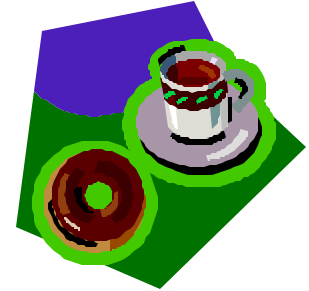


DCSUG Newsletter

Washington, DC SAS Users Group

First Quarter Meeting

When: Tuesday, March 5, 2002
Time: 8:30a.m. to noon
Place: Bureau of Labor Statistics
Postal Square Building
Room G440
First Street North East
Washington DC



Agenda:	8:30 - 9:00	Registration and refreshments
	9:00 - 9:15	Announcements
	9:15 - 9:45	Veronica Y. Rath, INDUS Corporation How to Change the Template and Table of Contents for SAS Web Applications
	9:45 - 10:15	Andrew H. Karp, Sierra Information Services, Inc. Using MULTILABEL Formats in SAS Version 8
	10:15 - 10:30	Break
	10:30 - 11:30	Russell Lavery An Animated Guide to the Macro System: Introduction
	11:30 - Noon	User-to User Questions and Answers Moderators - DCSUG officers *Presentation times subject to change

Visitors must use the visitor's entrance on First Street NE. Directions for those taking Metro: Take the Red Line to Union Station. Exit the station via the Amtrak exit, but do not go up to the train level. Instead, after going up to and out through the farecard gates, turn to the left where there is an exit to the street (First Street NE). Directly across from the exit are the employee and visitor's entrances to the building. After checking in with security, take the main elevators down to the G level. **BRING PICTURE ID!**



If you have special needs and are planning to attend this meeting, please contact any DCSUG officer no later than 2/25/02

SAS® is a registered trademark of the SAS Institute, Cary, NC

NOTE: If you are not currently a paid member of the DCSUG and are planning to attend the meeting, please email Lawrence.W.Altmayer@census.gov or call (301) 457-2581 by Feb 27th and leave your name. Security at the Bureau of Labor Statistics is very tight and having your name on a list of possible attendees will make your entrance to the building easier.

Special Evening Meeting
Thursday, Feb 28th
See page 4



President's Message

Peter Knapp

We start the first quarter of 2002 with a special evening meeting on Feb 28th with presentations by Andrew Karp and Art Carpenter, who will be in DC area teaching a series of seminars. Please see the articles on the evening meeting and the seminars for more information. Our regular March 5th meeting will be information packed with three presentations by Veronica Rath, Andrew Karp, and Russell Lavery. Please share the information about these meetings with your colleagues. I hope you will be able to join me in attending these 2 meetings.

Speaker Abstracts

How to Change the Template and Table of Contents for SAS Web Applications

Veronica Y. Rath, INDUS Corporation

This paper addresses two key areas: (1) creating templates; and (2) changing the table of contents in SAS Web design. Example code for changing defaults for the table of contents is provided. Also, a key to template design and example templates are included. This paper is meant to assist developers designing web pages using SAS. An example application with graphs is presented in this paper.

Veronica Rath has two years experience programming in SAS. She has a Master of Science in Environmental Science from University of Texas-School of Public Health. Currently, she provides SAS support to the US Environmental Protection Agency.

Using MULTILABEL Formats in SAS Version 8

Andrew H. Karp, Sierra Information Services, Inc.

This coders corner style presentation shows you how to take advantage of the new Multilabel Format (MLF) capabilities added to PROC FORMAT in Version 8 of the SAS System. You will learn how to create both primary and secondary labels in PROC FORMAT, which BASE SAS Procedures can use MLFs, and the kinds of output you can expect from these procedures when MLFs are applied to the values of your variables. Also shown in a programming work around; that assists in creating output datasets in PROC MEANS when MLFs are applied to analysis variables.

Andrew Karp has over 18 years of experience using, and teaching others how to use, the SAS System to manage, analyze and report data. He is President of Sierra Information Services, Inc., a firm selected as a Quality Partner by SAS Institute, Inc. In addition to his consulting and training practice Mr. Karp is regularly invited to share his expertise in the SAS System at user group meetings, and has presented over 50 papers at meetings in five countries, including the annual SUGI and SEUGI conferences.

