

**NAME**

owaov – one-way analysis of variance

**SYNOPSIS**

**owaov** [-**c** *nclass nobs\_class(1) ... nobs\_class(nclass)*] [-**B** *lambda* | -**I**]  
[-**r**] [-**b**] [-**k**] [-**C** *significance*] [-**F** *significance*]

**DESCRIPTION**

*owaov* performs one-way analysis of variance. It calculates F-test statistic to test for equal mean values and if desired Bartlett- and/or Kendall/Bartlett-test statistics to test for homogeneity of variance, all with corresponding significance levels. Significance levels are calculated by means of relevant routines from Numerical Recipes.

Input is read over columns, i.e. all observations in class 1 must appear before observations in class 2 etc. The usual ANOVA output is written to *stdout*. Significance levels only are written to *stderr*.

If -**c** is missing number of observations must appear before observations for each class, number of classes is counted by program.

**OPTIONS**

- c** *nclass nobs(1) ... nobs(nclass)*  
gives number of classes and number of observations in each class; if -**c** is missing number of observations must appear before observations for each class, number of classes is then counted by program
- B** *lambda*  
apply Box-Cox transformation to input before performing the analysis
- I**  
apply ln-transformation to input before performing the analysis
- r**  
factor is considered random rather than deterministic
- b**  
calculate Bartlett's test statistic for variance homogeneity
- k**  
calculate Kendall-Bartlett's test statistic for variance homogeneity
- C** *significance*  
significance level for Bartlett's and Kendall-Bartlett's test statistics
- F** *significance*  
significance level for F-test statistic (for mean homogeneity)

**REFERENCES**

- Conradsen, Knut (1984): *En introduktion til statistik*. Institut for matematisk statistik og Operationsanalyse, Danmarks Tekniske Højskole.
- Press, William H., Teukolsky, Saul A., Vetterling, William T., and Flannery, Brian P. (1992): *Numerical Recipes in C: The Art of Scientific Computing, 2nd Edition*. Cambridge University Press.

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