FROM THE PRESIDENT

I hope you and your dear ones have enjoyed a wonderful summer! As I write this letter, I am looking forward to a fabulous meeting on Friday, September 28.

Yes, it is on a Friday, not on a Wednesday as the SANDS meetings have been in the past. We are experimenting having SANDS meetings on Fridays this year. Thanks to the SANDS Executive Committee for agreeing to change the meeting days to accommodate my schedule. We had our first Friday SANDS meeting in June and about thirty people showed up at the meeting. It was a successful meeting considering it was the week of student graduations and the beginning of summer.

We will have an excellent program for our September meeting. We are fortunate to have two internationally recognized and popular speakers, Chevell Parker, Senior Principal Technical Support Analyst, and Vince DelGobbo, Senior Software Developer, who will be presenting at our meeting. Both speakers are from SAS Institute.

In the afternoon, Vince DelGobbo will show you how to get the results that you need from statistical and other procedure output. I am sure every SAS user needs this skill and can learn something from Vince’s presentation. Chevell will then present two of his most sought-after papers: “A Deep Dive Into the SAS® ODS Excel Destination” and “Using the SAS® Output Delivery System to Create Microsoft Excel Worksheets That Answer Those Difficult Questions.” Both presentations are about SAS and Excel. I have to admit that Excel files are still the most used file format when I generate my analysis output at work. There will be many good techniques to take back to my work, and yours.

Just as in the past few years, SAS Institute will sponsor the dinner and door-prizes for this meeting. This will be the featured meeting of the year, so please RSVP through Eventbrite at https://www.eventbrite.com/e/sas-sponsored-sands-meeting-tickets-49154751184. You can get early bird rate if you register by September 15.

It is also election time for SANDS! SANDS has three annually elected positions on the Executive Committee, open to any SANDS member. They are: President, Vice President, and Secretary/Treasurer. If you are interested in running, please email me your name and the position you would like to apply for. At the meeting, we will take nominations from the floor as well. Please take this opportunity to step up and serve your local SAS community. I look forward to seeing you in the business portion of the meeting to vote!

This year, the 2018 Western Users of SAS® Software Conference will be held in Sacramento, California from September 5th to September 7th (https://wuss18.org/). It’s another opportunity for you to present your work and network with other SAS users.

Finally, and most importantly, I would like to thank our sponsors SAS Institute, advertisers, SANDS Executive Committee members, and the volunteers, who continuously support our local SAS community.

I look forward to seeing you at the meeting! - Wei Cheng
MEETING AGENDA - SEPTEMBER 28, 2018
Location: Building CB4, Rooms 2249+2250 - RSVP Now!

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| 3:00 to 4:30 | **Vincent DelGobbo**  
Manipulating Statistical and Other Procedure Output to Get the Results That You Need |
| 4:35 to 5:25 | **Chevell Parker**  
Insights From a SAS Technical Support Guy: A Deep Dive Into the SAS® ODS Excel Destination |
| 5:30 to 6:30 | Dinner / Networking  
Welcome / SANDS Business - Wei Cheng |
| 6:35 to 7:25 | **Chevell Parker**  
More Than Just a Pretty Face: Using the SAS® Output Delivery System to Create Microsoft Excel Worksheets That Answer Those Difficult Questions |
| 7:30 to 8:00 | Stump the Programmer and Coders’ Corner - Wei Cheng  
Door Prizes and Giveaways |

SANDS Sponsorship

We would like to thank Pfizer for having once again generously provided our meeting room. This month, the SAS Institute is sponsoring all three presentations and providing the networking dinner and giveaways. It is our sponsors who make it possible for us to hold our meetings 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 Vivian Huang.
Vincent DelGobbo
Senior Software Developer, SAS Institute

Vince DelGobbo is a Senior Software Developer in the Metadata and Execution Services group at SAS. This group's responsibilities include the SAS/IntrNet Application Dispatcher and SAS Stored Processes. He is involved in the development of new Web- and server-based technologies, bringing 3rd-party metadata into SAS, and integrating SAS output with Microsoft Office. He was also involved in the early development of the ExcelXP ODS tagset. Vince has been a SAS Software user since 1982, and joined SAS in 1992.

