A BASIC program for multiple regression

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MULTREG computes regression analyses for two or more independent variables (IVs). The program is currently dimensioned for eight IVs and N = 200, and it requires about 9K-12K of memory, depending on the size of N. If more memory is available, the program can easily be redimensioned to increase the number of IVs and N. Computational procedures are based on those described by Kerlinger and Pedhazur (1973).

Input. Data are entered through the use of DATA statements. The user must supply the total number of variables, the total N, and the scores for each subject. The user must also redimension the arrays in Line 30 of the program only for the exact number of IVs employed, due to the nature of the matrix inversion command. Instructions for data input and redimensioning are included in the documentation.

Output. Output is directed to a line printer and consists of all correlations among the IVs, all correlations between the dependent variable Y and the IVs, the summary table (which includes the squared multiple correlation), the unstandardized and standardized betas, the Y-intercept, the multiple correlation, the original and predicted Ys, and a table of standard errors and t ratios for the beta weights.

Limitations. There is no separate program routine to invert the correlation matrix. If the matrix is noninvertible, the INV command that is used in this program causes an error message to be displayed, and program execution is terminated.

Language and Computer. The programs are written in BASIC and have been implemented on a WANG system 2200-B with 32K of memory. This particular form of BASIC includes such nonstandard commands as SELECT PRINT and INV.

Availability. Program listings and documentation are available for $2 (to cover copying and mailing costs) from Suzanne Borys, Research Department, E. R. Johnstone Training and Research Center, Bordentown, New Jersey 08505. Make checks payable to: Research Discretionary Acct., Johnstone Ctr.

REFERENCE

KERLINGER, F., & PEDHAZUR, E. *Multiple regression in behavioral research.* New York: Holt, Rinehart, & Winston, 1973.

ERRATUM

Ray, R. L., Emurian, H. H., & Wurster, R. M. COMOV: A program for the analysis of the relationship between two time series. *Behavior Research Methods & Instrumentation,* 1980, 12 (4), 479-480. Page 479: Equations 4 and 5 should be modified to read as follows:

$$\theta_I = G_I/(N - I) - [(A + B)^2/N^2] \qquad (4)$$

$$E_I = H_I/(N - I) - [(A + C)^2/N^2] \qquad (5)$$