Simulate 2-Way Analysis of Variance

In teaching or learning statistics, it is valuable to have the ability to create sample problems. This procedure permits you to create data that fits an analysis of variance model with effects for rows and for columns as well as the interaction of rows and columns. The data generated can then be analyzed with the Analysis of Variance procedures. Of course, students might first try to do the calculations themselves by hand!

The dialogue box for this Simulation option is shown below:

Figure 1 Dialog to Generate Data for a Two-Way ANOVA


```
RESULTS FOR SIMULATED TWO-WAY ANOVA DATA

No. of Treatment Levels for Factor A = 2
No. of Treatment Levels for Factor B = 2
No. of observations per cell = 8
Population Mean Desired =   50.000
Population Standard Deviation Desired =   10.000


FACTOR A TREATMENT EFFECTS
Level Effect
    1    5.000
    2   -5.000
FACTOR B TREATMENT EFFECTS
Level Effect
    1    5.000
    2   -5.000


TREATMENT INTERACTION EFFECTS
A Level  B Level  Effect
    1        1       7.000
    1        2      -7.000
    2        1      -7.000
    2        2       7.000
```
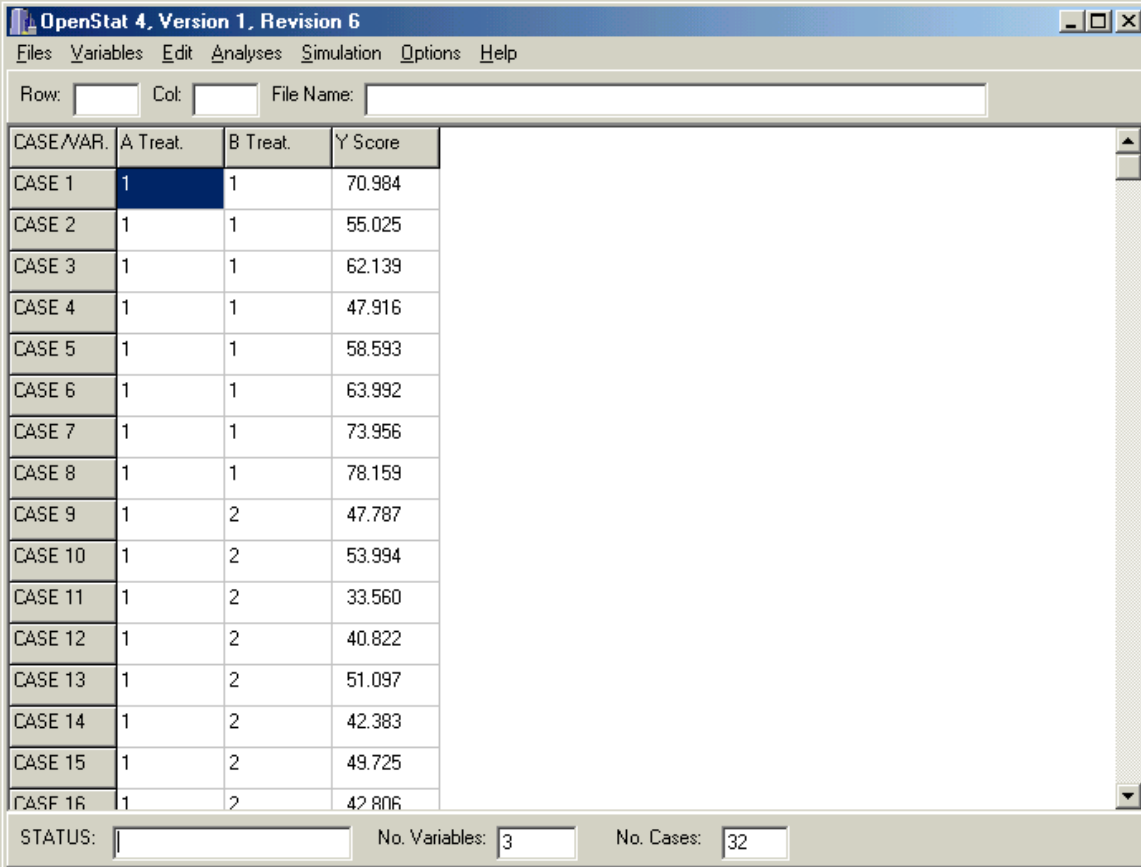
The data generated are placed in the grid. Note - you should have closed any previously open files.

Figure 2   Generated Data for a Two-Way ANOVA