

BASUG Quarterly Meeting Announcement

SAS Matching Challenge!

The Boston Area SAS Users Group created a programming challenge and we had five submissions from our own membership! The goal of the challenge was to accurately merge BASUG meeting registration records with our membership file, in order to identify who is and who is not a BASUG member. Click here to see the original challenge: http://www.basug.org/SAS_Challenge/CAnnounce2009Q1.htm

We are excited about presenting the different approaches taken by BASUG programmers to solve the same problem. We expect a very interesting meeting through observing and discussing the various SAS tools utilized to solve this challenge.

Topic: SAS Matching Challenge

When: Thursday, March 19, 2009, 8:45 AM – Noon

Where: Holiday Inn Brookline
1200 Beacon Street
Brookline, MA 02446
617-277-1200

See directions below

How: Individual, On-Line Registration Required. No e-mail please!

To register: Please visit: <http://www.basug.org/register.php3>

Contact: If you have questions about the meeting, please contact:
Stephen Freitas (sfreitas76@yahoo.com) or
Robert Rosofsky (RRosofsky@HealthInfoSys.net)

Agenda

- 8:15 - 8:45 **Sign-in and refreshments**
- 8:45 - 9:00 **Announcements and Introduction to the Meeting**
- 9:00 - 9:15 **Presenter #1 - Michelle Anderson**
- 9:15 - 9:45 **Presenter #2 - Libing Shi**
- 9:45 - 10:15 **Presenter #3 - John Chapman**
- 10:15 - 10:30 **Break**
- 10:30 - 11:00 **Presenter #4 - Sandeep Gaudana**
- 11:00 - 11:30 **Presenter #5 - Charles Jones**
- 11:30 - 11:45 **Closing and Announcements**

Note: Times are approximate. Please re-visit the BASUG website (www.basug.org) for updated information.

Bios

Presenter #1 – Michelle Anderson

Michelle Anderson is a senior IT analyst with the Division of Health Care Finance & Policy, and is currently working on the implementation of the state's new healthcare mandates.

Presenter #2 – Libing Shi

SAS was first introduced to Libing Shi when taking Dr. James Deddens' Linear Models course at the University of Cincinnati in 2000. Since then, making every piece of SAS code work appropriately and efficiently became a new career for Libing. She has been working as an analyst in the fields of public health and insurance for the past eight years.

Presenter #3 – John Chapman

John D. Chapman, Ph.D., provides data analysis and reporting services to the health care industry. John has a special interest in the measurement and assessment of provider performance. SAS is a valued tool in his arsenal.

Presenter #4 – Sandeep Gaudana

Sandeep Gaudana is working as a Senior Applications Developer with Ingenix. To work with intricate processes and to make things efficient is his passion. His first tryst with SAS was in the form of a student and Research Assistant at Texas A&M University, College Station. Since then he has been using SAS professionally for the healthcare industry. Before this he has presented papers for PharmaSUG, SCSUG and BASUG.

Presenter #5 – Charles Jones

Charles Jones is currently the Director of Statistical Programming at ARIAD Pharmaceuticals, Inc. He has used the SAS System for almost twenty years and has worked in the Clinical Trials industry for over twelve years. He also currently teaches a SAS course at ARIAD.

BASUG Membership

Keep your BASUG Membership up-to-date! Bring a completed membership form to the meeting, along with your check. The Individual Membership fee is \$30 per year. Corporate memberships were discontinued. For more information on our membership policy, or to print a membership form visit: <http://www.basug.org/basugj.shtml>

Directions and Parking

Directions to the Brookline Holiday Inn can be found at: <http://www.basug.org/directions.html>

BASUG Contacts To email our Webmaster: basugwm@basug.org

Mailing Address: BASUG
 PO Box 253
 Boston, MA 02117

BASUG Quarterly Meeting Announcement

We are delighted to host two SAS® experts at our morning meeting. Chris Hemedinger comes to us from SAS Institute to tell us about Enterprise Guide® – and why we should start using it. Enterprise Guide ships FREE with SAS – you don't need a separate license for it – and it's got some very powerful features. Ronald Fehd, “the macro maven”, comes to us from the CDC in Atlanta to talk about macros.

Please join us for these informative talks, and consider staying for the afternoon class (separate event), also taught by Ronald Fehd.

For more information on the afternoon training, please visit www.basug.org/events/t200906.htm

Topic: Cool SAS tools to increase your productivity: SAS Macros and SAS Enterprise Guide

When: June 23, 2009, 8:45 AM – Noon

Where: **NEW LOCATION!!**

The Courtyard Marriott Boston-Cambridge

777 Memorial Drive

Cambridge, MA 02139

(617) 492-7777

Please see directions below

How: **Individual, On-Line Registration Required.** No e-mail please!

