August 1982

Expected Mean Squares

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Expected Mean Squares

The output consists of the expected mean squares for each term in the model. The user has the option to change a subscript from fixed to random or vice-versa and recalculate the expected mean squares.

The program is available from the author as a listing. It was written in BASIC on a Tektronix 4054 desktop computer. Those possessing a Tektronix 4050 series computer may send the author a tape, which will be returned with the program on it. Although the program is highly interactive and includes an example in the displayed text, documentation is also available and will be included with the listing or tape. There is no charge.

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REFERENCES


An interactive program for calculating the expected mean squares for balanced designs has been developed for use on desktop and minicomputers, where it would be most convenient for the typical applications of the consulting statistician. The theoretical expected mean squares are calculated from the ANOVA model; hence, data are not utilized.

The user is asked by the program to input the details of the analysis of variance model. The notation used when interacting with the program is that which is generally used to write design models for analyses of variance. The notation and calculation procedures are in Hicks (1973). The information requested from the user includes labels for the terms in the model and the appropriate subscripts for each term's label, which indicate main effects, interactions, and nesting. The user is then asked to indicate for each subscript whether it is associated with a fixed or random effect. The user also specifies the range of values that each subscript can take on. As this information is requested from the user, a simple example is presented and referred to throughout the program to ensure that the user understands what is being requested.