

# DCSUG Newsletter

Washington, DC SAS Users Group

## Second Quarter Meeting


When: Tuesday, June 8, 1999  
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	Robert Virgile, Robert Virgile Associates, Inc. <b>How MERGE Really Works</b>
	10:15 - 10:30	Break
	10:30 - 11:30	Robert Virgile, Robert Virgile Associates, Inc. <b>The Dirty Dozen: Twelve Common Programming Mistakes</b>
	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 5/21/99

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\*\*\*\*\* If you are not currently a paid member of the DCSUG and are planning to attend the meeting, please Email Karen Dennis at [dennisk1@westat.com](mailto:dennisk1@westat.com) or call 301-294-3876 by June 3<sup>rd</sup> 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. \*\*\*\*\*

### President's Message

Peter Knapp

We are fortunate to have Bob Virgile as our featured presenter. He has contributed many papers at local, regional, and international SAS Users Group meetings and it was very difficult selecting the papers to be presented at the June meeting. The two papers being presented should appeal to all levels of SAS users. Suggestions for future meetings are always welcome. I look forward to seeing you at the meeting.

## Speaker Abstracts

### How MERGE Really Works

*Bob Virgile, Robert Virgile Associates, Inc.*

Do your MERGEs produce unexpected results? Three basic DATA step concepts resolve the complexities of MERGE: compile and execute, the Program Data Vector, and data movement among various storage locations. These concepts apply to all DATA steps, not just those using MERGE. This paper examines these key issues in general and then applies them specifically to the MERGE process. Examples illustrate trickier aspects of MERGE as well as techniques to code around the pitfalls.

### The Dirty Dozen: Twelve Common Programming Mistakes

*Bob Virgile, Robert Virgile Associates, Inc.*

As programmers begin using the SAS software, their programs often contain many of the same types of mistakes. A seemingly innocuous error, such as omitting a semicolon, may generate results ranging from an obvious error message to an impossible to decipher error message to destroying an existing dataset. This paper covers typical errors made at an introductory level, including those which produce no error message but still generate the wrong result.

*Bob Virgile is a SAS veteran, having participated in every NESUG and many SUGI, MWSUG, PharmaSUG, and SESUG conferences. Besides presenting papers, Bob creates the problem-solving contests for SUGI and NESUG, and has published two books through SAS Institute. Bob also develops and teaches an outstanding series of customized SAS classes.*

## 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



## Desktop Special Interest Group

The April meeting featured a presentation "Using SAS Software to Analyze Sybase Performance on the Web". Joe Mirabal and Zhengyu (George) Wang presented an overview of an application they developed for AOL. Those attending the meeting found the presentation very informative and useful.

The possibility of joint meetings of a No. Va evening group and the Desktop Special Interest Group will be discussed at the DCSUG meeting on June 8<sup>th</sup>. The topic of the next meeting will be JDBC (date TBA).

David Kiasi-Barnes has resigned as Chair of the Desktop Special Interest Group. The DCSUG membership would like to thank him for his hard work and dedication and wish him well. Joe Mirabal has agreed to co-chair with Yesvy Gustasp.

We welcome any suggestions you may have for future meeting topics or speakers; if you would like to be added to our group's mailing list so you can get announcements of upcoming meeting events, please contact Joe Mirabal at (703) 265-4620 or Yesvy Gustasp at (301) 589-4530. Also, if you need a ride from the Metro, please call either one of us. The meeting will be held in the Human Resources meeting room, room #112C, on the first floor. The phone number in the meeting room is (301) 294-3973 if you are lost and need to contact us.

To get 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, just over the crest of the. You can park in any non-reserved space. Signs will be posted to direct you to the meeting room.

If using Metro, take the Red line towards Shady Grove and get off at the Rockville station. Take Ride-On bus #54 in the direction of Lakeforest Mall. The bus goes out on 28 past I-270 and the Shell station and then turns onto Research Blvd. It takes 8-10 minutes from the Metro station to Westat. The #54 bus runs every half hour.