To register: Please visit: <http://www.basug.org/register.php3>

Contact: If you have questions about the meeting contact:
[Bruce Haimowitz](#) or [Asli Memisoglu](#)

Agenda

8:15 - 8:45	Sign-in and refreshments
8:45 - 9:00	Announcements
9:00 - 10:15	A SASautos Companion , by Ronald J. Fehd, Centers for Disease Control
10:15 - 10:35	Break
10:35 - 11:35	SAS Enterprise Guide for SAS Programmers , by Chris Hemedinger, SAS Institute
11:35 - 11:45	Closing Remarks and Announcements

Note: Times are approximate. Please re-visit the BASUG website (www.basug.org) for updated information.

Abstracts and Bios

A SASautos Companion: Reusing Macros

Ronald J. Fehd, Centers for Disease Control

Reusable SAS programs come in two forms: macros or %includes. This paper reviews the standard SAS environment and examines the options used to customize a session or batch program for reuse of macros stored in the project directory. Expected audience is intermediate to advanced programmers and macro users.

Ronald Fehd has a B.S. in Computer Science, and has attended SAS User Group conferences since 1989. Since 1997 he has presented over a dozen papers on macro usage, programming theory, and Hands-On Workshops on list processing. Ron is also “the macro maven” on SAS-L, the international online SAS listserve, to which he has posted over 5,000 messages since 1997. In 2001 and 2003 he was voted Most Valuable SAS-L Contributor. He is the author of several packages on the SAS Community wikipedia. His 20 years of SAS experience includes 15 years as a data manager; he is currently tech support for SAS on the HelpDesk at Centers for Disease Control in Atlanta.

Find Out What You’re Missing: SAS Enterprise Guide for SAS Programmers

Chris Hemedinger, SAS Institute

Learn about the productivity gains that you can enjoy when you add SAS Enterprise Guide to your SAS programming toolbox. You will see how to perform old tasks in a new way as well as how to accomplish some tasks that would be have been very difficult — if not impossible — without the benefit of an integrated tool like SAS[®] Enterprise Guide[®]. Topics in this presentation include:

- Working with projects and the process flow
- Getting the most from SAS tasks
- Flexing your power with project prompts
- Conditionally running portions of your project
- Noting a few things that you can't do

Chris Hemedinger is a senior software manager in the Business Intelligence Clients division at SAS. Chris began his career at SAS in 1993 as a technical writer, creating such hits as SAS Companion for the OS/2 Environment (remember OS/2?) and SAS Companion for the Microsoft Windows Environment. In 1997, he became involved in a prototype project to make SAS easier to use for non-programmers, and that project evolved into the hugely popular SAS Enterprise Guide, a product that Chris has worked with ever since. Chris is also the co-author of the book “SAS for Dummies”.

BASUG Membership

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Directions and Parking

Directions to the Courtyard Marriott Boston-Cambridge can be found at: <http://www.basug.org/directionsCourtyard.html>

BASUG Contacts

To email our Webmaster: basugwm@basug.org

Mailing Address: BASUG
 PO Box 253
 Boston, MA 02117

Reusable Programs and List Processing: Concepts and Development, Techniques and Tools

BASUG Half-Day Training Session

Topic: Principles of Writing, Developing and Consolidating Reusable Programs

Instructor: Ronald J. Fehd
Centers for Disease Control, Atlanta, GA

Ronald Fehd has a B.S. in Computer Science, and has attended SAS® User Group conferences since 1989. Since 1997 he has presented over a dozen papers on macro usage, programming theory, and Hands-On Workshops on list processing.

Ron is also “the macro maven” on SAS-L, the international online SAS listserve, to which he has posted over 5,000 messages since 1997. In 2001 and 2003 he was voted Most Valuable SAS-L Contributor. He is the author of several packages on the SAS Community wikipedia.

His 20 years of SAS experience includes 15 years as a data manager; he is currently tech support for SAS on the HelpDesk at Centers for Disease Control in Atlanta.

When: Tuesday, June 23, 2009, 1:30- 5:00

Where: ***NEW LOCATION!***

The Courtyard Marriott Boston-Cambridge
777 Memorial Drive
Cambridge, MA 02139
(617) 492-7777
Please see directions below

Price: \$125 (if paid by check postmarked by Friday, June 12, 2009)
\$160 (paid at-the-door)
See details below

Summary: This course covers the principles of writing, developing and consolidating reusable programs. The goal is to make you a more valued and productive programmer or analyst. At first, you will be shown how to move beyond simple “cut and paste” code into reusable code that handles repetitive tasks efficiently.

Next, you will learn how to look at the process used to write code. This will allow you to develop the requirements documents usually needed but rarely provided by supervisors and clients. It will also give you insight into how large-scale applications can be broken down into smaller, repeatable tasks.

Audience: SAS users at all levels will benefit from this course, though you should have an understanding of the CONTENTS, PRINT, FREQ, SUMMARY and SORT procedures. Some familiarity with macro language is helpful but not required.

Benefits: Why do you want to learn this material? To:

- Reduce tedious, repetitive, and ad hoc programming
- Program smarter, by identifying common elements, processes, and features across programs that can be automated into reusable SAS code
- Improve your processes for developing requirements and satisfying your clients and supervisors
- Gain perspectives for using existing programs for building complete large systems
- Become familiar with the intermediate step in macro development: parameterized %INCLUDEs
- Become a faster, greater, and valued programmer

We promise you that you will have *ah-hah* moments!