Manipulating Statistical and Other Procedure Output to Get the Results That You Need

Many scientific and academic journals require that statistical tables be in a specific format (for example, the American Psychological Association [APA] style). This paper shows you how to change the output of any SAS® procedure to conform to any journal or corporate style. You’ll learn how to save data from any SAS procedure, change the data format using the DATA step, and dynamically create a format based on your data. You’ll also use the SAS Output Delivery System (ODS) inline formatting functions and style overrides, and produce several output formats, including HTML, RTF (for Microsoft Word), PDF, and Microsoft Excel files. Finally, you’ll learn how to create and deliver the output on-demand using SAS server technology. This paper is appropriate for all SAS skill levels.

Chevell Parker
Senior Principal Technical Support Analyst, SAS Institute

Chevell Parker is a member of the Foundation SAS® group in the SAS Technical Support Division. He supports the SAS® Output Delivery System and XML technologies, and he also supports integration of Python into SAS® software.

Insights From a SAS Technical Support Guy: A Deep Dive Into the SAS® ODS Excel Destination

SAS is a world leader in data analytics while Microsoft Excel, with over 30 million active users, is a leader when it comes to spreadsheet packages. Excel spreadsheets are heavily used for calculations, information organization, statistical analysis, and graphics. SAS can leverage the power of its world-class analytics and reporting capabilities to produce stylistic and highly functional Excel spreadsheets using the Excel destination in the SAS® Output Delivery (ODS) System. This paper, relevant to anyone who uses Microsoft Excel, offers insights into the depths of the ODS Excel destination by illustrating how you can customize styles in Microsoft Excel worksheets, and it discusses common layout and reporting questions (including limitations). In addition, the discussion covers useful applications for automating and executing Excel worksheets. After diving deep into this discussion about the ODS Excel destination, you should understand the behavior and capabilities of the destination so that you can create aesthetic and effective Excel worksheets.

More Than Just a Pretty Face: Using the SAS® Output Delivery System to Create Microsoft Excel Worksheets That Answer Those Difficult Questions

Microsoft Excel worksheets enable you to explore data that answers the difficult questions that you face daily in your work. When you combine the SAS® Output Deliver System (ODS) with the capabilities of Excel, you have a powerful toolset you can use to manipulate data in various ways, including highlighting data, using formulas to answer questions, and adding a pivot table or graph. In addition, ODS and Excel give you many methods for enhancing the appearance of your tables and graphs. This paper, written for the beginning analyst to the most advanced programmer, illustrates first how to manipulate styles and presentation elements in your worksheets by controlling text wrapping, highlighting and exploring data, and specifying Excel templates for data. Then, the paper explains how to use the TableEditor tagset and other tools to build and manipulate both basic and complex pivot tables that can help you answer all of the questions about your data. You will also learn techniques for sorting, filtering, and summarizing pivot-table data.
Tips for Using a Data Warehouse
Curtis Alan Smith

In our last episode we explored how to conditionally execute code based on the number of observations in a SAS data set. This time we will explore how to document our SAS data set names and variables as we create them in our application job stream.

SAS® makes documenting our data very simple, whether we have one SAS data set, an entire data warehouse, or a bunch of loose SAS data sets in our application job stream. We can use the CONTENTS procedure to generate a detailed report of our SAS data libraries, SAS data sets, and SAS data views. But, maybe even more importantly, the label names can easily be used in our output and what we see when we look at our data interactively. We can use the data set LABEL option and the variable LABEL statement to better document our data. Documenting the data about our data, called “metadata”, is critical to providing better assurance that our data is used properly. But, how and when do we do all of this documenting?

To Label, or Not to Label, that is the Question
There is an old saying in the information technology world that documentation happens last, if at all. However, we need to be diligent and build documentation into our data warehouses and data sets. Documenting our SAS data libraries, SAS data sets, and SAS data views is so very important. Without some type of documentation, our users will not know which SAS data libraries are which, or what is in them; nor will they know one SAS data set from another. They wouldn’t even know a SAS data set from a SAS data view. Without documentation, we programmers, developers, and data warehouse architects will have a difficult time, too. SAS makes documentation very simple. We can use the data set LABEL option to attach a descriptive label to SAS data files. We can also use the variable LABEL statement to attach a descriptive label to each variable in our data sets. That’s right, there is a means to attach a descriptive label to both a data set and the variables within a data set. If we use them both on all the SAS data sets and SAS data views in our data warehouse and on each variable within each SAS data set and SAS data view, we will be able to produce better documentation.