Note: Don't be confused by a large Westat sign that is in front of another Westat building on Research Blvd (1500 & 1550).

## DCSUG 1999 Steering Committee OFFICERS

### **CHAIR -- Peter Knapp**

(202) 482-1359 (202)482-1388(fax)  
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### **DESKTOP SPECIAL INTEREST GROUP**

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jmmirabal@aol.com

#### **CO-CHAIR -- Yesvy Gustasp**

(301) 589-4530 (202) 307-5888 (fax)  
Yesvy.Gustasp@mix.cpcug.org

## 1998 NESUG Conference Proceedings

We still have some copies for sale, at a cost of \$10, of the Proceedings of the 1998 Conference of the NorthEast SAS Users Group (NESUG). The papers contained in this book give a wealth of information in such areas as tutorials, applications, statistics, and so on. If you would like to purchase a copy, contact Linda Atkinson at (202) 694-5046 or send email to atkinson@econ.ag.gov. Copies can be purchased at the meeting but we need to know how many to bring so let us know if you are interested.

### **Explore DC Needs YOU!**

Mike Rhoads

This fall's NorthEast SAS Users Group (NESUG) conference will take place right here in Washington! As the host group for this conference, DCSUG will be developing an "Explore DC" program to provide information about the DC area to our out-of-town visitors. We plan to make information available in several ways: on the Internet, in a booklet that everyone will receive at conference registration, and from a table in the registration area where volunteers can answer questions and provide additional materials.

Our goal is to get as many DCSUGers involved in this program as possible, so it's a fun activity for all and not too much work for any. So, we need your help!

Restaurants will be a major area of interest, so I'd like to get several people involved. Possible subcategories include: hotel neighborhood, Chinatown, "best of the best", best bargains, favorites by type of cuisine, "safe and predictable" (chains), and breakfast options.

Other topics we'd like to have short information pieces about include: art museums, science and history museums, National Zoo, important government buildings, memorials, MCI Center, Metro, other ways of getting around (taxis, driving/parking), tours, kids' activities, shopping, night life, and recreation. I'd also like to have someone look into the various sources of information on the Web about the local area.

I'd also like to designate a registration coordinator (scheduling volunteers to staff the Explore DC table at registration), a materials coordinator (to line up maps, brochures and other "freebies" that we can give away), a web coordinator (to assemble information onto Web pages at the NESUG or DCSUG web site), and a booklet coordinator (to organize the information into booklet form).

If you are interested in filling one (or more) of these roles, please let me know at RhoadsM1@Westat.com.

# Efficiency Techniques: SQL vs. Retain Variables

Danielle Gao, Economic Policy Institute, Washington, D.C.

## ABSTRACT

The SAS® DATA step allows you to perform calculations across observations by using retain variables. But as more variables are retained, coding can become cumbersome. By taking the advantage of the PROC SQL's ability to perform calculations on groups of observations, you can significantly reduce the length of your program and avoid an extra pass through the data.

## SQL vs. RETAIN

Table 1 contains a portion of 1997 March Current Population Survey (CPS) survey data. This dataset has been sorted in ascending order by household ID, family ID within the household, and person ID within the family. Other than these identifiers, the extract includes family income, age and annual hours of work in the labor market. The constructed variable "kid" identifies anyone less than 18 year old.

Income analysts often are interested in "family work hours," i.e., the number of hours of work summed across the family. In this case, we are also interested in a separate analysis for families with children. Thus, the goal of the program is to sum work hours across the family, identify families with children, and place these values on the record of each family member.

