

DCSUG Newsletter

Washington, DC SAS Users Group

Third Quarter Meeting

When: Tuesday, September 11, 2001
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 - 10:15	Ray Pass, Ray Pass Consulting I'll Have the TABULATES a la ODS Please, With a Table of Contents On the Side
	10:15 - 10:30	Break
	10:30 - 11:00	Veronica Y. Rath, INDUS Corporation How to Change the Template and Table of Contents for SAS Web Applications
	11:00 - 11:30	Jeff McCartney and Raymond Hu, Social and Scientific Systems, Inc. SAS® Shorts: Valuable Tips for Everyday Programming
	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 8/28/01

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NOTE: If you are not currently a paid member of the DCSUG and are planning to attend the meeting, please Email Karen Dennis at kdennis@enterprise.foundation.org or call (410) 772-2780 by Sept 5th 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.

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President's Message

Peter Knapp

We have a jam-packed agenda for the September 11th meeting. There will be a sneak preview of a paper by Veronica Rath, as well as one by Jeff McCartney & Raymond Hu. Both of these papers will be presented at NESUG'01. We are lucky to have Ray Pass join us. As a veteran of many SAS conferences his presentations are always informative. I'm looking forward to all three presentations and I hope that you can make the meeting. If you haven't made plans to go to NESUG this year, hopefully the NESUG previews will wet your appetite to do so. NESUG '01 will be held September 30 - October 3 in nearby Baltimore, Maryland. DCSUG Steering Committee member Linda Atkinson is co-chairing the conference and I know she's planning to make the conference as informative and fun as possible. There's still time to make plans to go!

Speaker Abstracts

I'll Have the TABULATEs a la ODS Please, With a Table of Contents On the Side

Ray Pass, Ray Pass Consulting

The advent of the Output Delivery System (ODS) in Version 8 of the SAS system is truly monumental in scope. It required rewriting all SAS procedures that produce output (not all do) and splitting out their "data components" from their "table definitions" (presentation format templates).

We now have the ability to combine these components into customized "output objects" and to send them to different "output destinations," including casting them as HTML pages. When we do use the HTML destination, we also have the ability to produce our main content output as one component frame of a multi-frame page, the other possible component frames being either procedure or page-oriented tables of contents.

Although there are methods for customizing the contents of the ToC frames, they still do take up valuable screen real estate. This paper demonstrates a methodology for creating a separate stand-alone table of contents for a multi-output ODS-HTML run, with navigational tools included to go back and forth between the ToC and the content pages. Other data-driven techniques are also demonstrated for renaming ODS-HTML generated sequential body file names into more meaningful content-oriented names. The techniques are not difficult when based on the power of ODS and simple SAS programming tools.

Ray Pass is an independent SAS consultant and has been using the SAS System for too many years. He is the co-author, with Ron Cody, of Programming SAS by Example" (1995) and has delivered many invited papers at national, regional and local SAS user groups. Ray's primary areas of expertise in the SAS System are report generation and data manipulation. In addition to teaching SAS courses, Ray has also been quite active in organizing and participating in SAS user group activities on various levels. Ray was one of the founders of both the New York Area SAS Users Group (NYASUG) and the NorthEast SAS Users Group (NESUG). Ray co-chaired the first two NESUG annual conferences ('88, '89) and has been a Section Chair at many SAS User Group International (SUGI) annual conventions.

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.

SAS® Shorts: Valuable Tips for Everyday Programming

Jeff McCartney and Raymond Hu,
Social and Scientific Systems, Inc., Bethesda, MD

The tips presented in this paper should prove valuable to SAS programmers of all levels. Examples selected were developed over time by our company staff as practical solutions and have become part of our standard pool of resources. Examples are short and utilitarian in nature and include references to supplementary documentation such as SAS OnlineDoc®. Included are examples showing how to use PROC PRINTTO to direct SAS logs and output to user-defined files; using the ?? modifier of the INPUT function to determine if a SAS character string contains only numeric data; using the RUN CANCEL statement to conditionally run a DATA step or PROC step; user written macros to display start time, end time, and duration of SAS jobs and how to store that macro in a SAS autocall library; adding icons to the program editor, log, and output windows; how to print two small output jobs on one output page; a "trick" to have PROC PRINT display variables in alphabetical order; sending email within SAS; and using the explorer window to display selected variables in the order you want. Most examples are based on the Microsoft Windows® platform but some may apply across platforms.

