DATIN: An interactive data entry program

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DATIN can be used to enter data from a factorial experiment more efficiently than can standard editing programs. At the user's option, DATIN will also formulate and write BMDP (BMDP-79, biomedical computer programs; Dixon & Brown, 1979) control statements at the top of the data file so that BMDP1V and BMDP2V (one-way and n-way analysis of variance with independent groups or repeated-measures designs) can be run immediately after data entry.

DATIN has several advantages over standard line editors. First, DATIN cues the user, by condition and subject number, for which data value(s) to enter. Second, it generates an ID number that identifies data points by subject and cell numbers. Third, it informs the user of the data file structure, including a FORTRAN FORMAT specification. Finally, it accepts data points in free format and writes them to a file in fixed format, which is probably the greatest timesaving feature of DATIN over standard editors. To write the file, DATIN uses either a default format with six-decimal accuracy (F12.6) or an optional user-supplied format. As an example of how DATIN works, suppose a user wants to enter data from a sex (male vs. female) by age (young vs. old) factorial experiment with 3 subjects/cell. The program first asks the user questions regarding the experimental design (i.e., number of between- and within-subjects variables, variable and level names, etc.). Using this information, the program cues the user for data points for each subject from each of the four experimental conditions. It accepts the data points from the computer terminal and writes them, along with a group code, to a file. After reading in data from all 12 subjects, the program displays the first three lines of the data file, informs the user about the meaning of the group code, and supplies the FORTRAN FORMAT used to write the data.

At the user's option, DATIN will also write BMDP control language statements at the top of the data file. The program takes the user-supplied information about variable and level names, formats, missing value codes, and so on, and writes it on top of the data file in the correct BMDP format.

The program has been tested on numerous designs

ranging from a one-way to a six-way analysis of variance with zero to two within-subjects and zero to six between-subjects variables. In each case, it generates the correct control cards so that the BMDP program runs on the first try. The program can also be used to teach those unfamiliar with the BMDP package to use BMDP1V and BMDP2V (e.g., to teach how such data description parameters as variable and level names, formats, and between- and within-subjects variables are treated with the BMDP syntax and semantics).

Limitations of Program. DATIN can handle up to six independent variables, with up to nine levels each, and 9,999 total subjects with up to 99 subjects/cell. It can write BMDP control cards for up to six independent variables, with a maximum of two within-subjects variables.

Computer. The program is written in FORTRAN IV and runs on a DEC-2060 computer. The program is written with as few DEC-specific FORTRAN features as possible; however, in order to make the program run smoothly on a DEC computer, a few minor DEC-specific features are included. First, the opening of files will probably be different on other systems. Second, the use of "\$" in FORMAT statements, which causes the cursor to remain at the end of the line on the CRT, can be deleted on systems without this option. Finally, the use of an asterisk allows for free-format input with the DEC; this feature must be changed to input with a FORMAT statement on some other systems.

If the option to write BMDP control language cards on top of the data file is not wanted, the user may delete that part of the program that deals with this option. With smaller computers, the comment cards and documentation contained in the program may be deleted. The trimmed-down version of the FORTRAN program requires about 10 KB of memory; the full version requires 17 KB.

Availability. Listing of the program can be obtained at no charge from Jeffrey Lee Rasmussen, Department of Psychology, Tulane University, New Orleans, Louisiana 70118.

REFERENCE

- DIXON, W. J., & BROWN, N. B. (Eds.). *BMDP-79, biomedical computer programs, P-series*. Berkeley: University of California Press, 1979.

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