

SANDS Newsletter

MAY 23, 2012

3:30 - 5:00

WORKSHOP

Statistical Analyses Using SAS®
Enterprise Guide®

R. Scott Leslie

MedImpact Healthcare Systems,
Inc.

5:15 - 6:00

**LIGHT DINNER /
NETWORKING**

6:00 - 6:15

**WELCOME /
SANDS BUSINESS**

6:15 - 7:30

**FEATURED
PRESENTATION**

Get Your "Fast Pass" to Building
Business Intelligence with SAS®
and Google Analytics

Tricia Aanderud

And Data, Inc.

Angela Hall

SAS Institute Inc.

7:30 - 8:00

SECOND PRESENTATION

1. Best Practices: Use Coding
Shortcuts to Avoid Typos and
Add Flexibility

2. Best Practices: PUT More
Errors and Warnings in My
Log, Please!

Mary F.O. Rosenbloom

Edwards Lifesciences LLC

8:00 - 8:15

**STUMP THE
PROGRAMMER AND
CODERS' CORNER**

8:15 - 8:30

**DOOR PRIZES AND
GIVEAWAYS**

[Pfizer Global R&D, La Jolla Labs](#)
[10770 Science Center Drive](#)
[Building CB2, Room 1110*](#)
[San Diego, CA 92121](#)

From the President

We had another successful meeting in February. SANDS members enjoyed the presentations from three speakers: Renato Villacorte, Charles Edwin Shipp, and Kirk Paul Lafler. All three presenters needed to travel long distances to come to our meeting. We also had our annual election to elect the SANDS officers for the year. Wei Cheng, Archie Medrano, and Song Lin were elected again as President, Vice President, and Treasurer. Congratulations!

In the upcoming May meeting, our featured speakers, Tricia Aanderud, president of And Data, Inc., and Angela Hall from SAS Institute Inc. will show you how to build Business Intelligence with SAS and Google Analytics. Both of them are from the east coast, so they will present remotely. Their book "Building Business Intelligence with SAS: Content Development Examples" will be part of the door-prizes in the meeting. Mary Rosenbloom, from Edwards Lifesciences LLC, will present two short talks after their presentation on some of the best SAS practices. In the afternoon, Scott Leslie, from MedImpact Healthcare Systems, Inc., will give a workshop on statistical analyses using SAS Enterprise Guide. Please read the abstracts and their biographies on the next page for more details.

Did you know that SANDS started about 30 years ago in 1983? If you want to learn more about the SANDS history, please visit our website at <http://www.sandsug.org/index.html>. You will be surprised if you have not visited the SANDS website in the past month since it has a brand new look! Our vice president, Archie Medrano, spent a lot of effort in modernizing our website. SANDS can even make some money if you purchase any SAS books through our website. Please provide your feedback and comments to Archie.

Do not forget that the WUSS (Western Users of SAS Software) annual conference will be held in Long Beach, California, on September 5-7, at the Hyatt Regency. Check it out: <http://www.wuss.org/>. Scott Leslie will be the academic program chair for this conference.

As usual, Pfizer is providing the meeting location. SANDS is run by volunteers and does not charge any membership fees. It provides workshops, presentations, dinners, giveaways, and door-prizes, all free of charge. If your company is willing to sponsor our meetings or would like to put some advertisement in our newsletter, please let us know. As always, we need more people to help support this local SAS user community.

I look forward to seeing you on May 23rd!

— **Wei Cheng**

Please fill out the RSVP form for the workshop and/or meeting by Monday, May 21st, at <http://www.sandsug.org/meetings.html>.

Workshop:
Statistical Analyses Using SAS® Enterprise Guide®
R. Scott Leslie, MedImpact Healthcare Systems, Inc.

Abstract

Conducting statistical analyses involves choosing proper methods, understanding model assumptions, and displaying clear results. The latest releases of SAS® Enterprise Guide® offer conveniences, such as point-and-click wizards and integrated syntax help, to ease the burden on users. This tutorial demonstrates how to perform statistics quickly and easily using some handy features of Enterprise Guide. Examples of multiple linear regression, logistic regression, and survival analysis are covered as well as some hints on how to navigate Enterprise Guide menus. This tutorial is intended for SAS users with beginning to intermediate experience with the above mentioned statistics or those with less experience with Enterprise Guide.

Biography

R. Scott Leslie is a Health Outcomes Researcher for MedImpact Healthcare Systems, Inc. with 12 years of SAS® experience in the pharmacy benefits and medical management field. His SAS skills include Base SAS, SAS/STAT, SQL, Enterprise Guide, and ODS. Scott holds a Masters of Public Health degree in Epidemiology and Biostatistics from Loma Linda University. He is an author of a SAS book chapter and has presented at local, regional, and international SAS user group conferences as well as at various clinical and scientific conferences. He is an executive committee member of Western Users of SAS Software (WUSS) and San Diego SAS Users Group (SANDS).