Contact: If you have questions about the course contact: [Bruno Berszoner](#) (617-543-5718) or [Brian Saper](#) (617-489-4651)

Registration: *Pre-registration is required. Please see detailed information below.*

Course Description

This course is designed to help SAS programmers develop their skills by progressing from writing simple code to writing more flexible, automated code. This progression is as follows:

1. Beginning (where most programmers start off): review of hard-coded, ad hoc programs
2. Improving your programs: consolidating ad-hoc programs into a reusable program (such as a routine or subroutine)
 - Identifying hard-coded elements that can be program parameters.
 - Organizing your file references, options, projects and sites in an autoexec.sas file.
3. Driving the reusable programs – using lists:
 - How to make lists
 - Using lists to call reusable programs
4. How to write modules which make and use lists
 - Create programs that make lists and use them to call other programs
 - Using parameterized %INCLUDE statements to automate your code
 - Replacing the macro %IF statement with %SYFUNC and the IFC function
 - Replacing the macro %DO loop with the trainer's CALLX SAS code routine. See www.sascommunity.org/wiki/Call_Execute_Parameterized_Include for more details.
5. Examples of automation – we will look at examples written by the trainer:
 - **SmryEachVar**, a data review suite consisting of include modules, routines and subroutines which provide a summary of each data set (Memname) in a library (Libname). See www.sascommunity.org/wiki/SmryEachVar_A_Data_Review_Suite for more details.
 - Using PROC CONTENTS output as a list of variables
 - Calling a reusable FREQ program for each variable

Registration and Payment Instructions for the Course

Please read this entire section carefully!

1. You ***must pre-register*** for this training, by going to this site: <http://www.basug.org/register.php3>
INDIVIDUAL, ON-LINE PRE-REGISTRATION IS REQUIRED FOR TRAINING. NO EMAIL!
All registrants will receive an immediate email confirmation of their pre-registration.
Within 72 hours you will then receive another e-mail, with a customized invoice for the training, based on your membership status.
Seats are limited, so register early! Seating is guaranteed only for **pre-paid** registrants.
2. Complete the invoice form and mail it along with your check, postmarked by Friday, June 12, 2009 to our Treasurer at:

**BASUG
PO Box 253
Boston, MA 02117**
3. Note that this class is open to BASUG members only. This means that your 2009 \$30 individual membership dues must be paid up in order to attend! If you are not currently a member, your invoice will include the \$30 fee for 2009 BASUG membership dues.
If you have any questions about your BASUG membership status, please contact our Membership Coordinator ([Robert Rosofsky](#)).
4. **Please do not mail any checks after Friday, June 12, 2009** If you miss the mail-in deadline, bring your completed invoice form and a check made payable to BASUG to cover the at-the-door tuition rate of \$160, plus any \$30 membership fees due, as specified in your invoice form. For walk-ins, we will only be able to accommodate people on a first-come, first-served basis until seats are filled.
Full payment is due by the day of the class. There will be NO EXCEPTIONS. As a small voluntary organization, we cannot accept credit cards at this time. We also will not handle cash, so checks only please.
5. **REFUND POLICY:** To receive a full refund, notify either of the meeting coordinators (see "Contact" above) by 5PM on Friday, June 12, 2009. ***After June 12, we will refund your payment only if we can fill your seat with attendees at the door.***

MEMBERSHIP

Keep your BASUG Membership up-to-date! Print out a membership form from our website, and bring it with you to the meeting (along with your check). Please note that we have discontinued Corporate Memberships - we now provide only Individual Membership at \$30 annually. For more information on our membership policy, or to print out a form visit: <http://www.basug.org/basugj.shtml>

DIRECTIONS TO THE TRAINING

Directions to the Courtyard Marriott Boston-Cambridge can be found at <http://www.basug.org/directionsCourtyard.html>

BASUG CONTACTS

BASUG's Mail Address: BASUG PO Box 253 Boston, MA 02117

To email our Webmaster: basugwm@basug.org

BASUG Quarterly Meeting Announcement

Does the thought of statistics scare you? Fear not. This quarter's speakers will share their knowledge, experience, and techniques to help you started in the statistical world of SAS.

We are delighted to feature presentations by three of BASUG's own Steering Committee members: **Bruno Berszoner**, Healthcare Analyst at Tufts Health Plan, **Bridget Neville**, SAS Programmer at Dana-Farber Cancer Institute and **Asli Memisoglu**, Director, Biostatistics and Data Management at WorldCare Clinical.

Immediately following the meeting, we will provide an informal light buffet lunch for all meeting attendees. We hope you can stay for this opportunity to network and socialize with your fellow SAS users.

Please note that we are in a new venue for this meeting!

Topic: Getting Started with Statistics Using SAS

When: Friday, September 25, 2009, 8:15 AM – Noon

Where: **Microsoft New England Research & Development Center**
One Memorial Drive
Conference Center First Floor **NEW LOCATION**
Cambridge, MA 02142
(857) 453-6000

Directions: Please visit: <http://www.basug.org/directionsNERD.html>
Note NEW location!

