DCSUG Newsletter

Washington, DC SAS Users Group

Third Quarter Meeting

When: Tuesday, September 9, 1997
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   Michael Bretz, U.S. Bureau of the Census
                               Generation of Complex Tables Using SAS® Report Writing Tools
          10:15 - 10:30   Break
          10:30 - 11:00   Lawrence Altmayer, U.S. Bureau of the Census
                               Hot-Deck Imputation: A Simple DATA Step Approach
          11:00 - 11:30   Ian Whitlock, Westat Inc.
                               PROC SQL - What Does It Offer Traditional SAS® Programming?
          11:30 - noon   User-to User Questions and Answers
                               Moderators - DCSUG officers

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 8/29/97

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President's Message
Peter Knapp

One reason I became involved in the DC SAS Users Group was to talk to other SAS professionals and ask them how they would approach certain coding problems I run across in my work. Because I maintain and improve generic SAS programs that are repeatedly used by many different people, I need to strike a balance between writing efficient code and writing readable code. Finding this balance is not something I can get from a book. I'm glad that I can turn to members of DCSUG to discuss the fine points of the programming issues I wrestle with. I hope that you will attend the September 9 DCSUG meeting where you can share your programming questions with other SAS users. Of course you can also learn from our featured speakers, Michael Bretz, Larry Altmayer and Ian Whitlock. I hope to see you there!

Generation of Complex Tables Using SAS Report Writing Tools

Michael Bretz, Bureau of the Census

Abstract
The anatomy of a table consists of three parts: a stub, a header and cells. A stub is a collection of row descriptions based on variable values. A header is a collection of variables in the column dimension. The cells report counts or values derived from analysis variables. The Census Bureau defines the complexity of a table by its "stub". The stub may contain one or more subtotals that tally to a total(s) and/or groups of mutually exclusive row descriptions. We refer to these as asymmetrical tables.

   SAS procedures that produce tables have many strengths and weaknesses. Using the power of SAS formats in combination with these procedures, one can create a generalized approach to produce complex asymmetrical tables. This paper demonstrates this approach using sample data and SAS formats in combination with the TABULATE and COMPUTAB reporting procedures.

Michael Bretz is a SAS Technical Consultant for the Economic Area at the U.S. Bureau of the Census. Michael has been using SAS for over 10 years and has expertise in BASE SAS, SAS/FSP, SAS/AF, SAS/EIS, SAS/GRAPH, SAS/ACCESS and SAS/CONNECT software on min-icomputer, micro-computer and UNIX-based environments.

Hot-Deck Imputation: A Simple DATA step Approach

Lawrence Altmayer, U.S. Bureau of the Census

Abstract
Hot-deck imputaion is a means of imputing data, using the data from other observations in the sample at hand. This paper deals with a method of imputation we used for the Survey of Adults on Probation. In this method, we first attempt to impute race based on other variables in an observation. We impute the remaining missing race data, and age and gender, using the same variable in prior or later observations in the dataset. This method uses macro variables to subset the data into groups within which imputation is done. It also uses arrays to keep track of values to use for imputation.

Larry Altmayer has been with the U.S. Census Bureau for eighteen years and is a computer specialist. He has more than seven years SAS programming experience, most recently with macros. Larry is also the Secretary of DCSUG.

PROC SQL - What Does It Offer Traditional SAS Programming?

Ian Whitlock, Westat Inc.

Abstract
PROC SQL plays two important roles in SAS: 1) Connecting SAS with other data base systems, and 2) Helping the traditional SAS programmer. This paper looks at the second role. SAS programming problems are presented where PROC SQL has a distinct advantage over SAS programs that do not use this procedure. By focusing on such problems with coded solutions I hope to answer the question, " When is it most appropriate to consider using PROC SQL in a SAS program?"

Ian Whitlock is a senior systems analyst at Westat working on survey research problems. He has been programming largely in SAS since 1981 using an interactive environment to develop programs for execution in a batch environment. He is active on SAS-L, and has presented papers at national, regional, and local SAS User Group meetings.

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

If you are not currently a paid member of the DCSUG and are planning to attend the meeting, please call Karen Dennis at 301-294-3876, by September 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.

Desktop Special Interest Group

by David Barnes

DCSUG's Desktop Special Interest Group will meet the evening of July 23rd at Westat, Inc. 1650 Research Blvd. in Rockville at 7:30PM.***Microsoft Access and SAS, Part 2: Accessing Distributed Hetergeneous Databases in a Client Server Environment*** will be presented. If you have any suggestions for future meeting topics, speakers, or alternate locations, or if you'd like to be added to our group's mailing list so you can get announcements of upcoming meeting events, please contact David Barnes at (301) 350-4752 or Yesvy Gustasp at (301) 589-4530. Also, if you need a ride from the Metro, please call either one of us.

