From the President

I just came back from the WUSS conference in San Francisco. It is always nice to learn new features and development from SAS presenters, to know how other programmers use SAS in their working environment, and to meet old and new friends. The next WUSS conference will be held in Long Beach on September 5-7, 2012. Scott Leslie, our SANDS speakers and program coordinator, will be the program chair for WUSS 2012. He is definitely looking for conference volunteers from our SANDS members.

We had another successful meeting in August. Eric Gebhart from SAS and Dr. Joey Lin from SDSU drew a big crowd to the meeting! About 50 people attended the meeting and asked lots of questions to the speakers.

Now we are preparing our last meeting for the year. We have invited two speakers to present in our November meeting. Sy Truong from Meta-Xceed, Inc. (MXI) will give a workshop in the afternoon and the featured presentation in the evening. Both of his talks focus on the new era of mobile applications and Web 2.0. In the workshop, he will describe a real-world project on extracting data from a database and transferring the data to SAS. Then he will take a view of SAS macros in the framework of mobile apps. Sy has created popular apps for both SAS Global Forum (SGF) and WUSS. It will be very interesting to see his presentations on mobile applications. The second speaker is Mary Rosenbloom from Edwards Lifesciences. She will present two short talks. One presentation is about assigning a macro to a function key and the other presentation is about cleaning house to avoid hangovers. Both speakers presented these papers at the WUSS conference in October but we took a chance and asked them to present their papers again to our local users.

Dr. Tyler Smith, who many of you know, agreed to come back to SANDS EC! Tyler had been an EC member for many years in charge of advertisement and he has been a WUSS conference chair and an SGF section chair. I am sure his many years of user group experience will help our SANDS group greatly.

I would like to thank our sponsors for this meeting: WUSS Executive Committee, SAS Institute, and Pfizer. SANDS meetings are held with no cost to our members because of the generous sponsorship of our sponsors. And, as always, I would like to thank all of the EC members for their hard work!

See you at the meeting!
— Wei Cheng
Workshop

SAS® Output in Era of Mobile and Web 2.0
Sy Truong, Meta-Xceed, Inc.

Abstract
Querying data used to require sophisticated algorithms and programming with SQL expertise or SAS data step techniques. There are now many user-friendly graphical user tools to build expressions without having to program code for relational databases. However, there are few tools for creating queries from a web interface upon SAS data. This paper describes a real-world project where data managers extract data from a relational database and transfer the data to SAS. The data managers need a user-friendly query tool to verify the cleanliness of the resulting SAS data. Since the data managers are not SAS programmers, the web interface ease the learning curve, allowing them to perform tasks such as: creating compound query expressions, deriving temporary imputed variables, and saving and combining saved queries. These are some of the methods described in this paper as it explains how to use SAS data step, HTML, and XML to accomplish an effective user experience. The initial purpose of this project was to empower data managers to perform tasks only SAS programmers were able to do. However, the user-friendly interface extends uses to a larger user base of non-techie power users.

Featured Presentation

SAS® Macros in An Era of Apps
Sy Truong, Meta-Xceed, Inc.

Abstract
Software development is a dynamic environment shifting from large enterprise systems to small utilities or “apps”. The success of marketplaces such as Apple’s App Store has proven that specialized small apps used for specific purposes are essential for large groups of users with diverse requirements. This paper takes a view of SAS macros in the framework of mobile apps. SAS Macros can thus be showcased to a community of users such as App Store customers as they automate the process of downloading and installing analogous to mobile apps. Mobile App Stores have been successful in delivering millions of apps since they have made it easy for users to find their apps through user reviews, documentation, and screenshots. Some allow users to test drive the apps. The Macro App Store allows users to submit the macro with sample data as a test drive. Once an app is found, it can be instantly installed and used upon a single click. The Macro App Store applies the same methodologies to many free SAS useful macros that were once left in obscurity.

Biography
Sy Truong is the co-founder and president of MXI (Meta-Xceed, Inc.) since 1997. MXI provides software solutions within the Pharmaceutical Industry specializing in CDISC data standards, SAS validation, electronic submission, data analysis, and reporting. Sy is on the editorial board of and contributor to the Pharmaceutical Programming journal. He is a frequent contributor and presenter at PharmaSUG, WUSS, and SAS Global Forum. He is the author of the book entitled Analyze Clinical Data: A Programmer’s Guide to Clinical Trials Data Analysis.