How: **Individual, On-Line Registration Required.** No e-mail please!

To register: Please visit: <http://www.basug.org/register.php3> **and register by Tuesday September 22nd.**

Contact: If you have questions about the meeting please contact:
Karen Olson (Karen.Olson@childrens.harvard.edu) or
Eric Hamann (ehamann@wyeth.com)

Agenda

- 8:15-8:45 Sign-in and refreshments
- 8:45-9:00 Announcements
- 9:00-10:00 **Basic Categorical Data Analysis in SAS** by Bruno Berszoner, Quality and Health Informatics Department of Tufts Health Plan
- 10:00-10:15 Break
- 10:15-11:00 **An introduction to nonparametric statistics using SAS** by Bridget Neville, Center for Outcomes and Policy Research at Dana-Farber Cancer Institute
- 11:00-11:15 Break
- 11:15-12:00 **Calculation and customized output of summary statistics using SAS: A few macros that changed my life** by Asli Memisoglu, WorldCare Clinical
- 12:00-1:00 **Informal buffet lunch** (provided by BASUG)

Note: Times are approximate.

Please re-visit the BASUG website (www.basug.org) for updated information.

Abstracts and Bios

Basic Categorical Data Analysis in SAS

Bruno Berszoner, Healthcare Analyst
Quality and Health Informatics Department at Tufts Health Plan

This is an introduction to one of the fundamental statistical tools for analyzing categorical data, the chi-square test. Using the FREQ procedure in SAS, we will cover how to set up your data, how to run the test and more importantly, how to interpret the results while relying on only limited amounts of mathematics.

Bruno Berszoner specializes in the management and evaluation of disease management programs. He also teaches part-time in the Biostatistics department of the Boston University School of Public Health and is a member of the Steering Committee of the Boston Area SAS Users Group. Bruno holds a master's degree in Development Economics from Northeastern University, a graduate certificate in IT management from Worcester Polytechnic Institute and a Bachelor's degree in International Business and Economics from Illinois Benedictine College.

An introduction to nonparametric statistics using SAS

Bridget Neville, MPH, SAS Programmer
Center for Outcomes and Policy Research at Dana-Farber Cancer Institute

This presentation will briefly introduce you to the differences between parametric and nonparametric statistics. It will teach you how to test for normality and decide whether parametric or nonparametric statistics are appropriate. The main focus of the presentation will be the nonparametric versions of the paired t-test (signed rank), 2-sample t-test (Wilcoxon rank sum), ANOVA (Kruskal-Wallis), Pearson correlation (Spearman correlation), and how to execute these tests using SAS.

Bridget Neville has been SASsy for almost 10 years. She obtained her MPH in Epidemiology at Emory University in Atlanta. Currently, she works at Dana-Farber Cancer Institute as a SAS programmer, focusing on projects involving the SEER-Medicare database. She also works part-time at Boston University School of Public Health in the Biostatistics department as one of several instructors of BS723: *Introduction to Statistical Computing*. In her spare time, she loves practicing yoga, playing the piano, and is currently learning to speak Mandarin.

Calculation and customized output of summary statistics using SAS: A few macros that changed my life

Asli Memisoglu, ScD, Director of Biostatistics and Data Management
WorldCare Clinical

Now that you know the appropriate statistics you should calculate how do you get SAS to output these summary statistics to a respectable table that can be passed on to your boss, to clients or other interested parties? This presentation will build on knowledge gained from the previous two presentations and describe a few simple macros that automate calculation of statistics and output these statistics directly into customized tables that can be viewed in MS Word and integrated into study reports. Procedures that will be used include: MEANS, FREQ, TTEST, NPAR1WAY, CORR, TRANSPOSE, REPORT, and ODS. These macros are versatile and enable calculation of assorted statistics from categorical, binary and continuous data and make quick work of generating tables containing summary statistics from with numerous variables and/or subgroups.

For over 10 years Asli Memisoglu has conducted statistical analysis and programming for clinical/epidemiological research studies. She is currently Director, Biostatistics and Data Management at WorldCare Clinical, an imaging Clinical Research Organization for the pharmaceutical, biotechnology and medical device industries. In addition to providing statistical guidance, Asli is responsible for SAS programming for WorldCare Clinical. Prior to joining WorldCare, Asli managed all biostatistics, data management and scientific communications involving clinical trials at the biotechnology company Acusphere Inc. As Lead Pharmacoeconomist/Outcomes Scientist for Abt Associates' Health Economics and Quality of Life Evaluation Services, she has designed and implemented outcomes research projects for pharmaceutical and biotechnology companies. She serves on the Board of Directors for the Boston Chapter of the Healthcare Businesswomen's Association and is a long-time member of the steering committee for the Boston Area SAS® Users Group. Asli holds a doctorate in molecular science and cellular toxicology and a master's degree in epidemiology from Harvard University, and a bachelor's degree in biology from Tufts University.