An Animated Guide to the Macro System: Introduction

Russell Lavery

As all SAS programmers should understand the Program Data Vector, macro programmers should understand the Map of the Macro System.

Understanding the flow of data through the Macro System helps programmers create and debug macros. This presentation introduces the Macro Map, illustrating how non-macro programs are processed in the map, tokenization and token flow, and the shifting of control from one element to another. It also covers the three SAS compiles and the three SAS executes, how macros recall text and conditionally execute code, the shifting of control from one SAS component to another, storing and recalling macro variables and programs, syntax problems, and why some strings need to be quoted.

Russ Lavery is an independent contractor who has used SAS for 15 years. He specializes in using SAS and statistics to solve business problems. He has developed a number of animated presentations that illustrate macro, PROC REPORT, and other tricky SAS concepts.

Questions and Answers

Moderated by DCSUG Officers



Bring your SAS programming or procedure questions to DCSUG and its members. During this open session, you can ask questions of and get answers from experienced SAS users. All are welcomed to participate

Due to the high cost of mailing out newsletters, DCSUG will be emailing notices of the availability of accessing the quarterly newsletter (and other important announcements) at the DCSUG Internet site. If you are a member, please make sure your email address is current in our database. Please notify Larry Altmayer at Lawrence.W.Altmayer@census.gov with the email address you want to use to receive notification of the publication of the newsletter. Members will still have the option of continuing to receive a hard copy of the newsletter upon request.

NorthEast SAS Users Group Proceedings for Sale

DCSUG has a number of copies of the Proceedings for the NESUG '01 conference for sale, at a price of \$10. To order, contact Linda Atkinson at (202) 694-5046, atkinson@ers.usda.gov.

DCSUG 2002 Steering Committee Officers

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Desktop Special Interest Group

The next meeting TBA (May or June)

David DesJardins will present 'Using easily generated "live" graphs to effectively display statistical data' The point and click SAS Insight and JMP software will demonstrated as part of this seminar (this meeting will be in conjunction with FDA JMP-enthusiasts). Check the DCSUG home page for further information:

<http://www.ita.doc.gov/industry/otea/dcsug> Please contact Yesvy Gustasp or Joe Mirabal (see Steering Committee column) with questions, requests, suggestions, and offers.



Membership Application/Renewal

Date: _____
Name: _____
Company Name: _____
Mailing Address: _____
City, _____ State _____ Zip _____
Phone # _____ Fax # _____
E-Mail: _____
Preferred mode of contact (check one):
 Fax e-mail

SAS Version(s) _____
SAS Product(s): _____
Operating System(s) _____
Check one:
 Individual membership for 1 year is \$10.00
 Corporate sponsorship for 1 year is \$50.00

Please indicate a contact person for Corporate Sponsorships!

Check one:
 New membership Renewal membership

Mail to:
Washington DC SAS Users Group
P.O. Box 44670
Washington, DC 20026-4670

A Special Evening Meeting of District of Columbia SAS® Users Group Thursday, February 28, 2002

6:00 pm - 8:00 pm (light refreshments will be served)

registration in advance is **NOT** required!

The George Washington University **K Street Center for Professional Education**
2020 K Street NW (basement level) Washington, DC

Farragut West & North Metrorail Stations

Join DCSUG for a special evening meeting hosted by Andrew Karp (Sierra Information Services, Inc.) and Art Carpenter (California Occidental Consultants). Andrew and Art are well-known SAS Software experts who will be presenting a series of seminars from February 26 to March 6, 2002 at GWU's K Street Center. (For information about the seminars, go to www.SierraInformation.com)

This evening meeting gives you a chance to hear two SUGI Invited Papers without having to go to Orlando...or, if you're already planning to go to SUGI 27, attending the February 28 meeting means you'll have a chance to hear two other papers at the conference! The papers Andrew and Art will present on February 28 are:

Building and Using Macro Libraries

Art Carpenter, California Occidental Consultants

While many users take advantage of the SAS® Macro Language, few take full advantage of its capabilities to build and maintain libraries of macros. Management of large numbers of macros can be problematic. Names and locations must be remembered, changes must be managed, duplication and variations of individual macros must be monitored, and efficiency issues must be taken into consideration. These problems come even more to the forefront when macros are shared among programmers - especially in a networked environment. Macro libraries allow you to control and manage the proliferation of your macros. Libraries can consist of a formal use of the %INCLUDE statement, a group of programs defining macros that can be automatically called, or even collections of macros that were previously compiled and then stored. Macro libraries are extremely useful, and not really all that complicated. If you are not currently using them as part of your macro programming efforts, come to this presentation!

Advanced Tips & Techniques with PROC MEANS

Andrew H. Karp, Sierra Information Services, Inc.

PROC MEANS has long been a key tool to summarize and analyze the values of numeric variables, but Version 8 brings new power and features to this BASE SAS Procedure, which are the focus of this presentation. You will see some of the advanced tools now available in PROC MEANS that make it an even more valuable tool to SAS Software users. Among the topics discussed are: ordering the rows of output data sets using the new ORDER= and DESCENDING options in the CLASS statement, using Multilabel Formats (MLFs) with classification variables, enhanced control over the way PROC MEANS combines the values of classification variables using the new TYPES and WAYS statements, improved ease in creating multiple output data sets using the CHARTYPE option, and how to put the "grand" or "overall" analyses stored in the observation where _TYPE_ = 0 at the bottom of your output data set using the DESCENDTYPES option. You will also learn about the PRINTALL and COMPLETETYPES options, as well as the PRELOADFMT option and how they can be used to simplify your data summarization projects. You will also learn about the use of the CLASSDATA option, and how to create variables in your PROC MEANS-generated data sets containing the values of extreme (larger or small) analysis variables.

SAS® Talk™

By Ian Whitlock

Let's take look at when and how values are retained in the SAS DATA step. Beginners are often confused when their counter becomes missing. All mature SAS programmers know that the RETAIN statement (or use of the SUM statement) provides the answer, but relatively few know all the rules of when values are set to missing, so let's explore them. Most programmers believe that a RETAIN step will prevent a variable from becoming missing without explicit assignment or reading of data, but that belief is not true.

Oh, you think you already know the rules. Well then, stop to take this test before proceeding.

Here is a DATA step with some missing code. The comments spell out the rules restricting what kind of code you can write.

```
data _null_ ;
  retain x 0 ;
  put x= ;
  /* Some DATA step code.
   * If X is assigned a value, then that value cannot be missing.
   * If X appears in any function (or routine) call, then X
   * should not be set to missing as a consequence.
   * If X is read by an INPUT statement, then that value should
   * never be missing.
   * If X is a variable in any SAS data set mentioned,
   * then it should never have a missing value in the set.
   */
run ;
```

Find code to place in front of the step and code to replace the comment to produce the following log.

```
x=0
x=.
x=5
x=.
x=7
x=.
```

Ok, so you got it. Now, can you get a second solution that does not use any of the SAS words in your first solution?

While we have the experts tied up let's get on with the business at hand. First of all RETAIN doesn't mean *retain*. Values can change. Usually one reads that with RETAIN, values are not set to missing at the top of the implied loop of the DATA step. While true the statement is misleading.

There are three kinds of named variables in DATA step:

1. Variables that come from SAS data sets
2. Variables to which SAS assigns values other than missing (These variables are often referred to as automatic variables. Examples include _N_, END=, LAST.VAR, etc.)
3. All other named variables.

The RETAIN statement is significant only for the third category of variable, although there will be no complaints when applied in the other cases. For the third category of variable, it is true that SAS will not set these variables to missing when explicitly mentioned in a RETAIN statement. Usually the variable of interest does fall into the third category, and that is precisely why the misleading statement about the RETAIN statement does not cause more trouble than it does.

As far as I know, there are no variables in the second category that are ever set to missing unless they also fall in the first category. It is generally a bad idea to ever let an automatic variable also come from a SAS data set, because the results are either misleading or disastrous. The only exception is in solving SAS puzzles.