## Using Retain

In order to count the total number of children in the family and total hours worked by all family members, we use RETAIN variables to create two new variables: numkids and tothrs.

```
/* create two temporary "sum" variables: cc and dd in dataset one*/
```

```
retain cc dd ;
if first.fampos then
do;
cc=0;
dd=0;
end;
```

```
/* count total kids, and total hours*/
```

```
cc=cc+hr;
dd=dd+kid;
```

```
/* store total hours, total kids on last record of family. Details in Table 3a */
```

```
if last.fampos then
do;
numkids=dd;
tothrs=cc;
end;
```

```
/* descending sort so that the last family member with total kids and total hours shows on the first record */
```

```
proc sort;
by hhid fampos descending perid;
```

The necessity of this last sort is a function of our need to have the variables "numkids" and "tothrs" on the record of each family member. This is accomplished in the next data step.

```
data two(drop=ee ff);
set one;
by hhid fampos descending perid;
```

```
/* put numkids and tothrs to each record, details in table 3b */
```

```
retain ee ff ;
if first.fampos then
do;
ee=numkids;
ff=tothrs;
end;
```

```
numkids=ee;
tothrs=ff;
```

## Accomplishing the same task with PROC SQL

The SQL procedure supports most of the functions available in the DATA step for data creation and manipulation. For example, the summary function is available to summarize data for the entire table or for group of data in the table. You can select groups of data to be processed by using a HAVING clause. The ORDER BY clause is also available when your output should be sorted. The advantage of SQL is that the value returned from summary function is automatically assigned to each observation across the group of data, obviating the need for the extra sort and data step in the above example.

```
proc sql;
create table sq as
select hhid, fampos, perid, _faminc,
age, _famknd, round(wgt) as
wgt, sum(kid) as numkids, sum(hr) as tothrs
from one
group by hhid,fampos
order by hhid,fampos,perid;
```

```
/* Note: sum(kid) as numkids, sum(hr) as tothrs process the summation number of kids and hours across the family*/
```

Table 3a shows the intermediate result from traditional programming. Table 2 and Table 3b show the same analytical dataset created from PROC SQL and traditional one. The same result is obtained from SQL with less code and, more importantly, in 1/5 the total time.

## CONCLUSION

The method presented in this paper provides an efficient means for performing calculations across groups in a data set using PROC SQL as opposed to the more traditional data step method. By taking full advantage of the power of SQL, programmers can both simplify their code and save computer-running time.

## REFERENCE

SAS Institute Inc. (1992), SQL Processing with the SAS® System: Course Notes, Cary, NC: SAS Institute Inc.

SAS Institute Inc. (1996), SAS® Guide to the SQL Procedure, Usage and Reference, Version 6, First edition, Cary, NC: SAS Institute Inc.

## ACKNOWLEDGMENTS

I would like to thank Dr. Jared Bernsten of Economic Policy Institute for his encouragement, comments and edits.

## CONTACT INFORMATION

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20036  
[dgao@epinet.org](mailto:dgao@epinet.org)

*(This paper was presented in the Coders Corner section of SUGI 24 and reprinted with permission of the author)*

Appendix

**Table 1 Portion of CPS March Survey Data**

HHID	FA PO	PER ID	_FAM INC	AGE	HR	KID
1	1	41	28254	72	0	0
1	1	42	28254	70	0	0
2	1	41	29601	39	2080	0
2	1	42	29601	67	0	0
3	1	41	116839	46	0	0
3	1	42	116839	44	0	0
3	1	43	116839	31	0	0
3	1	44	116839	25	2496	0
3	1	45	116839	22	360	0
3	1	46	116839	3	0	1
4	1	41	61000	40	2080	0
4	1	42	61000	40	2080	0
4	1	43	61000	15	0	1
4	1	44	61000	11	0	1