BASUG Membership

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Directions to Microsoft New England Research and Development Center

NEW LOCATION

Please visit: <http://www.basug.org/directionsNERD.html>

BASUG Contacts

Mailing Address:

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PO Box 253
Boston, MA 02117

To email our Webmaster: basugwm@basug.org

BASUG Quarterly Meeting Announcement

We are thrilled with the response we got to our Call-for-Papers for our Q4 Coders' Corner meeting. This meeting will feature many presenters – some first-timers, some seasoned – covering a variety of topics. Please join us to learn lots of tips 'n techniques from your fellow BASUG colleagues.

Please join us for these informative talks, and consider staying for the afternoon class (separate event), taught by Ron Cody. *For more information on the afternoon training, please visit www.basug.org/events/t200912.htm*

Immediately following the meeting, we will provide an informal light buffet lunch for all morning meeting and afternoon training attendees. We hope you can stay for this opportunity to network and socialize with your fellow SAS users.

Please note that we are in a new venue for this meeting!

Topic: Coders' Corner 2009

When: Wednesday, December 2, 2009, 8:15am – Noon

Where: Microsoft New England Research & Development Center
One Memorial Drive
Conference Center First Floor **NEW LOCATION!**
Cambridge, MA 02142
(857) 453-6000

Directions: Please visit: <http://www.basug.org/directionsNERD.html>

How: Individual, On-Line Registration Required. No Email!

To register: Please visit: <http://www.basug.org/register.php3>

Contact: If you have questions about the meeting contact Lori Goldman
(Goldman@hcp.med.harvard.edu) or Sally Skinner (sally.skinner@tufts.edu)

Agenda

- 8:15 Sign in and Refreshments
- 8:45 Announcements
- 9:00 Acquiring Data via FTP in SAS
by James Zeitler, Harvard Business School
- 9:12 Array Processing with the Generic Macro
by Victor Pontes, Inatec, Inc.
- 9:34 Statistical Significance Testing with Stratified Samples
by Joan Yu, Data Rewards
- 9:44 Break
- 10:00 Forest Plots in SAS
By Meena Doshi, New England Research Institutes
- 10:12 Hash Table Lookup from SAS Data Files
by Sue Szubzda, Ingenix

- 10:24 Creating Dynamic HTML pages with PC SAS, as a prelude to SAS INTRNET or Integration
by Qiang Hou, Harvard Pilgrim Health Care
- 10:41 The Colorful ODS
by Ali Sabouri, Blue Cross Blue Shield of Massachusetts
- 10:51 Break
- 11:11 Using Proc Transpose to Flip Your Output
by James K. West PhD, MA Department of Public Health
- 11:23 Using Systask to Dynamically create Libnames
by Ray Cloutier, Health Dialog
- 11:35 Combining Data Sets Containing Character Variables of Different Lengths
by Ron Cody
- 11:50 Closing remarks & announcements
- 12:00-1:00 **Informal buffet lunch** (provided by BASUG)
- 1:00-4:30 **Afternoon Training** – separate event – click here for details: www.basug.org/events/t200912.htm

**Note: Times (and sequence) are approximate and subject to change. Please re-visit the BASUG website (www.basug.org) for updated information.*

Abstracts and Bios

Acquiring Data via FTP in SAS

by James Zeitler, Harvard Business School

A simple FILENAME filref "pathname"; statement serves the purpose when reading from and writing to simple text files on disk. But SAS accommodates more exotic file access methods that open up new vistas to the data step. We'll look at one of these, the FTP access method, and see how it facilitated the acquisition of multiple data files from an external source.

James Zeitler is a Senior Information Research Specialist at Harvard Business School, assisting HBS faculty with research across a variety of business disciplines, and has recently passed the quarter-century mark as a SAS user.

Array Processing with the Generic Macro

by Victor Pontes, Inatec, Inc.

The SAS Macro facility is a powerful tool for automated code generation. Most programmers regularly use Macro programming to add efficiency to Base SAS code generation. But the macro language isn't just for generating Base SAS code; it is used to simplify the production of repetitive Macro code as well. We will explore some of these possibilities using the Generic Macro, which will simplify the production of macro code by taking the code itself as a parameter.

Victor Pontes has spent his entire professional life programming, mostly using SAS but also as an applications programmer. Five years ago he founded Inatec, Inc., through which he works as an independent consultant, primarily in the areas of pharmaceutical and biomedical research. He is enamored with the SAS macro facility and enjoys using it creatively and testing its limits.

Statistical Significance Testing with Stratified Samples

by Joan Yu, Data Rewards

When stratified sampling is used to select marketing treatment and control groups, one group, either the treatment or the control, needs to be weighted for the statistical comparison analysis. This talk will show how to use Proc Surveymeans to calculate the correct standard errors for statistical significance testing and to compare the results with those from Proc Ttest using a weight statement. The talk will be given in the context of marketing, and the analysis approach can be applied to other fields as well.

Joan has focused on the use of data and technology to improve marketing performance throughout her 12-year career after she received her Ph. D. and M.S. degrees in statistics from Northwestern University. Her experience extends across a number of industries including retail, financial services, pharmaceutical and high tech. At Data Rewards, Joan is responsible for delivering analytic solutions that are actionable and cost effective.