Jeff McCartney has been programming in SAS for over 20 years. He holds a masters degree in mathematics and considers himself a user by need as opposed to a techie. He is a Division Manager at Social & Scientific Systems in Bethesda Maryland, whose primary use of SAS is in support of health care database construction and analysis.

Raymond Hu has been programming in SAS for over 7 years. He holds a PH.D. degree in statistics and considers himself as a real programmer. He also uses Visual Basic, Access, and ASP to develop User interfaces and Web Applications.

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

NESUG '01 Conference

The NorthEast SAS Users Group, Inc. (NESUG) will hold its 14th annual conference, September 30 - October 3, at the Renaissance Harborplace Hotel in Baltimore, Maryland. An exciting line-up of presentations in an expanded two and a half day format will give attendees many great learning opportunities as well as time to visit the SAS Demo Area and the Code Clinic, and network with other SAS users. Conference details are available at <http://www.nesug.org>. A volunteer application can give you opportunities to help out as a Session Coordinator, a Registration Desk staff person, and a code clinic expert. Regular registration ends September 7; after that date you can register on-site.

Make plans now to join Conference Co-Chairs Linda Atkinson and Sue Douglass for NESUG '01.

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.

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SAS Talk

By Ian Whitlock

Let's take a look at the SAS® ROUND function. You say, what can one possibly say about rounding? Well there was quite a stir recently in the SAS-L community when someone wanted a weird sort of rounding in SAS. In looking at the problem, it was soon revealed that SAS rounds up when halfway between two rounding points. For example, say we want to round to the nearest hundredth, then what should the rounded value of 8.135 be? In SAS we make the assignment

```
rounded = round ( 8.135 , .01 ) ;
```

In this case ROUNDED is 8.14 and we say that the number was rounded up to 8.14 as opposed to down to 8.13. Well what about 8.145? SAS rounds that up also, in fact every number halfway between two points to the nearest hundredth is always rounded up. One big question is, should it?

A number of prominent SAS-L'rs acted surprised and found this fact outrageous. Dale McLerran used a statistical argument that the mean of rounded values would be biased compared with the round of the mean value. He then carefully described how to round to the nearest even integer. Thus rounding up for half of the midpoints and down for half of the points. David Cassell pointed out that this was the IEEE standard and that, moreover, all self respecting languages followed the IEEE standard.

My colleague, Ed Heaton generated an example of a million random numbers between 0 and 100 to argue with Dale. He rounded each number to the nearest integer. His code

```
/* Generate a million random numbers and round them into
another variable. */
Data test1 ;
  Do i=1 to 10**6 ;
    val = 100 * ranUni( 123456 ) ;
    roundedVal = round( val, 1 ) ;
    Output ;
  End ;
  Drop i ;
Run ;
```

He then used SQL to calculate and print the two means.

```
Proc sql ;
  Title1 "test1" ;
  Select mean( val ) as meanOfVal ,
         mean( roundedVal ) as meanOfRoundedVal
  from test1 ;
```

The results showed that the means were very close together. If one thinks about it, this makes sense. The only time it matters is for numbers exactly at the halfway points and random numbers are not going to hit halfway points often enough to matter much. In a way this says that for many practical problems it isn't going to matter.