Second Presentation

(1) Assigning a User-Defined Macro to a Function Key
Mary Rosenbloom, Edwards Lifesciences, LLC

Abstract
Are you entering one or more of the same SAS Display Manager System (DMS) commands repeatedly during a session? The DMS offers a convenient way of capturing and saving frequently-entered commands in a user-defined macro, and then saving the macro as a function key of your choosing. Are you typing SAS code for data exploration during program development or validation, only to delete it soon afterwards? If you are, then this code can be placed in a macro, too, and assigned to a function key. This paper illustrates the purpose and steps one would use to assign a user-defined macro to a function key.

(2) Best Practices: Clean House to Avoid Hangovers
Mary Rosenbloom, Edwards Lifesciences, LLC

Abstract
In a production environment, where dozens of programs are run in sequence, often monthly or quarterly, and where logs can span thousands of lines, it is easy to overlook the small stuff. Maybe a data statement fails to execute, but one already exists in the temp library from a previous program. Maybe a global macro assignment is missed or fails to execute, but a global macro of the same name already exists from a previous program. This can also happen with macros. The list goes on. This paper offers some suggestions for housekeeping steps that can be taken at the end of each SAS program to minimize the chance of a hangover.

Biography
Mary Rosenbloom is a statistical programmer at Edwards Lifesciences in Irvine, California. She has been using SAS for over 15 years, and is especially interested in using macros to generate data-driven code, DDE, and program validation methods.
Tips for Using a Data Warehouse

Curtis Smith, Defense Contract Audit Agency

In our May 2011 episode, we explored the efficiencies we can achieve when subsetting a SAS data set using a WHERE statement rather than an IF statement. This time, we will look at a couple of my favorite operators available when using the WHERE statement.

There are many operators that you can use in a WHERE statement. The most common operators are the following:

- or EQ  equals
^= or NE  not equals
> or GT  greater than
< or LT  less than
>= or GE  greater than or equal to
<= or LE  less than or equal to
IN  contained in the list of
LIKE  equal to the specified pattern
BETWEEN-AND  within the range of
AND  logical “and” connector
OR  logical “or” connector
NOT  logical “not”
IS NULL  equal null value
IS MISSING  contains a missing value

Following are comments on a few of these operators.

The IN operator allows you to specify a series of values to compare to a variable. This eliminates the need for cumbersome “or” connector logic. For example, the following two statements produce the same result.

WHERE JOURNAL = 'AAA' OR JOURNAL = 'BBB' OR JOURNAL = 'CCC';
WHERE JOURNAL IN ('AAA', 'BBB', 'CCC');

Notice that the values in the IN series are separated by commas and the entire series is contained within parentheses. Processing a series of constants with an IN operator is also more CPU-efficient than accomplishing the same with multiple conditions connected with an “or” connector.

The LIKE operator allows you to specify a pattern (or wildcard) within a constant when comparing to character variables. Use a “%” to mean any number of characters following the specified characters and use an “_” to mean any single character. For example, assume ACCOUNT is a four-character field. Then,

WHERE ACCOUNT LIKE '3%';

would mean any ACCOUNT that begins with ‘3’. And,

WHERE ACCOUNT LIKE '3_2_';

would mean any ACCOUNT that had a ‘3’ in the first position and a ‘2’ in the third position. The BETWEEN-AND operator allows you to specify a range of constants to compare. The range includes the specified upper and lower limits. In other words, the range is inclusive. For example,

WHERE ACCOUNT BETWEEN '3001' AND '3010';

Here, any ACCOUNT from ’3001’ to ’3010’ would be selected. The IS NULL and IS MISSING operators allow you to test for variables whose value is either null or missing. Consider these examples:

WHERE ACCOUNT IS NULL;
WHERE AMOUNT IS MISSING;

The IS MISSING operator is especially useful when you want to identify observations that did not process as anticipated through certain functions, like a MERGE. The NOT logic operator allows you to reverse the logic of IN, LIKE, BETWEEN-AND, IS NULL, IS MISSING, AND, OR operators. Consider these examples:

WHERE JOURNAL NOT IN ('AAA', 'BBB', 'CCC');
WHERE ACCOUNT NOT LIKE '3%';
WHERE ACCOUNT NOT BETWEEN '3001' AND '3010';
WHERE ACCOUNT IS NOT NULL;
WHERE AMOUNT IS NOT MISSING;

Thanks for reading.