Forest Plots in SAS

by Meena Doshi, New England Research Institutes

There is a notion that SAS/GRAPH is one of the most difficult components of SAS software; however once understood it is a very powerful tool for creating a wide range of charts, maps and plots in a variety of patterns, colors and arrangements. Simple SAS/GRAPH options will be demonstrated in easy steps to show even the beginner programmer or graph user how to make a customized forest plot in SAS.

Meena Doshi is a Statistician at the New England Research Institutes, Inc in Watertown, MA. She has been using SAS for seven years, both in the fields of Marketing Analysis and Public Health.

Hash Table Lookup from SAS Data Files

by Sue Szubzda, Ingenix

Accurate data is key in the health care industry. One aspect to improving the health care industry is providing the most accurate medical history for patients possible. By grouping all health care records of the patient together, we can provide a more accurate assessment of the member's health care history and improve case management.

This presentation demonstrates the use of hash table lookup methodology to update the member id on historical medical records with the most recent member ID; thereby grouping all historical claims of the member.

Likewise, grouping all of a provider's patient(s) records under one provider ID provides a more accurate assessment of the provider's performance. This demonstration also shows how the process is used simultaneously to update the provider's id on historical medical records with the most recent provider id.

Sue Szubzda has worked at Ingenix (Waltham, MA) for 4 years as an Applications Developer on the Custom Client Development team writing/testing production code for client specific requests. Previous experience includes contracting with Hewlett Packard providing support for Sales and Marketing and 18 years in the electric utility industry (Southern Company/Alabama Power) primarily using SAS to develop customer rate plans and to convert/test a consolidated billing system (nine billing systems combined into one). She holds undergraduate degrees in Business Education from the University of Alabama and in Computer Science from the University of Alabama at Birmingham.

Creating Dynamic HTML pages with PC SAS, as a prelude to SAS INTRNET or Integration

by Qiang Hou, Harvard Pilgrim Health Care

This paper introduces a simple technique to create SAS dynamic web applications, employing PC SAS and freely-available open-source software, as an alternative to the SAS products IntrNet and Integration Technologies. Such an easily-implemented alternative may be especially desirable in the early or prototype stages of design or software development.

Utilizing PC SAS together with freely-available open-source software (Apache and PHP), this paper shows how to develop interactive web pages that can process a user request from any web browser, and convey results back to the user in real time, displaying virtually any type of data. Using an example of an interactive web page that charts the closing price of a user-supplied stock from a user-supplied date to a current date, the paper explains in detail how the technique works.

Qiang Hou works for Harvard Pilgrim Health Care as a business analyst performing data analysis and predictive

modeling. He holds a doctorate in Statistics from Tufts University. Prior joining Harvard Pilgrim he worked for Hypnion (which became part of Eli Lilly in 2007) as a biostatistician. His recent interest is on healthcare data mining and predictive modeling.

The Colorful ODS

by Ali Sabouri, Blue Cross Blue Shield of Massachusetts

Ever since its inception in SAS® V8, Output Delivery System (ODS) has been a powerful tool in presenting reports in various formats (i.e. HTML, RTF, PDF, etc.). Examples here will show you how to efficiently apply simple codes to make your presentations more colorful. You'll learn how to use Proc Report in conjunction with ODS to "traffic light" cell values within your HTML output.

Ali Sabouri is a Senior Network Technical Consultant at Blue Cross Blue Shield of Massachusetts in Boston where he does data analyses, programming and reporting. Ali is a SAS Certified Programmer and has been using SAS® since 1993 mostly within healthcare industry.

Using Proc Transpose to Flip Your Output

by James K. West PhD, MA Department of Public Health

I often expend my programming energy and expertise coaxing numbers from data sets of thousands of records without paying any attention to the lay out of my output. I think this is proper. If I'd wanted to be a graphics artist, I wouldn't have taught myself SAS, right? Wrong. I find that my output, though technically successful, doesn't present the findings meaningfully -- there are columns where I want rows and rows where I want columns. Proc Transpose is a handy tool to flip these files.

In my work, I often have a large number of data sets with individual records like births, deaths, and hospitalizations. I aggregate the values of certain fields on individual records to state totals by age, sex, and race/ethnicity (strata). Here is my method using PROC TRANSPOSE.

James K. West has been a demographer and epidemiologist at the Massachusetts State Department of Public Health for eight years. Before working at the Department, he earned his PhD in Public Policy at the University of Massachusetts Boston, where he received one of the last degrees of the 20th Century on December 31, 1999 at age 49. For most of his 30s and early 40s, he worked in the computer field in the Boston area at jobs ranging from software support at Honeywell to network analyst at Bolt, Beranek and Newman. He is a self-taught SAS programmer and avid reader of postcolonial fiction.

Using Systask to Dynamically Create Libnames

By Ray Cloutier, Health Dialog

Spending a little extra time planning your directory structure can have big returns. When projects are stored in similar folder structures, it becomes very easy to create cross-project applications. This paper will demonstrate how to use the systask command to dynamically create libname statements to perform cross-project analysis.