Featured Presentation:

Get Your "Fast Pass" to Building Business Intelligence with SAS® and Google Analytics

Tricia Aanderud, And Data, Inc., and Angela Hall, SAS Institute Inc.

Abstract

See the magic of Google Analytics with SAS® business intelligence tools! Use your "Fast Pass" to learn SAS® Information Map Studio, SAS® Web Report Studio, and SAS® Information Delivery Portal with the authors of the newly released "Building Business Intelligence with SAS®". We will guide you step-by-step through creation of information maps, custom web reports, and portal pages using data from Google Analytics. You will learn some tips and tricks for creating custom data items, designing and linking reports, and adding external content to your portal.

Biographies

Tricia Aanderud, president of And Data, Inc., provides SAS consulting services to corporations that need assistance understanding how to transform their data into meaningful charts, reports, and dashboards. She has a background in technical writing, process engineering, and customer service. Tricia has been an enthusiastic SAS user since 2002 and has presented papers at SAS Global Forum. Tricia has a BA in mass communications from Eastern Kentucky University. She is the co-author of "Building Business Intelligence with SAS: Content Development Examples" and "The 50 Keys to Learning SAS Stored Processes".

Angela Hall leads a team of architects at SAS Institute Inc. who implement analytic focused solutions that uncover hidden patterns to make improvements such as eliminating waste and fraud. A SAS user since 1995, Angela enjoys working with OLAP data structures and developing custom applications using stored processes. She received a BS in statistics from N.C. State University and an MBA with an emphasis in technology management from the University of Phoenix. A previous chair of the American Society of Quality's Raleigh, North Carolina, chapter, she has also co-chaired a Southeast SAS Users Group (SESUG) section and continues to present papers at SAS Global Forum conferences. She is the co-author of "Building Business Intelligence with SAS: Content Development Examples" and "The 50 Keys to Learning SAS Stored Processes".

Second Presentation:**1. Best Practices: Use Coding Shortcuts to Avoid Typos and Add Flexibility****Mary F. O. Rosenbloom, Edwards Lifesciences LLC, and
Kirk Paul Lafler, Software Intelligence Corporation****Abstract**

Let's face it, typos happen. Although the Enhanced Editor makes it easy to see when important elements in data and procedural steps are mistyped, there is no way to check for spelling errors in variable name specifications. In fact, even one mistyped character can bring down an entire analysis suite if we are unlucky enough. Certainly, there is no substitute for careful checking of one's own code, and rigorous validation. However, a number of techniques exist that can be used to minimize the chance of a typing error. When specific best practice techniques are combined with carefully chosen variable names (where possible), the amount of typing is often reduced, the program becomes more flexible to data changes, and the likelihood of a typo is diminished. This paper takes a quick look at several of these techniques, such as the colon wildcard, use of the dash for specification of sequential variable names, use of DIM with arrays, and #BYVAL and #BYVAR in titles.

Second Presentation:**2. Best Practices: PUT More Errors and Warnings in My Log, Please!****Mary F. O. Rosenbloom, Edwards Lifesciences LLC, and
Kirk Paul Lafler, Software Intelligence Corporation****Abstract**

We all like to see a SAS® log that is free from errors and warnings, but did you know that you can add your own errors and warnings to the log with PUT statements? Not only that, but you can incorporate this technique into your regular coding practice to check for unexpected data values. This paper will explore the rationale and process of issuing user-created error and warning messages to the SAS log, along with a number of examples of when this is useful. Finally, we will demonstrate and propose an upgrade to the next version of SAS involving a user-specified keyword with its own color in the log.

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.

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.

Tips for Using a Data Warehouse

Curtis Smith, Defense Contract Audit Agency

In our last episode we discussed how to use a macro variable to control flexibly-written SAS application code. This time we will examine methods for reducing disk space used when processing a SAS job to complete. Often, especially when processing large amounts of data, you can exhaust your storage space or the WORK library. Likely, there is a SAS code solution. There are a number of strategies to use to reduce the number of SAS data sets stored within the same temporary and permanent storage space. We will look at two ways to reduce the number of SAS data sets needed in the WORK library when processing our data warehouse.