Directions to Westat: Take I-270 8 miles from the Capital Beltway to exit #6B - Route 28 (toward Darnestown). Once on 28, go past the traffic light at the Shell station and turn right at the next traffic light, which is Research Blvd. The 1650 building is less than 1/4 mile on the left. You can park in any non-reserved space. Signs will be posted in the lobby to direct you to the meeting room. Westat has many buildings on Research Blvd. so make sure you're at 1650.

Upcoming Regional Meetings

SESUG'97 - The fifth Annual Conference of the SouthEas SAS Users Group, September 21-23, Omni Jackson Hotel, Jacksonville, Florida

NESUG'97 - The tenth Annual Conference of the NorthEast SAS Users Group, October 5-7, Renaissance Harbor Hotel, Baltimore, Maryland

DCSUG 1997 Steering Committee
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Yesvy.Gustasp@mix.cpcug.org

SASTALK
by Ian Whitlock

A common SAS question is how to write a program to read a file of comma separated variables where the first line gives the variable names and the remaining lines are the data. To be explicit. consider the following data

ID	NAME	RATE	SEX	AGE	WEIGHT
S100001	B a r b a r a Jones	0.33	F	13	123
S100002	John Allen	1.43	M		140
S100003	Bill Cater	0.75		15	120
S100004	Mary Smith	1.86	F	27	134

The first row is different because it contains the names of the variables rather than their values. The table does not explicitly say whether a variable should be numeric or character, nor does it tell us how long the character values are. In this simple example we can guess by the meanings of the names and looking at the values.

An input program for this table is not hard to write. For example:

```
data csv ;
   infile csv dsd lrecl = 80 firstobs = 2 missover ;
   input id :$char7. name :$char25. rate sex age weight ;
run ;
```

The DSD option on the INFILE statement is important because it tells SAS to treat consecutive commas as a missing field, and to handle quoted fields correctly. The other important option is LRECL. If the value is too short, the whole record will not be read. We could make it a macro parameter, LRECL.

Writing the INPUT statement requires:

> Getting the names of the variables,
> Separating numeric from character, and
> Getting wide enough formats for the character variables

The names are easy; since they are all there on the first line. We can read each variable and output it for later use. The EOF option correctly handles the end-of-file in the presence of double trailing @-sign.

```
data names ;
   infile csv dsd lrecl = &lrecl obs = 1 eof = eof ;
   input name $ @@ ;
   nv + 1 ;
   output ;
return ;

eof:
   call symput ( 'nv' , left(put(nv,5.)) ) ;
return ;
run ;
```

The remaining questions are somewhat harder. Can we make decisions based on the second row? No. Character fields may be wider further down, and fields that appears to be numeric may contain characters further down. Thus we really have to read the whole file in order to know how to read it properly. We will have to read all the variables into 200 byte character variables. For

each one, we will have to decide when it is character, and keep track of the maximum length. So we will need 3 arrays - one to reference the values read, and two arrays to keep track of the type and maximum length. Here is the complete step.

```
data inpinfo ( keep = name infmt ) ;
   length infmt $ 10 ;
   infile csv dsd firstobs = 2 eof = eof missover ;
   array v (&nv) $ 200 v1 - v&nv ;
   array maxlen (&nv) _temporary_ ;
   array type (&nv) _temporary_ ;      /* missing=num, 1=char */
   input ( v1 - v&nv ) ( :$char200. ) ;

   do i = 1 to &nv ;
      if input ( v ( i ) , ?? best12. ) = .
         and v ( i ) ^= ' ' then type ( i ) = 1 ;
      maxlen ( i ) = max ( maxlen ( i ) , length ( v ( i ) ) ) ;
   end ;
return ;

eof:
   do i = 1 to &nv ;
      if type ( i ) then
        infmt = ' :$' || trim(left(put(maxlen(i) ,3.))) || '.' ;
      else
        infmt = ' ' ;
      set names ;
      output ;
   end ;
return ;
```

INPINFO has both the name and format on it. PROC SQL can to translate it into a macro variable.

```
proc sql ;
   select name || infmt into : inplist  separated by ' '
      from inpinfo ;
   %let nvar = &sqlobs ;
quit ;
```

With this preparation the final step is trivial.

```
data csv ;
   infile csv dsd lrecl = &lrecl  firstobs = 2 missover ;
   input &inplist ;
run ;
```