**Table 2 Analytical Dataset from PROC SQL**

HHID	FA PO	PER ID	_FAM INC	AGE	NKID	TOT HRS
3	1	41	116839	46	1	2856
3	1	42	116839	44	1	2856
3	1	43	116839	31	1	2856
3	1	44	116839	25	1	2856
3	1	45	116839	22	1	2856
3	1	46	116839	3	1	2856
4	1	41	61000	40	2	4160
4	1	42	61000	40	2	4160
4	1	43	61000	15	2	4160
4	1	44	61000	11	2	4160
6	1	41	37419	32	2	4576
6	1	42	37419	30	2	4576
6	1	43	37419	11	2	4576
6	1	44	37419	5	2	4576
15	1	41	72030	50	1	3120
15	1	42	72030	34	1	3120
15	1	43	72030	7	1	3120

**Table 3a. Intermediate Dataset from Traditional Programming**

HHID	FA PO	PER ID	AGE	HR	KID	NUM KIDS	TOT HRS
1	1	41	72	0	0	.	.
1	1	42	70	0	0	0	0
2	1	41	39	2080	0	.	.
2	1	42	67	0	0	0	2080
3	1	41	46	0	0	.	.
3	1	42	44	0	0	.	.
3	1	43	31	0	0	.	.
3	1	44	25	2496	0	.	.
3	1	45	22	360	0	.	.
3	1	46	3	0	1	1	2856
4	1	41	40	2080	0	.	.
4	1	42	40	2080	0	.	.
4	1	43	15	0	1	.	.
4	1	44	11	0	1	2	4160
6	1	41	32	2080	0	.	.
6	1	42	30	2496	0	.	.
6	1	43	11	0	1	.	.
6	1	44	5	0	1	2	4576

**Table 3b. Final Analytical Dataset from Traditional Programming**

HHID	FA PO	PER ID	AGE	HR	KID	NUM KIDS	TOT HRS
3	1	41	46	0	0	1	2856
3	1	42	44	0	0	1	2856
3	1	43	31	0	0	1	2856
3	1	44	25	2496	0	1	2856
3	1	45	22	360	0	1	2856
3	1	46	3	0	1	1	2856
4	1	41	40	2080	0	2	4160
4	1	42	40	2080	0	2	4160
4	1	43	15	0	1	2	4160
4	1	44	11	0	1	2	4160
6	1	41	32	2080	0	2	4576
6	1	42	30	2496	0	2	4576
6	1	43	11	0	1	2	4576
6	1	44	5	0	1	2	4576
15	1	41	50	3120	0	1	3120
15	1	42	34	0	0	1	3120
15	1	43	7	0	1	1	3120

## MDSUG SAS Day 1999

Our tenth year !! A celebration of MDSUG  
June 22, 1999, 8:45 a.m. to 4 p.m.  
(REGISTRATION – 8:00 a.m. to 8:45 a.m.)

University of Maryland, Baltimore County

Sponsored by MDSUG and Center for Health  
Program Development and Management (CHPDM)

We are planning a full day of SAS activities. The list of  
speakers below is as of April 29, 1999.

Welcome – Dr. Freeman Hrabowski, President, University  
of Maryland, Baltimore County

### Opening Session

John Loucks, SAS Institute: Overview of New  
Technology/Vers.7/8

### Statistics Track

Nathan Curtis, SAS Institute: Applied Statistics one of  
the following will be presented - ODS for Data Analysis or  
The Analyst application

Michael Walega, Covance, Inc.: "stats subject"

### Healthcare Track

Lauren Lieberman, SAS Institute: Data Mining in the  
Healthcare field

Marge Scerbo, CHPDM: Data Mart

### Emerging Technologies Track

Lisa Lott, SAS Institute: AppDev Studio

Glen Walker, SAS Institute: SAS Component Model

SAS Institute speaker: Enterprise Guide

### Applications Track

Jon Pennino, SAS Institute: Balanced Scorecard

Ian Whitlock, Westat: Data or Code?

Ian Whitlock, Westat: SAS MACROS

Daphne Ewing, Synteract: Proc Report

Myles Powers: Maps on the Web

Michael C. Ross: What's in a name

A nominal cost of \$10/member and \$20/non-members  
includes a continental breakfast and lunch. SAS is offering a  
15% discount on books purchased the day of our conference.  
NOTE: SAS accepts credit cards or check only – NO CASH  
is accepted for payment of book orders.

