, Moorestown, N. J. Ms. of 30 computer sheets (undated) deposited in the UMT file.

Known primitive prime factors of integers of the form $10^n - 1$ are here tabulated for 1564 positive integers n less than 3000. Complete factorizations are listed for the first 30 values of n and for 15 higher values, not exceeding $n = 100$. All admissible primes under $4 \cdot 10^7$ have been tested as factors throughout the range of the table.

Brillhart and Selfridge [1] have proved that $(10^n - 1)/9$ is prime only for $n = 2$, 19, and 23 if $n < 359$. The present table permits this limit to be raised to $n < 379$.

This compilation updates and supplements an earlier one [2], which was limited to prime values of n in the same range.

J. W. W.