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SAS/IML Studio and R

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IML (Interactive Matrix Language) v. 3.2

Features

- IF-THEN/ELSE statements
- DO groups
- Iterative execution
- Submit R code in SAS via the SAS/IML Studio interface
- Create your own modules or use routines from a predefined library
- Formulate and implement genetic algorithm optimizations
- Take advantage of automatic memory management and matrix sizing.

IML Language Features

- Modules
 - To create subroutines that can be invoked as a unit from anywhere in the program
 - To create a separate environment (e.g., define local variables)
- Built-in modules and functions

Examples of IML usage

- Solving systems of nonlinear equations
- Simulations of a univariate ARIMA process
- Kalman filters
- Vector time series analysis
- Fractionally integrated time series

SAS/IML Studio

An enhanced statistical computing environment that blends

- Power of the SAS analytical modeling tools
- Exploratory graphics and modeling capabilities
- Extensibility of SAS/IML
- Ability to execute code written in other programming languages such as R, C++, Java and others.

IMLPlus Language

- IMLPlus is IML “plus” new statements for
 - calling the DATA step and SAS procedures within IML
 - calling routines written in C, Java, Fortran
 - creating dynamic views (data table, graphics)
 - moving data to server or client
 - processing switches transparently between server or client
 - interfacing with R

You can learn as much or as little IMLPlus as you want.

SAS/IML Studio Architecture

- IML Studio Client runs on desktop Windows PC
- Client connects with one or more SAS servers
- Data can reside on client or server
- IML Studio also requires SAS/STAT

Demo of SAS/IML Studio

Roadmap for SAS integration with R

- SAS integration with R was initially released as part of SAS/IML Studio in July 2009.
- Server integration with R via SAS/IML is targeted for the third quarter of 2010.
- Integration with R will also be provided in JMP in the third quarter of 2010.
- Implementation of “PROC R” will follow later



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