



SAS® Data Step Efficiencies: Tips & Techniques



Presentation Formats:

Half-day in
classroom or via the internet.

Also see our **full-day** seminar, "SAS System
Programming Efficiencies: Tips & Techniques"

**SAS Data Step
Efficiencies: Tips &
Techniques teaches you
many ways to improve
your Data Step coding to
reduce both programming
time and time to
complete your data set
creation tasks.**

After taking this seminar
you will be able to:

- Understand and apply key concepts for Data Step programming efficiency
- Know how the elements of the data set creation process, and how to control them when you submit a Data Step for execution
- Measure the resource utilization of your programs
- Reduce the size of your data sets without "sacrificing" variables or observations
- Understand why Formats are a superior alternative to "data step recodes" and lengthy assignment statement programming
- Apply SAS Data Set Options to Speed Program Completion
- Select the observations and variables you need to complete your Data Steps
- Manage your Data Set libraries with PROC DATASETS
- Read Raw Data selectively and efficiently

Overview

This half-day session teaches you the SAS Programming Language tools and techniques you can apply to improve the efficiency of your Data Steps. By attending this seminar you will gain an in-depth understanding of how the SAS System executes the commands/statements in your Data Steps and the ways you can control the data set creation process. After completing this seminar you will be able to apply SAS Programming Language features that enable you to create SAS data sets in less time, and with fewer programming statements you might have otherwise required. You will also know how to measure the resource utilization/efficiency of your programs and which programming approaches are often more efficient than others. Our *full-day* session, "SAS Programming Efficiencies: Tips & Techniques," expands on the concepts and tools presented in this half-day course and also includes examples of efficiencies with SAS Procedure Steps.

Intended Audience

This half-day session is appropriate for SAS users who want to understand how the SAS System creates a data set and how to be more efficient in applying SAS programming language tools to create data sets.

Seminar Topics:

Fundamental Concepts for Data Step Efficiency

- General Considerations
- Measuring Efficiency

Data Step Efficiency: Implementation

- How the SAS System Creates a Data Set
 - Compilation Phase
 - Execution Phase
 - Program Data Vector
- Executable vs. Declarative Data Step Statements
- Controlling the Data Step Execution Phase
- The Data Step: Essential Concepts for Efficiency
- Reading Raw Data Selectively
- Optimizing Selection of Variables and Observations For Entry in to the Program Data Vector to Speed Data Set Creation
- SAS Data Set Options that Reduce Programming Time and Hasten Data Step Completion
- Using SAS Programming Language Functions that Reduce Programming Time, Ensure Accurate Calculations and Improve Data Step Processing Time
- Working Efficiently in the Program Data Vector
- Creating Multiple SAS Data Sets in One Data Step
- Managing Your Data Sets and Data Set Libraries with PROC DATASETS
- Tools to Reduce Data Set Size Without Sacrificing Observations or Variables
- Using ARRAY Statement Processing
- Formats vs. Data Step Programming Statements

Contact Sierra Information Services For More Information:

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About the Instructor

This seminar is written and presented by Andrew Karp, who started his own SAS Software consulting and training firm, Sierra Information Services, in 1994. Prior to starting Sierra he used SAS Software to manage and analyze data while holding positions with PriceWaterhouseCoopers, Federal Express Corporation, Pacific Gas & Electric Company and Kaiser Foundation Health Plan. A 25-year SAS user, Andrew is a SAS Certified Professional™ who has presented this, and other, training seminars to SAS users in the United States, England, Scotland, Belgium, Australia, New Zealand and the People's Republic of China.

He has served on the technical review teams for seven books published by SAS Institute and has been an invited speaker at twelve consecutive SAS Global Forum/SAS User Group International conferences, as well as other events for SAS users in seven countries. Andrew earned undergraduate and graduate degrees from The George Washington University and taught SAS classes for UC Berkeley's Extension Division from 1989 to 1995. He has also been a visiting lecturer in the Dept. of Experimental Statistics at Louisiana State University and at the University of Auckland in New Zealand.

About Sierra Information Services

Sierra Information Services is a **leading independent provider of SAS Software** consulting and training services. Our firm is based in the California Wine Country region north of San Francisco but travel both domestically and internationally to work with clients and present training seminars. Sierra offers clients a wide range of support, including SAS programming, data analysis/data mining with SAS tools, as well as the design and delivery of customized SAS Software training solutions tailored to the client's individual needs. Since its inception in 1994 Sierra has provided consulting and/or training services to, among others, Wells Fargo Bank, Bear Creek Corporation, Limited Brands, IBM, American Honda Motor Company, Lloyd's Bank/TSB, Capitol One Financial Services, Inc., Discover Financial Services, Inc., the US Department of Commerce and the US Federal Communications Commission. We have also provided consulting and training for numerous public and private sector entities in the United Kingdom, Belgium, Australia and New Zealand.

In addition to training solutions developed by Sierra's founder, Andrew Karp (see instructor's bio above), Sierra also works with other leading SAS experts to offer their training seminars around the United States. Sierra is proud to have well-known experts such as Art Carpenter, Dr. Paul Allison, and David Cassell present their training seminars under our auspices.

For the most current list of our public seminars, or to learn more about how Sierra can assist you and your organization, please visit our web site at www.SierraInformation.com or call us a (707) 996 7380. We look forward to hearing from you soon!



*...Maximizing your investment in the SAS® System...
and those in your organization who use it...*

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