Output Sorted SAS Data Sets

When you sort a SAS data set using the SORT procedure and you do not specify an output SAS data set using the OUT= option, SAS will overwrite the input SAS data set with the sorted SAS data set. To do this, SAS must create a temporary sorted SAS data set until the SORT procedure successfully completes. Then, SAS will overwrite the input SAS data set with the sorted SAS data set. This method works, of course, but creates a temporary sorted file in the WORK library, which could be a problem if you are short on WORK space. If you specify an output file for the sorted SAS data set, you will still have two SAS data sets created: the input SAS data set and the sorted output SAS data set. However, in this situation, you can place the sorted SAS data set somewhere other than the WORK library, such as another temporary SAS data library, a tape SAS data library, or a permanent disk SAS data library. Consider the following example.

```
PROC SORT DATA=WORK.WIP_DTL OUT=DISK.SORTED;
  BY PBCODE ACCOUNT PRIME CDATE;
RUN;
```

Here we used the OUT=DISK destination for our output data set rather than sorting to a temporary file in the WORK library.

Delete Permanent SAS Data Sets Before Replacing Them

Whenever you update or otherwise replace a permanent SAS data set, SAS will create a temporary SAS data set to hold the new data until the DATA step or procedure successfully completes. Then, SAS will overwrite the old SAS data set with the one just created. This causes SAS to create a temporary SAS data set in the WORK library, which could be a problem if you are short on WORK space. Consider the following example where we are re-creating the WIP_DTL SAS data set that already existed in the DISK library.

```
DATA DISK.WIP_DTL;
  SET TAPE.WIP_DTL;
  WHERE REC_TYPE NE ' ';
RUN;
```

In this example, a temporary file is created because the target output SAS data set already existed. This, of course, is wasting space. Instead, we can delete the existing SAS data set using the DATASETS or the DELETE procedure before running the DATA step or procedure that will update or replace the SAS data set. Consider the following example.

```
PROC DATASETS LIBRARY=DISK NOLIST;
  DELETE WIP_DTL;
QUIT;
RUN;
DATA DISK.WIP_DTL;
  SET TAPE.WIP_DTL;
  WHERE REC_TYPE NE ' ';
RUN;
```

Thanks for reading.

Curtis Smith, IT Technical Specialist

Kirk's Korner

Kirk Paul Lafler, Software Intelligence Corporation



Top 25 “Hot” Topics at SGF 2012

Having just returned home from the 2012 SAS Global Forum (SGF) Conference at the beautiful Walt Disney World Dolphin and Swan Resort in Orlando where attendees from every corner of the globe took part in a multi-day SAS-fest, I have compiled my annual list of personal top favorite papers. Due to so many great papers, this time I had to expand my list from the Top 10 to the Top 25. Making this task all the more difficult was the prospect of combing through more than 400 papers/presentations presented in the following sections: Applications Development, Applied Business Intelligence, Coders' Corner, Customer Intelligence, Data Management, Data Mining and Text Analytics, Financial Services, Hands-on Workshops, Operations Research, Pharma and Health Care Providers, Planning and Support, Posters, Programming: Beyond the Basics, Programming: Foundations and Fundamentals, Reporting and Information Visualization, Retail, SAS® Enterprise Guide, SAS® Futures, SAS® IT Management, SAS® Workshop Series, Social Media and Networking, Statistics and Data Analysis, Systems Architecture and Administration, and Travel, Hospitality and Entertainment.

Note: Readers are advised that in some cases the task of choosing between two or more papers was nearly impossible, hence the multiple ties. Also, due to time constraints and other commitments, I was unable to attend every presentation, so I selected my top 25 by reading each published paper. Finally, to view any of these published papers as a PDF document, simply click on the hyperlink associated with the paper name. So, without further delay, here's a list of my personal favorite papers that were presented at SGF 2012.

25	Mobilizing Your SAS® Business Analytic Reports by Falko Schulz http://support.sas.com/resources/papers/proceedings12/011-2012.pdf
24	Yes! SAS® ExcelXP WILL NOT Create a Microsoft Excel Graph, but SAS Users Can Command Microsoft Excel to Automatically Create Graphs from SAS ExcelXP by William E. Benjamin, Jr http://support.sas.com/resources/papers/proceedings12/013-2012.pdf
23	Productivity Tips for SAS® Enterprise Guide® Users by Jennifer First and Steven First http://support.sas.com/resources/papers/proceedings12/301-2012.pdf
22 (tie)	ODS Report Writing Interface Makes Our Reporting Simple and Better by Sijian Zhang http://support.sas.com/resources/papers/proceedings12/071-2012.pdf
	Taking Full Advantage of sasCommunity.org: Your SAS® Site by Don Henderson and Art Carpenter http://support.sas.com/resources/papers/proceedings12/157-2012.pdf
21 (tie)	Inventory Your Files Using SAS® by Brian Varney http://support.sas.com/resources/papers/proceedings12/058-2012.pdf
	Analysis of Clickstream Data Using SAS® by Sumit Sukhwani, Satish Garla and Goutam Chakraborty http://support.sas.com/resources/papers/proceedings12/100-2012.pdf
20 (tie)	Accessing and Extracting Data from the Internet Using SAS® by George Zhu and Sunita Ghosh http://support.sas.com/resources/papers/proceedings12/121-2012.pdf
	Go Beyond The Wizard With Data-Driven Programming by Renato G. Villacorte http://support.sas.com/resources/papers/proceedings12/148-2012.pdf