As we create a new SAS data set or variable, we may think that the meaning or contents of some SAS data sets names and variable names are self-explanatory. Surely, everyone will know what is in the variable named ‘amount’, right? Well, maybe it represents a year-to-date amount, or a summarized amount, or an overtime amount. Because we can place more information in the label than we can in the data set or variable name, labels become very useful.

Labeling Made Easy
Adding descriptive labels is as easy as coding a SAS program. SAS provides the tools in the form of the data set LABEL= option and the variable LABEL statement. We will look at each.

DATA SET LABEL= OPTION

Click here to read the full article on the SANDS website.
Fuzzy Matching Programming Techniques Using SAS®

Data comes in all forms, sizes, layouts, and complexities. When data sources (data sets) contain consistent and valid data values, share common and unique identifier(s), and have little or no missing data, the matching process rarely presents any problems. But, when data sources do not contain unique or reliable identifiers, or “keys”, the matching process becomes more complicated and problematic, often producing unpredictable results. This tip suggests a 6-step fuzzy matching process, see figure, for users to consider, including the use of the SOUNDEX algorithm, and the SPEDIS, COMPLEV, and COMPGED functions to resolve key identifier issues and to successfully merge, join and match less than perfect or “messy” data.

6-Step Fuzzy Matching Process

Click here to read the full article on the SANDS website.
Stump the Programmer #80

By Art Carpenter

Weighted Means

Both PROC REPORT and PROC MEANS support the WEIGHT statement to allow a single observation to represent several observations. PROC MEANS also supports the FREQ statement. How do these vary? For each of the data summarizations below what value will be displayed for N, MEAN, and MIN?

data wt;
  input wt score;
  datalines;
  1 10
  2 10
  0 2
  run;

title report weight wt;
proc report data=wt nowd;
  column score,(n mean min);
  weight wt;
  run;

title weight wt;
proc means data=wt n mean min;
  var score;
  weight wt;
  run;

title freq wt;
proc means data=wt n mean min;
  var score;
  freq wt;
  run;

title positive wt;
proc means data=wt n mean min;
  var score;
  where wt>0;
  run;

Click here to read the PDF version on the SANDS website.
SANDS Membership

Membership in the San Diego SAS Users Group, Inc. (SANDS) provides an opportunity for SAS users to meet and keep updated on SAS issues. Seminars and presentations allow SAS users to gain knowledge with little or no cost. It is also an opportunity for consultants and prospective employees to meet possible employers, and companies to show their SAS-related products and host a meeting. We welcome those interested in giving presentations and writing articles for the newsletter. Presently, there is no charge to attend our meetings or to receive our newsletter; small fees may be asked for some special functions or workshops.

The SANDS membership list is not given out to others and is used only to disseminate SANDS related business, such as newsletters or special announcements. Those wishing to sell their products or services have the opportunity to advertise in the newsletter at reasonable rates.

To become a member, please email the following to Cathy Liu: Name, Title, Organization, Telephone, E-mail, Fax, Address, Work or Home indicator, Computer Platform, SAS version, and SAS related areas of interest.
Map to Pfizer La Jolla Campus

For this meeting, VISITORS can Check In at CB4 directly.

10770 Science Center Drive
San Diego, CA 92121

VISITORS PARKING
Please Check-In with Security

Directions to the Campus Buildings
Please refer all Contractors and Visitors that will be visiting CB1-CB6, CB10 or The Pfizer Incubator to the CB2 Visitors Check-in Center. A photo ID is required for visitor check in.

Groups of 15 or more will check-in at the lobbies of the buildings visited. 
Visitors should arrive 15 to 20 minutes early to allow enough time for check-in.

CB2 Visitors Center
10770 Science Center Drive, San Diego, CA 92121
From San Diego International Airport. Follow signs to I-5 North. Proceed on I-5 North for approx. 10 miles. 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. CB2 Visitors Center is located at the end of the cul-de-sac. Visitor Parking is to the left. Please follow Visitors Signs.
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