Registrations are now being accepted. Please use our web  
site, <http://research.umbc.edu/chpdm/mdsug.htm>

to fill in a registration, print it on your computer and mail it  
along with your **check or money order** - NO PURCHASE  
ORDERS - to

MDSUG • c/o Bruce Bohl • 2104 Oakmont Road • Fallston,  
Maryland 21047-1541

(Sorry, we are not set up for credit cards.) Please

Register by June 11, 1999

## NESUG '99 News Flash

In October, the NorthEast SAS Users Group (NESUG) comes  
back to the "Northeast Corridor" to downtown Washington,  
DC. From October 3-5, join conference co-chairs Vince  
Timbers and Mike Walega and many other SAS users from all  
over the Northeast at the Renaissance Hotel Downtown in  
our nation's capital.

Vince and Mike are very pleased to announce that Dr. Jim  
Goodnight will be the keynote speaker. As he did at this  
year's SUGI, he is sure to touch on the latest SAS features  
while he gives his audience a taste of some practical success  
stories in using SAS to solve business problems.

The big new addition this year -- something many people have  
been waiting for -- is the Hands-On Workshops section. This  
will be a full day section, conducted on both Monday and  
Tuesday. In this very popular section at SUGI and at some of  
the other regional SAS conferences, attendees get a chance  
to hear a top-notch SAS expert on various topics and  
immediately try out some examples on the computer to  
reinforce their knowledge

For this year's conference, nine sections in addition to  
Hands-On Workshops are being offered. As always, these  
sections will be anchored by the Beginning and Advanced  
Tutorials. General programming tips and techniques will be  
found in Applications Development, SAS Solution Tracks, and  
the ever popular Coder's Corner, which features SAS nuggets  
in presentations of up to 10 minutes in length. The  
Internet/Intranets, the Web & SAS section was introduced two  
years ago and will be continued. Information Visualization,  
Posters, and Statistics round out the offerings.

DCSUG has quite a presence on the conference section chair  
team. Linda Atkinson co-chairs Advanced Tutorials, Chris  
Roper co-chairs Applications Development, Sue Douglass  
co-chairs Beginning Tutorials, and Larry Altmayer co-chairs a  
special section called Code Clinic -- all of them making  
significant contributions.

There are still many ways to be part of the conference  
volunteer team. Being part of the registration staff is perfect  
for meeting other SAS users as you hand out the conference  
registration materials. If you know that you will be  
concentrating on attending papers in a particular section,  
volunteer as a session coordinator to help the section chairs  
keep the section running smoothly. For those top-notch SAS  
users who like to solve problems, consider volunteering as a  
code clinic expert in your field of expertise. If you are sold on  
jumping in to volunteer, the best way to do so is to visit the  
NESUG '99 web page at: <http://www.pace.edu/nesug/99>

Note that, as this article was going to press, the registration  
booklet was being finalized and is scheduled to be mailed out  
to users in June. Anyone who needs a peek at the registration  
fees can find them on the web page.

Put October 3-5 on your calendar to come down to downtown  
DC. It will be well worth your trip.

For more information, consult the NESUG '99 web page at:  
<http://www.pace.edu/nesug/99>

OR contact the conference co-chairs:

Vince Timbers -- [vlt@psu.edu](mailto:vlt@psu.edu) (814) 865-0407

Michael Walega -- [michael.walega@covance.com](mailto:michael.walega@covance.com)

(609) 452-4150

# 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.

## June

**8 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) 694-5046  
atkinson@econ.ag.gov  
Peter Knapp at (202) 482-1359  
peter\_knapp@ita.doc.gov