19	Up Close and Personal with SAS® Enterprise Guide® 5.1 by Anand Chitale and Lina Clover http://support.sas.com/resources/papers/proceedings12/302-2012.pdf
18	SAS® Enterprise Guide® 4.3: Finally a Programmer's Tool by Marje Fecht and Rupinder Dhillon http://support.sas.com/resources/papers/proceedings12/145-2012.pdf
17	Finding Your Inner Query with SAS® Enterprise Guide® by Michael Burke and I-kong Fu http://support.sas.com/resources/papers/proceedings12/292-2012.pdf
16	Topic Discovery, Tracking, and Characterization of Social Media Conversation for Point of Origin and Dissemination Discovery: Structural Precursors to Topic Determination in Text Corpora by Barry de Ville and Gurpreet S. Bawa http://support.sas.com/resources/papers/proceedings12/304-2012.pdf
15	"There's an App for That": It's Called SAS® ODS! Mobile Data Entry and Reporting via SAS ODS by Michael Drutar http://support.sas.com/resources/papers/proceedings12/240-2012.pdf
14 (tie)	Is Your Failed Macro Due To Misjudged "Timing"? by Arthur Li http://support.sas.com/resources/papers/proceedings12/228-2012.pdf
	Working the System: Our Best SAS® Options by Patrick Thornton and Iuliana Barbalau http://support.sas.com/resources/papers/proceedings12/047-2012.pdf
	Sometimes One Needs an Option with Unusual Dates by Arthur Tabachneck, Matthew Kastin and Xia Shan http://support.sas.com/resources/papers/proceedings12/040-2012.pdf
13	The DOW-loop: a Smarter Approach to your Existing Code by Fuad J. Foty http://support.sas.com/resources/papers/proceedings12/052-2012.pdf
12	ODS PDF and RTF Application Development: Steps to Ensure Success and Examples of Useful Coding Techniques by Benno Kurch http://support.sas.com/resources/papers/proceedings12/006-2012.pdf
11	An Introduction to Creating Multi-Sheet Microsoft Excel Workbooks the Easy Way with SAS® by Vincent DelGobbo http://support.sas.com/resources/papers/proceedings12/150-2012.pdf
10	Create Multi-Sheet Excel Workbook for Large Data Sets Using SAS® and VBA by Chao Huang http://support.sas.com/resources/papers/proceedings12/066-2012.pdf
9	SAS® IOM AND YOUR .NET APPLICATION MADE EASY by Karine Désilets http://support.sas.com/resources/papers/proceedings12/017-2012.pdf
8 (tie)	The FILENAME Statement: Interacting with the world outside of SAS® by Chris Schacherer http://support.sas.com/resources/papers/proceedings12/119-2012.pdf
	Put a Little Zip in Your SAS® Program by Louise S. Hadden and Christianna Williams http://support.sas.com/resources/papers/proceedings12/214-2012.pdf
7	Matching Data Using Sounds-Like Operators and SAS® Compare Functions by Amanda Roesch http://support.sas.com/resources/papers/proceedings12/122-2012.pdf
6 (tie)	Proc Format, a Speedy Alternative to Sort / Sort / Merge by Jenine Milum http://support.sas.com/resources/papers/proceedings12/428-2012.pdf
	Quick and Dirty Excel® Workbooks Without DDE or ODS by Andrea Zimmerman http://support.sas.com/resources/papers/proceedings12/264-2012.pdf
5	HOW to DOW by Paul M. Dorfman and Lessia S. Shajenko http://support.sas.com/resources/papers/proceedings12/156-2012.pdf
4	Tracking and Reporting Account Referral Activity Using Hash Tables and SAS® Business Intelligence by James Beaver and Tobin Scroggins http://support.sas.com/resources/papers/proceedings12/012-2012.pdf
3	Get Your "Fast Pass" to Building Business Intelligence with SAS® and Google Analytics by Tricia Aanderud and Angela Hall http://support.sas.com/resources/papers/proceedings12/010-2012.pdf