Now the first category of variable gets quite tricky. These variables will be set to missing once before the step begins unless they are explicitly retained with a value in a RETAIN statement. But these variables can also be set to missing on the MERGE or SET statement. I leave it to you to decide the issue for other forms of SAS input.

In a merge (with BY statement), SAS may set a variable Q to missing at the beginning of each BY-group when the MERGE statement is executed. This happens, if Q is in one of the data sets in the MERGE statement and no record is read for the BY-group from the data set that contains Q. Or to put it another way, variables participating in a merge will be set to missing at the beginning of a BY-group when they are not actually read for that BY-group. Let's look at an example.

```
data w1 ;
  do key = 1 to 3 ;
    output ;
  end ;
run ;

data w2 ;
  q = 7 ;
  do key = 1, 3 ;
    output ;
  end ;
run ;

data w3 ;
  merge w1 w2 ;
  by key ;
  put key= q= ;
run ;
```

Q will be missing when KEY = 2. This is probably what you expected unless you remembered that values from SAS data sets are retained. The preceding paragraph spells out an exception. From these facts it is easy to get an answer to the test question given at the beginning by constructing appropriate data sets to merge. Stop here and try it to test your understanding of how to apply this information about a merge.

Now consider a SET statement with multiple SAS data sets in it. Here, whether or not a BY statement is present, is irrelevant to our discussion. Now SAS will set a variable Q to missing at the SET statement, whenever the iteration starts reading from a data set that does not contain Q, i.e. whenever SAS switches data sets in one SET statement and Q is not in the new data set. Using the same data as above this can be illustrated with the following code.

```
data w3 ;
  set w2 w1 ; /* note reversal of order */
  put _n_ = q= ;
run ;
```

Here Q will be missing when `_N_ >= 3`. What if we assign `Q = 99` before the SET statement? Q will still be missing for `_N_ = 3`, but now the last two messages show Q is 99. Hence Q was set to missing once when SAS switched from W2 to W1.

Now you are in a position to give a second answer to the test question which makes use of neither the MERGE nor the BY statement by simply using a sequence of one-record data sets in the SET statement where alternate sets are missing the variable X. If you think carefully about these rules, and remember that in a merge, records are read only once, then your understanding of how a SAS merge works should be strengthened. I have seen some otherwise very professional SAS programmers caught by failure to fully understand a SAS merge.

Calendar of Meetings and Events

This feature is meant to give users an idea of some of the activities of area users groups and special interest groups, as well as regional and international groups. If your group would like to be regularly included in this feature, please call Mike Rhoads or one of the DCSUG officers. There is a DCSUG directory with phone, fax, and E-mail contact information elsewhere in this newsletter.

February

28 **DCSUG** DC SAS Users Group, Special Evening Meeting
 Time: 6:00 pm - 8:00 pm
 Site: George Washington Univ., K St. Center for Professional Education
 2020 K Street NW
 Program: See article
 Contacts: Mike Rhoads at (301) 251-4308
 RhoadsM1@Westat.com
 Peter Knapp at (202) 482-1359
 peter_knapp@ita.doc.gov

September/October

22-24 **SESUG 2002** Southeast SAS Users Group 9th Annual Conference
 Site: Hyatt Regency Savannah
 Co-Chairs: David Maddox, Heidi Markovitz
 Further Info: www.sesug.org/SESUG02

29-2 **NESUG 2002** NorthEast SAS Users Group 15th Annual Conference
 Site: Adam's Mark Hotel, Buffalo NY
 Co-Chairs: Michael Mace, Chris Roper
 Further Info: www.nesug.org

March

5 **DCSUG** DC SAS Users Group, General Meeting
 Time: 8:30 am - 12:00 noon
 Site: Bureau of Labor Statistics
 2 Massachusetts Ave. NE
 Program: See front page announcement
 Contacts: Mike Rhoads at (301) 251-4308
 RhoadsM1@Westat.com
 Peter Knapp at (202) 482-1359
 peter_knapp@ita.doc.gov

