

NEW APPLICATIONS for GAUSS

GAUSS™

New Applications

- **Linear Regression MT 1.0**
- **Loglinear Analysis MT 1.0**
- **Nonlinear Equations MT 1.0**

These applications are new products that are thread-safe and take advantage of structures.

Requirements:

Requires GAUSS Mathematical and Statistical System (GAUSS) Version 6.0 or the GAUSS Engine 6.0.

Platforms:

Available for Windows, LINUX, UNIX, and Mac.

Linear Regression MT 1.0

The Linear Regression MT application module is a set of procedures for estimating single equations or a simultaneous system of equations. The module allows constraints on coefficients, and heteroskedastic consistent standard errors. It includes two-stage least squares, three-stage least squares, and seemingly unrelated regression procedures.

Features include:

- Performs both influence and collinearity diagnostics inside the ordinary least squares routine (OLS)
- Performs multiple linear hypothesis testing with any form
- Accommodates large data sets with multiple variables
- Estimates regressions with linear restrictions

This product is not backwards compatible with applications written with Linear Regression 3.1.

Loglinear Analysis MT 1.0

The Loglinear Analysis MT application module contains procedures for the analysis of categorical data using loglinear analysis.

The estimation is based on the assumption that the cells of the K-way table are independent Poisson random variables. The parameters are found by applying the

Newton-Raphson method using an algorithm found in A. Agresti (1984) Analysis of Ordinal Categorical Data. You may construct your own design matrix or use LOGLIN procedures to compute one for you. You may also select the type of constraint and the parameters.

This product is not backwards compatible with applications written with Loglinear Analysis 3.1.

Nonlinear Equations MT 1.0

The Nonlinear Equations MT application module solves systems of nonlinear equations where there are as many equations as unknowns.

The functions must be continuous and differentiable. You may provide a function for calculating the Jacobian, if desired.

Otherwise NLSYS will compute the Jacobian numerically. You can also select from two descent algorithms, the Newton method or the secant update method, and from two step-length methods, a quadratic/cubic method, or the hookstep method.

This product is not backwards compatible with applications written with Nonlinear Equations 3.1.

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