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 1997

9   **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:
           Linda Atkinson at (202) 219-0934
             atkinson@econ.ag.gov
           Peter Knapp at (202) 482-1359
             peter_knapp@ita.doc.gov

21-23 **SESUG**   SouthEast SAS Users Group
               Omni Jacksonville Hotel
               Jacksonville, FL
       Contacts:
           Dan Bruns at (423) 751-6430
             spdeb@tva.gov
           Andrew Kuligowski at (813) 738-3000
             x2756   0005949476@mcimail.com

October 1997

5-7 **NESUG**   NorthEast SAS Users Group
               Renaissance Harborplace Hotel,
               Baltimore MD
       Contacts:
           Gerry Pauline at (212) 346-1706
             Gerry@Pace.Edu
           Helen-Jean Talbott at (410) 332-3849
             HJTalbott@Worldnet.Att.Net

22   **DCSUG**   DC SAS Users Group, Desktop SIG
       Time: 7:30 pm
       Site: TBA
       Program: TBA
       Contact:
           David Barnes at (301) 350-4752
             appalt@gnn.com
           Yesvy Gustasp at (301) 589-4530
             Yesvy.Gustasp@mix.cpcug.org

December 1997

2   **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: TBA
       Contacts:
           Linda Atkinson at (202) 219-0934
             atkinson@econ.ag.gov
           Peter Knapp at (202) 482-1359
             peter_knapp@ita.doc.gov

Other Groups

CENSUG   Census SAS Users Group
   Contact: Rick Denby at (301) 763-8174

CONSUG   Consultants SAS Users Group
   Contact: Eric Brinsfield at (919) 518-1070
     merecb@interpath.com

MDSUG   Maryland SAS Users Group
   Contact: Marjorie Bedinger, (410) 786-5800
     mbedinger@hcfa.gov

NCHSSUG   National Center for Health Statistics SAS Users Group
   Contact: Arlene Siller at (301) 436-8522
     abs2@cdc.gov
     or Linda Tompkins at (301) 436-7022

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

VASUG   Virginia SAS Users Group
   Contact: Peter Rikard at (804) 786-4828

A One-Day Workshop for
Users of SAS® System Software

Baltimore: Wednesday, October 9 1997
Renaissance Harborplace Hotel
Offered in conjunction with the North East SAS Users Group (NESUG) 1997 Annual Meeting
NESUG '97 Info: http://sasuser.pace.edu/nesug/97

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Workshop Fees...register early and save $20!
$209 *on/before September 21*
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Registration/Additional Information:

- **Toll Free Telephone: 1-888-747-1411**   Fax: 415/441-9175
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Important Details: We reserve the right to cancel these workshops, and if we do, Sierra Information Services, Inc, **is not liable for special or consequential damages.** Refunds subject to **$50 cancellation fee** if received on or before 9/20. A **$100 cancellation fee** will be imposed for cancellations received after 9/20. SAS is a registered trademark of SAS Institute, Inc. in the United States and other countries ® indicates USA registration. Quality Partner is a registered trademark of SAS Institute, Inc.

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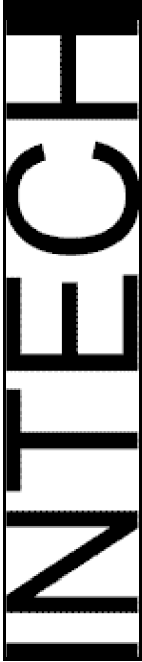
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Membership Application/Renewal

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   ☐ Corporate sponsorship
  for 1 year is $10.00   for 1 year is $50.00

Please indicate a contact person for Corporate Sponsorships!

Check one:
☐ New membership   ☐ Renewal membership
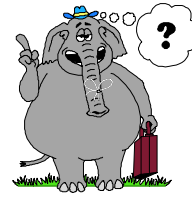
DCSUG Membership Directory

DCSUG is considering publishing a membership directory in 1997, containing members name, work affiliation (name of institution), work telephone number, e-mail address, and any areas of expertise that you would be willing to identify. This directory would be provided to DCSUG members only and would not be given to outside sources. If you would like to be included in such a directory please mark the boxes below, as appropriate.

☐   I would like to be included in the membership directory DCSUG is considering publishing. Include my name, work affiliation, and work telephone number.
☐ Include my e-mail address as shown on this form.
☐ Include the following areas of expertise (up to 2 products, platforms).

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

1997 Meetings

Plan ahead and mark your calendars now. The DCSUG will meet on the following dates in 1997: **September 9, December 2.** 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!!!

Don't forget to renew your DCSUG membership for 1997. 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.