**22 MDSUG** MDSUG SAS Day 1999  
Time: 9:00 a.m. - 4:00 p.m.  
Site: University of Maryland, Baltimore  
County  
Program: Full day of SAS  
presentations in several tracks  
Contact:  
Jayne May Miller at  
jmiller@chpdm.umbc.edu

## September

**14 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: Fall regional conference  
previews

## October

**3-5 NESUG** NorthEast SAS Users  
Group Annual Conference  
Site: Renaissance Hotel  
Washington DC  
Contacts:  
Vince Timbers at (814) 865-0407  
vlt@psu.edu  
Mike Walega at (609) 452-4150  
michael.walega@covance.com

**31-3 SESUG** SouthEast SAS Users  
Group Annual Conference  
Site: Adam's Mark Riverview Hotel  
Mobile AL  
Contacts:  
Greg Barnes Nelson at  
greg.barnesnelson@statprobe.com  
George Matthews at  
gmatthew@arches.uga.edu

## December

**7 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: SAS Institute speaker TBA

## Other Groups

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

**MDSUG** Maryland SAS Users Group  
Contact: Mr. R.H. Miller, (410) 740-4229  
refa09a@prodigy.com

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

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

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**Fundamentals of the SAS System-A *Programming Approach*    June 21-23, 1999**

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 \$625/595\*

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\*Denotes early registration discount

**Location:**

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 1201 Braddock Place  
 Alexandria, VA 22314

Call to Register: (800) 787-2464



# Membership Application/Renewal

Date: \_\_\_\_\_  
Name: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_

City, \_\_\_\_\_ State, \_\_\_\_\_ Zip \_\_\_\_\_  
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E-Mail: \_\_\_\_\_

Preferred mode of contact (check one):  
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SAS Version(s) \_\_\_\_\_  
SAS Product(s): \_\_\_\_\_  
Operating System(s) \_\_\_\_\_

Check one:  
Individual membership for 1 year is \$10.00  
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Mail to:  
Washington DC SAS Users Group  
P.O. Box 44670  
Washington, DC 20026-4670

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## SAS Professionals

**WESTAT** is looking for creative, motivated professionals who enjoy developing SAS-based solutions in areas such as data collection and management, statistical analysis, and reporting. As one of the nation's leading employee-owned research corporations, we employ more than 300 computer professionals to support a variety of projects in health, education, and other areas. SAS software has been a significant element of our information management strategy for the past 20 years. We maintain an active in-house SAS users' group and offer a variety of SAS-related training courses. Westat staff are often on the leading edge of new SAS technologies, and they participate actively in the SAS user community.

We have multiple openings at various levels for staff who can design and develop sophisticated SAS programs, using DATA step, SQL, and other tools. Previous background in a research environment is a plus, as is experience with DBMS, Microsoft Access, or other programming languages.

Westat offers a competitive benefits package that includes participation in the Employee Stock Ownership Plan (ESOP), a 401k Plan, and life and health insurance plans. For immediate consideration, please send your resume and cover letter with department code, by one of the following methods to:

### WESTAT

Dept. 99-363  
1650 Research Blvd.  
Rockville, MD 20850

E-mail: [HR@westat.com](mailto:HR@westat.com) \* Fax: (301) 294-2040

For a listing of other Westat opportunities, visit our website at [www.westat.com](http://www.westat.com)

EOE

## 1999 Meetings

Plan ahead and mark your calendars now. The DCSUG will tentatively meet on the following dates in 1999: June 8, September 14, December 7. 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**

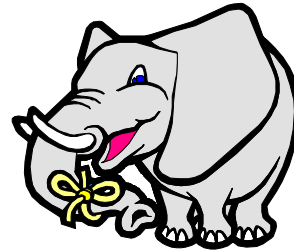
**To visit the DCSUG home page**

**The URL for the DCSUG home page on the Web:**

**<http://www.ita.doc.gov/industry/otea/dcsug>**

## Remember to Join DCSUG!!!

Don't forget to renew your DCSUG membership for 1999. 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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