Other Groups

CENSUG Census SAS Users Group
 Contact: Andrea Potter at (301) 457-1687

MDSUG Maryland SAS Users Group
 Contact: Mr. R.H. Miller, (410) 740-4229
 millerrh@juno.com

NCHSSUG National Center for Health Statistics SAS Users Group
 Contacts: Arlene Siller at (301) 458-4498
 asiller@cdc.gov
 Linda Tompkins at (301) 458-4533

April

14-17 **SUGI 27** SAS Users Group International
 Site: Walt Disney World® Swan and Dolphin Resort, Orlando
 Chair: Cyndie Gareleck
 Further Info: www.sas.com/usergroups/sugi/sugi27/index.html

NIHSUG National Institutes of Health SAS Users Group
 Contact: Ray Danner at (301) 496-6037

NOVASUG Northern Virginia SAS Users Group
 Contact: Gary McQuown at (703) 628-5681
 gmcquown@dasconsultants.com

June

4 **DCSUG** DC SAS Users Group, General Meeting
 Time: 8:30 am - 12:00 noon
 Site: Bureau of Labor Statistics
 2 Massachusetts Ave. NE
 Program: TBA

SIGSTAT Special Interest Group in Statistics, CPCUG and WINFORMS
 Contact: Charlie Hallahan, 202-694-5051
 hallahan@ers.usda.gov

VASUG Virginia SAS Users Group (Richmond area)
 Contact: Peter Rikard at (804) 828-4878
 liaison@vasug.org

SAS SOFTWARE TRAINING SEMINAR INFORMATION

Internationally-known SAS consultants and trainers Andrew Karp and Art Carpenter (Sierra Information Services, Inc. and California Occidental Consultants)

will present eight one-day SAS(r) Software training seminars in Washington, DC in late February and early March.

These seminars offer attendees an opportunity to learn about key aspects of the SAS System from two internationally recognized industry leaders, and reflect their extensive experience with different aspects of SAS Software. The intensive one-day format of these seminars maximizes your training resources while presenting key information that you can apply right away. All of our seminars have been updated to reflect the latest changes and enhancements to the SAS System through Release 8.2.

The seminars will be presented at The George Washington University's K Street Center for Professional Education, 2020 K Street NW, easily reached via Metrorail. Nearest stations are Farragut West and (a bit further away) Farragut North. Private fee-paid parking is also available nearby.

Tuition includes a full set of course notes, morning coffee and pastries, and afternoon refreshments.

The seminars we will present are:

- ** Feb 26 (Tuesday) From %Macro to %Mend: An Introduction to the SAS Macro Language
- ** Feb 27 (Wed) Advanced Topics in the SAS Macro Language
- ** Feb 28 (Thurs) Introduction to SAS/STAT Software
- ** Feb 28 (Thurs) Building and Applying Predictive Models Using the SAS System (two separate, concurrent, seminars on 2/28)
- ** Mar 1 (Friday) SAS System Programming Efficiencies: Tips & Techniques
- ** Mar 1 (Friday) Quick Results with SAS/GRAPH Software (two separate, concurrent, seminars on 3/1)
- ** Mar 4 (Monday) Summarizing and Reporting Data Using the SAS System
(no seminar Mar 5: DCSUG meeting that day)
- ** Mar 6 (Wed) Advanced Reporting with the Output Delivery System

Course outlines and registration details can be obtained by clicking on the banner on the homepage of **www.Sierrainformation.com**. Early registration and group discounts are available if you register on or before Feb 1, 2002.

Please do not hesitate to call Sierra if you have any questions, or if you want to register for the seminars.

Registration:
Sierra Information Services, Inc.
(707) 996 7380 voice
800-248-8958 fax (toll free)
SierraInfo@AOL.COM

SESUG in Savannah



If the idea of increasing your SAS knowledge in a gracious southern atmosphere appeals to you, mark your calendar now for the 9th Annual Conference of the Southeast SAS Users Group. SESUG 2002 will take place September 22-24 in Savannah, Georgia. Voted one of the "Worlds' Top Ten Trendy Travel Hot Spots" by the New York Times and named one of the "Top 10 U.S. Cities to Visit" by Condé Nast Traveler. Savannah captivates, intrigues, surprises and romances millions of visitors each year with her gracious hospitality and subtle charm (according to www.savannah-visit.com). David Maddox and Heidi Markovitz are the conference co-chairs.