Ray Cloutier (pronounced Clue-Chi) works at Health Dialog as a Analytics Manager for the Clinical Development department. He has been using SAS for over 10 years and currently uses SAS to manipulate over 200 terra bytes of medical claims data.

Combining Data Sets Containing Character Variables of Different Lengths

By Ron Cody

This SAS tip has two purposes: First, it solves a fairly common problem that is encountered when you want to combine two data sets and, second, it uses an interesting (and powerful) technique where you have a SAS program that writes a SAS program that then gets submitted. If you want to append values in one data set to the end of another data set, you can either use PROC APPEND, or use a SET statement that lists the names of the data sets you want to combine.

However, what if the two data sets have the same variable names, but some of the character variables have different lengths in the two data sets? Furthermore, the character variables stored with longer lengths are not consistent in one or

the other data set. You cannot use PROC APPEND because that procedure will use all the attributes from the base data set, which will truncate any character values that are longer in the second data set. You can use a SET statement, but you will have to manually enter the length of each character variable (in a LENGTH statement) from either data set one or data set two, whichever is longer.

Because this is a fairly common problem, there is a macro that combines two data sets and automatically uses the maximum length for each character variable.

Ron Cody is a retired professor from the Robert Wood Johnson Medical School who now works as a private consultant and a national instructor for SAS Institute. A SAS user since 1977, Ron's extensive knowledge and innovative style have made him a popular presenter at local, regional, and national SAS conferences. He has authored or co-authored numerous books, such as *Learning SAS by Example: A Programmer's Guide*; *Applied Statistics and the SAS Programming Language, Fifth Edition*; *The SAS Workbook*; *Cody's Data Cleaning Techniques Using SAS Software*; *Longitudinal Data and SAS: A Programmer's Guide*; and *SAS Functions by Example*, as well as countless articles in medical and scientific journals.

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Directions to Microsoft New England Research & Development Center

Please visit: <http://www.basug.org/directionsNERD.html>

BASUG Contacts

Mailing Address:

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PO Box 170253
Boston, MA 02117

To email our Webmaster: basugwm@basug.org

BASUG Half Day Training Announcement

Move yourself up to the next level of SAS programming. Spend half a day with one of the best, and learn some SAS tools to make you a real professional. We are thrilled to have Ron Cody - esteemed author, teacher, and SAS guru - teach a class for BASUG!

Please join us for this informative training, and consider coming to our morning quarterly meeting as well (separate event). For more information on the morning meeting, please visit www.basug.org/events/b200912.htm

BASUG is hosting a light buffet networking lunch between the morning and afternoon sessions – please join us for this free lunch!

Topic: **An Afternoon with Ron Cody: A Smorgasbord of SAS Topics**

Summary: This course will enhance your skill set and increase your programming flexibility. Topics include SAS arrays, functions, user-defined formats, and processing longitudinal data.

Learn to process multiple variables and observations at one time, use functions for great data transformations, traipse through observations like a trapeze artist, and manipulate values to ease reading and display of data.

Please see detailed topics below.

Instructor: Ron Cody, Ed.D.

Want to learn more about Ron? Check out this podcast:
<http://tinyurl.com/yapn8dw>

“SAS-L was right -- one should NEVER pass up an opportunity to take a Ron Cody class! He was amazing --funny, enthusiastic, and knew (and loved) the subject. He made all the basic classes I've taken gel together. I can't say enough great things about him.” Comment taken from a course evaluation.

Click here to see more evaluations:
www.basug.org/codyevals.htm

When: Wednesday, December 2, 2009
1:00PM – 4:30PM

Come early and join us for a light buffet lunch at noon!

Where: Microsoft New England Research & Development Center
One Memorial Drive
Conference Center First Floor ***NEW LOCATION***
Cambridge, MA 02142
(857) 453-6000
Please see directions below

- Price:** \$125 (if paid by check postmarked by Wednesday, November 18th)
\$160 (paid at-the-door)
Please see details below
- Prerequisites/Level:** Programming in SAS for 1-2 years. Familiar with the DATA and PROC steps. Appropriate for newer programmers, but even seasoned programmers are sure to pick up gems.
- Benefits:** Increased knowledge and capabilities for extending your skills and flexibility in managing data.
- Contact:** If you have questions about the course contact
Sara Hickson (nhskh@channing.harvard.edu) or
Robert Rosofsky (RRosofsky@HealthInfoSys.net)
- Registration:** *Pre-registration is required. Please see detailed information below.*

Course Overview

This half-day workshop covers SAS topics that beginning SAS programmers as well as some more experienced programmers may find helpful. There are interesting examples that perform tasks that most programmers need to accomplish at one time or another:

- o Using arrays, you can upcase every character variable in a SAS data set in only a few lines of programming.
- o There are many SAS 9 character functions that are new or that extend the functionality of existing functions.
- o With a data set that contains several observations per subject (or any other unit), the section that covers working with longitudinal data will be of interest.
- o Lastly, a section on formats and informats describes many extremely useful features not commonly used such as embedded formats, multi-label formats, and user-written informats.

