

30. An Experimental Method for Obtaining Random Digits and Permutations.

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This paper presents an easily applied method for obtaining small numbers of random binary digits and random permutations. The procedure consists in flipping ordinary minted coins and combining the results of the flips in an appropriate manner. Digits and permutations obtained according to the method of this paper can be considered sufficiently random for any practical application. It appears likely that these digits and permutations are much more nearly random than most of those now available in printed tables. Moreover, any possibility of bias from misuse of tables is avoided. The method presented is particularly suitable for use with respect to experimental designs. Only a few random permutations are ordinarily required for a given experimental design.

31. Distribution of Canonical Partial Correlations. S. N. ROY, University of North Carolina.

By certain general arguments the distribution of canonical partial correlations in random samples of size $n + 1$ from a $(p + q + r)$ variate normal population ($p \leq q, p + q + r \leq n$) can be shown to be of the same form as that of canonical correlations in random samples of size $n + 1 - r$, and involves as parameters (on the non-null hypotheses) the p roots (all lying between 0 and 1) of the equation in θ .

$$|\theta(\Sigma_{11} - \Sigma_{12}\Sigma_{22}^{-1}\Sigma'_{12}) - (\Sigma_{12} - \Sigma_{13}\Sigma_{33}^{-1}\Sigma'_{23})(\Sigma_{22} - \Sigma_{23}\Sigma_{33}^{-1}\Sigma'_{23})^{-1}(\Sigma'_{12} - \Sigma_{23}\Sigma_{33}^{-1}\Sigma'_{12})| = 0,$$

where the population co-variance matrix Σ (supposed to be p.d.) is partitioned in the same manner as the sample covariance matrix S of Abstract 17.

In the abstract "On judging all contrasts in the analysis of variance" by Henry Scheffé (*Annals of Math. Stat.*, Vol. 23 (1952), p. 477) the equation $\Sigma_1^k c_i = 0$ was printed incorrectly (due to a compositor's error) as $\Sigma_1^k c_i \theta_i = 0$ on line 5.

NEWS AND NOTICES

Readers are invited to submit to the Secretary of the Institute news items of interest

Personal Items

Mr. Fred C. Andrews has been appointed a Research Associate in the Applied Mathematics and Statistics Laboratory, Stanford University, Stanford, California.

Edward W. Barankin, Assistant Professor at the Statistical Laboratory, University of California, Berkeley, has been promoted to Associate Professor. For the academic year 1952/53, Dr. Barankin will be on leave, working at the Institute for Numerical Analysis, Los Angeles.

Z. W. Birnbaum, who has been on leave from the University of Washington for the academic year 1951-1952 and had a visiting professorship in the Department of Statistics at Stanford University, has returned to resume his duties at the University of Washington.

Dr. K. A. Bush, formerly Associate Professor of Mathematics at State Uni-