The conference offers 10 different paper presentations, as well as weekend workshops, and the conference leaders are now actively seeking people to present papers on almost any topic related to the usage of SAS software. The deadline for submitting paper abstracts is March 31. More details about the abstract presentation process can be found on the web at www.sesug.org/SESUG02.



North East SAS User Group
15th Annual Conference
Buffalo, New York
29 Sep - 02 Oct, 2002



North East SAS User Group
Buffalo, New York
29 sep - 02 Oct, 2002

The fifteenth annual NorthEast SAS Users' Group conference will be held at the beautiful Adam's Mark in Buffalo, New York –home of the Buffalo Bills, Buffalo Bisons(baseball), and of course, the ORIGINAL buffalo wings and beef-on-weck. Served by more than ten airlines, with free shuttle service, and on-site car rental, the conference site is within two hours of all NESUG participants, as well as our friendly neighbors north of the border, eh !

Buffalo, the "twenty-minute city", is the gateway to the Niagara region, featuring world-class arts and culture, architecture, sports, wineries, dining, and great autumn weather. Come visit Lake Erie, Lake Ontario, the Niagara River and Falls, the historic Erie Canal, Buffalo and Erie County Naval and Military Park, Pedaling History Bicycle Museum, Old Fort Niagara, Original American Kazoo Company, Our Lady of Victory Basilica and National Shrine, Toy Town Museum, Chautauqua, and much, much more. In addition, Buffalo is just a short drive away from our Canadian neighbors, including the Shaw Festival, Niagara wine country, Casino Niagara, and the international metropolis of Toronto.

In addition to the opening night celebration, come partake in all the activities that have made NESUG one of the best valued conferences: SAS Demo Area, Presentations by SAS, Vendor Pavilion of service and solution providers, pre- and post- conference training, meeting and sharing with fellow SAS users. Planned concurrent sessions for Monday through mid-day Wednesday include: Advanced and Beginning Tutorials, Applications Development, Code Clinic, Coders' Corner, Emerging Technologies, Graphics & Information Visualization, Hands-On-Workshops, Posters, Statistics, Data Analysis, and Econometrics, Training and User Support.

These sessions will optionally follow the following tracks:

Beginner, Financial, Government, Management, Pharmaceutical, and Web

NESUG (www.nesug.org) has thrived for fifteen years because of your faithful attendance and the volunteer efforts of folks like you; serving as session coordinators, working the registration desk, assisting as Code Clinicians

Please contact the conference co-chairs for further information on how you can help continue the tradition.

Michael Mace

Chris Roper

www.nesug.org

nesug15@att.net

croper@ncqa.org

www.buffalocvb.com

michael.a.mace@att.net

202-955-3562

www.adamsmark.com/buffalo

330-796-3981

2002 Meetings

Plan ahead and mark your calendars now. The DCSUG will meet on the following dates in 2002: June 4, September 10, December 3. Meeting times and locations to be announced. If at any time you have a question about an upcoming meeting or other DCSUG information, call one of the members of the Steering Committee.

**you're
invited**

To visit the DCSUG home page

The URL for the DCSUG home page on the Web:
<http://www.ita.doc.gov/industry/otea/dcsug>

Washington DC SAS Users Group
P.O. Box 44670
Washington, DC 20026-4670

Remember to Join DCSUG!!!

**JOIN
TODAY!**

Don't forget to renew your DCSUG membership for 2002. Dues are used to defray the costs of producing and mailing the newsletter and provide refreshments at our meetings. You'll make sure that you keep receiving the newsletter and keep DCSUG going. If you have not joined DCSUG, now is a great time to do so. Joining DCSUG is as easy as completing the membership form included in this newsletter. Individual memberships are only \$10; corporate memberships are \$50