Dale came back quickly saying that it only mattered when the probability of landing on a midpoint was greater than 0. He then generated an example to make his point.

```
/* Generate y with values 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4. */
/* Round y in two different manners, using round function which */
/* rounds up, and rounding to nearest even integer. */
data test;
  do i=1 to 10000;
```

```

x = rantbl(123456, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9);
y = (x - 1) / 2;
z1 = round(y);
if y=.5 or y=2.5 then      z2=y-.5;
else if y=1.5 or y=3.5 then z2=y+.5;
else                       z2=y;
output;
end;
run;

proc means;
var y z1 z2;
run;

```

The line

```
x = rantbl(123456, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9, 1/9);
```

generates an integer between 1 and 9 so that each integer has a probability of being generated 1/9 of the time. If you are less familiar with the various modifications of RANUNI then you could accomplish the same thing with

```
x = ceil ( 9 * ranuni(123456) ) ;
```

Multiplication by 9 stretches the interval (0,1) to the interval (0,9). The CEIL function then looks up to the nearest whole number, producing an integer between 1 and 9. Each integer has an equal chance because the probability of being in any one of the 9 possible sub intervals is the same, 1/9.

The next line

```
y = (x - 1) / 2;
```

shift the numbers down by one (now 0 to 8) and divides then by 2, thus resulting in 0, .5, 1, 1.5, 2, 2.5, 3, 3.5, and 4. Now Dale has produced whole numbers and midpoints in such a manner that the midpoints are hit 4/9 of the time because there are 4 midpoint values. His report showed

Experiment	Mean Y	Mean Z1	Mean Z2
1	1.9794	2.2200	1.9763

Notice that Mean Z1 is high compared with Mean Y. This is how SAS currently rounds. Mean Z2 is what following the IEEE standard would produce.

Now Both Ed and Dale are correct. For the most part, real examples are not rich in midpoints and Ed is correct that it usually doesn't matter. Dale, on the other side, is correct that one can construct sets of numbers where it will matter.

Someone reported that in version 9 SAS will switch to the IEEE standard.

Now most people are not even aware that one can write things like

```
z = round ( x , 1/3 ) ;
```

You do not have to round to decimal places. There are times when this is quite handy, but there is too little room left to describe them. Before SAS version 8.1 one could write

```
z = round ( x , m/n ) ;
```

and there would be no error message, but the calculation would be wrong unless M is 1. Fortunately this includes the standards, .1, .01, .001, etc. Howard Schreier pointed out that this bug has been fixed in 8.1.

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.

September

11 **DCSUG** DC SAS Users Group, General Meeting
Time: 8:30 am - 12:00 noon
Site: Bureau of Labor Statistics
2 Massachusetts Ave. N.E.
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

September/October

30-3 **NESUG '01** NorthEast SAS Users Group
14th Annual Conference
Site: Renaissance Harborplace Hotel,
Baltimore
Co-Chairs: Linda Atkinson, Sue Douglass
Further Info: www.nesug.org

December

4 **DCSUG** DC SAS Users Group, General Meeting
Time: 8:30 am - 12:00 noon
Site: TBA
Program: TBA

April 2002

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/intro.html

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

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

NOVASUG Northern Virginia SAS Users Group
Contact: Joe Mirabal at (703) 265-4620
jmmirabal@aol.com

VASUG Virginia SAS Users Group (Richmond area)
Contact: Peter Rikard at (804) 828-4878
prikard@mail.ucc.vcu.edu

Desktop Special Interest Group

The next meeting TBA

Check the DCSUG home page for the next meeting announcement:

<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.

Nominations for 2002 DCSUG Officers

Its that time of year again. We need to elect officers for DCSUG for next year and we need your help. Please nominate people to fill the following positions. Give your nominations to any current DCSUG officer or send them to:

DCSUG
P.O. Box 44670
Washington, DC 20026

President
Treasurer

Secretary
SAS Liaison

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

2001 Meetings

Plan ahead and mark your calendars now. The DCSUG will meet on the following dates in 2001: December 4. 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.



To visit the DCSUG home page

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

Remember to Join DCSUG!!!



Don't forget to renew your DCSUG membership for 2001. 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

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