Course Topics

- 1) **Saving time with SAS Arrays**
 - a) Setting values of 999 to a SAS missing value
 - b) Converting all character value to uppercase
 - c) Using an array to create new variables
 - d) Changing array bounds
 - e) Temporary arrays
 - f) Loading initial value of a temporary array from raw data
 - g) Using a temporary array for table lookup
- 2) **An introduction to SAS Character functions**
 - a) Functions that compute lengths: LENGTH, LENGTHN, LENGTHC
 - b) Functions that change case: UPCASE, LOWCASE, PROPCASE
 - c) Functions that extract substrings: SUBSTR
 - d) Functions that remove characters: COMPBL, COMPRESS
 - e) Functions that do type conversions: INPUT, PUT
 - f) Functions that affect leading and trailing blanks, LEFT, RIGHT, TRIM, STRIP
 - g) Functions that locate substrings or characters, FIND, FINDC, FINDW
 - h) Functions that join strings: , CAT, CATS, CATX
 - i) Functions that search for character types: ANYDIGIT, ANYALPHA, ANYSPACE
 - j) Functions useful for data cleaning: ANYDIGIT, ANYALPHA
 - k) Function that substitutes one string for another: TRANWRD

- l) Function that makes inexact matches: SPEDIS

3) Working with longitudinal data

- a) Understanding FIRST. and LAST. variables
- b) Selecting the first or last observation in a group
- c) Understanding the RETAIN statement
- d) Describing the LAG function
- e) Computing a moving average
- f) Computing differences between visits
- g) Computing differences between the first and last visit (using retained variables)
- h) Computing differences between the first and last visit (using the LAG function)
- i) Counting the number of observations in each BY group (using a DATA step)
- j) Counting the number of observations in each BY group (using PROC FREQ)
- k) Selecting all patients with 'n' visits (using a DATA step)
- l) Creating a summary data set using PROC MEANS
 - i) Describing the NWAY procedure option
 - ii) Understanding the _TYPE_ value
 - iii) Using the CHARVAL procedure option
 - iv) Describing the AUTONAME statement option

4) Using user-defined formats and informats

- a) Using formats with a PUT function to create new variables
- b) Creating user-defined INFORMATS
- c) Enhanced numeric informat – Reading character and numeric data in one step
- d) Using formats (and informats) to perform a table look-up
- e) Using a SAS data set to create a format: CNTLIN
- f) Updating and maintaining your formats: CNTLOUT
- g) Using formats within formats: Nesting formats
- h) Multilabel formats
- i) FMTSEARCH and FMterr system options

Instructor Bio

Ron Cody is a retired professor from the Robert Wood Johnson Medical School who now works as a private consultant and a national instructor for SAS Institute. A SAS user since 1977, Ron's extensive knowledge and innovative style have made him a popular presenter at local, regional, and national SAS conferences. He has authored or co-authored numerous books, such as *Learning SAS by Example: A Programmer's Guide*; *Applied Statistics and the SAS Programming Language, Fifth Edition*; *The SAS Workbook*; *Cody's Data Cleaning Techniques Using SAS Software*; *Longitudinal Data and SAS: A Programmer's Guide*; and *SAS Functions by Example*, as well as countless articles in medical and scientific journals.

Registration and Payment Instructions

Please read this entire section carefully!

1. Pre-register

You ***must pre-register*** for this training, by going to this site:

<http://www.basug.org/register.php3>

**INDIVIDUAL, ON-LINE PRE-REGISTRATION IS REQUIRED.
NO EMAIL, PLEASE!**

All registrants will receive an immediate email confirmation of their pre-registration. Within 72 hours you will then receive another e-mail, with a customized invoice for the training, based on your membership and registration status.

Seats are limited, so register early! Seating is guaranteed only for pre-paid registrants.

2. Mail your check

Complete the invoice form and mail it along with your check (made payable to "BASUG"), **postmarked by Wednesday, November 18, 2009**, and mail to our Treasurer at:

**BASUG
PO Box 170253
Boston, MA 02117**

3. Members only!

Note that this class is open to BASUG members only. This means that your 2009 \$30 individual membership dues must be paid up in order to attend! If you are not currently a member, your invoice will include the \$30 fee for 2009 BASUG membership dues.

If you have any questions about your BASUG membership status, please contact our Membership Coordinator (Robert Rosofsky) at:

RRosofsky@HealthInfoSys.net

4. Cutoff date

Please do not mail any checks after Wednesday, November 18, 2009.

If you miss the mail-in deadline, bring your completed invoice form and a check made payable to BASUG to cover the at-the-door tuition rate of \$160, plus any \$30 membership fees due, as specified in your invoice form. For walk-ins, we will only be able to accommodate people on a first-come, first-served basis until seats are filled.

Full payment is due by the day of the class. There will be NO EXCEPTIONS. As a small voluntary organization, we cannot accept credit cards at this time. We also will not handle cash, so checks only please.

5. Refund Policy

To receive a full refund, notify either of the meeting coordinators (see "Contact" above) by 5PM on Wednesday, November 18, 2009. **After that date, we will refund your payment only if we can fill your seat with attendees at the door.**

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