Curtis Smith, IT Technical Specialist
casmith@mindspring.com

SANDS Sponsorship

We would like to thank the following companies and organizations for sponsoring our November meeting:

- WUSS
- SAS Institute, Inc.
- Pfizer (for providing our meeting room)

Pfizer has once again provided us our meeting room, while WUSS and SAS Institute, Inc. are generously sponsoring our November meeting dinner and activities. It is our sponsors who make it possible for us to hold our meetings free of charge, so at the event, please do let sponsor representatives know how much you appreciate their support. If your company would like to sponsor SANDS activities, please contact the SANDS sponsorship coordinators, Tyler Smith and Ning Ding.
**Kirk’s Korner**

**Quick & Simple Tips**

Kirk Paul Lafler, Software Intelligence Corporation

**New Output Default in SAS 9.3 – HTML**

There is exciting news for SAS 9.3 users! Beginning in SAS 9.3, HTML output will be the default destination in the SAS windowing environment for the Microsoft Windows and UNIX operating systems. For users running SAS in batch mode, versions earlier than SAS 9.3, and/or operating systems other than Windows and UNIX, the Listing destination will continue to be the default destination. Another exciting change starting with SAS 9.3 will be that ODS Graphics will automatically be enabled by default.

Since the HTML destination and ODS Graphics are enabled by default, SAS 9.3 users will have their output displayed in the new HTMLBlue style which is designed to help complement the integration of graphs and tables together. These and additional default settings can be viewed and modified by accessing the Preferences dialog window by selecting **Tools → Options → Preferences**. Figure 1 summarizes the steps used to access the Preferences dialog window:

Once the Preferences dialog window is open, click the Results tab to display and, optionally, change the default SAS 9.3 HTML and HTMLBlue style settings, as illustrated in Figure 2 below.

Comments and suggestions can be sent to:

Kirk Paul Lafler
Senior Consultant, Trainer and Author
E-mail: KirkLafler@cs.com

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**Figure 1. Accessing the Preferences dialog window**

**Figure 2. Preferences Results tab**

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Stump the Programmer

#58 - Using the LENGTH Function
Art Carpenter, CA Occidental Consultants

The LENGTH function is used to return the length of a character variable. What length will be returned for each of the variables in the following DATA step?

data new;
  ch3 = 'ABC'; * Assign 3 characters;
  aa = length(ch3);
  put aa=;

  ch = ''; * Assign a null value (no space);
  bb = length(ch);
  put bb=;

  x = length(old); * OLD does not exist;
  put x=;

  miss = .; * Assign a numeric missing;
  y = length(miss);
  put y=;

  five = 565; * Assign a numeric value;
  z = length(five);
  put z=;
run;

Extra Credit: Would the LENGTHC, LENGTHN, and LENGTHM functions give different results?
What's New in SAS 9.3? (Part 1 of 2)

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ACROSS

1 This new option has been added to the DEFINE statement in PROC REPORT to use the format label or labels to create subgroup combinations that have multiailabel formats.
2 Where is output sent when running SAS 9.3 in batch mode?
6 (True/False) A new JMP engine permits JMP data tables to be read directly into SAS.
8 (True/False) A SAS/GRAPH license is no longer required for ODS Graphics procedures.
9 Two new functions, INVCDF and LINMOMENT, have been added to the SAS Function Compiler procedure. What is the name of the procedure?
10 The name of the new SAS 9.3 procedure that allows SAS code to run Groovy code on the Java Virtual Machine (JVM).
11 Where is output sent when running in the SAS 9.3 windowing environment under Microsoft Windows and UNIX?
13 This new Dictionary table contains the list of tables that are referenced by SQL.
14 (True/False) SAS/ACCESS 9.3 supports the LIBNAME EXCEL engine for 32- and 64-bit Microsoft Windows operating systems.
15 (True/False) SAS Enterprise Guide 4.3 uses the File menu to open program files that have recently been viewed.

DOWN

2 Where is output sent when running SAS 9.3 in batch mode?
3 (True/False) ODS Graphics is automatically enabled in SAS 9.3.
4 What ODS statement is used to enable or disable ODS Graphics?
5 What is the name of the default style for the HTML destination?
7 This procedure supports five new fitted distributions for SAS 9.3: Gumbel distribution, inverse Gaussian distribution, generalized Pareto distribution, power function distribution, and Rayleigh distribution.
12 (True/False) SAS/GRAPH software is not required to use the ODS Graphics Designer because it is available with Base SAS 9.3 software.
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Visitors should arrive 15 to 20 minutes early to allow enough time for check-in.

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Exit I-5 at Genesee Ave. and make a left at the stop light.
Make a right at the second stop light which will be Science Center Drive.
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Editor: Archie Medrano

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