2 (tie)	Best Practices for Managing and Monitoring SAS® Data Management Solutions by Gregory Nelson http://support.sas.com/resources/papers/proceedings12/113-2012.pdf
	Excelling with Excel by Tim Beese and Greg Granger http://support.sas.com/resources/papers/proceedings12/036-2012.pdf
1 (tie)	Use the Full Power of SAS® in Your Function-Style Macros by Michael Rhoads http://support.sas.com/resources/papers/proceedings12/004-2012.pdf
	The Armchair Quarterback: Writing SAS® Code for the Perfect Pivot (Table, That Is) by Peter Eberhardt and Louanna Kong http://support.sas.com/resources/papers/proceedings12/146-2012.pdf

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Stump the Programmer #60 Art Carpenter, CA Occidental Consultants

The ARRAY statement works with variables and is very flexible and powerful in the way that it interfaces with the Program Data Vector. Very often, we only learn a fraction of this statement's capabilities. You should know it well if you are to take full advantage of all that it can do.

The DATA step below executes without error:

1. What variables are in the data set WORK.A, and what are their attributes?
2. What are the values of these variables?
3. What is the variable order on the PDV?

```
data a;
  array clist {4:6} $1 ('a', 'b', 'c');
  x = 5;
run;
```

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SANDS Sponsorship

We would like to thank [Pfizer](#) for having once again generously provided our meeting room. This month, SANDS is sponsoring our 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 coordinator, [Tyler Smith](#).

Map to Pfizer La Jolla Campus



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.**



CSLJ 11/4/12 3/08



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Upcoming Conferences

September 5-7, 2012

[WUSS](#)

Long Beach, CA

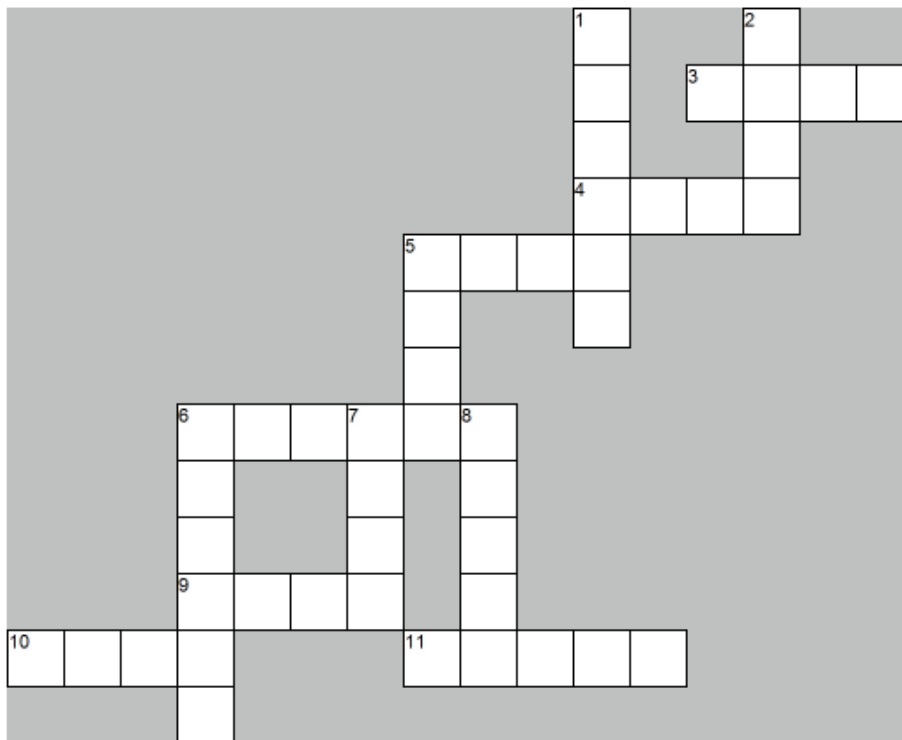
April 28-May 1, 2013

[SAS Global Forum](#)

San Francisco, CA

Exploring Errors in the SAS® Software

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This puzzle was made by Kirk Paul Lafler, Software Intelligence Corporation using Crossword Weaver(TM)

ACROSS

- 3 (True/False) A Data error is caused when one or more data values are invalid.
- 4 (True/False) A System-related error occurs when one or more system options do not conform to the input, processing and/or output requirements.
- 5 (True/False) A Logic error is caused when a program uses the wrong comparison operator, an incorrect logical operator, the wrong formula, and/or an error in an algorithm.
- 6 When a program runs out of memory during processing, what type of error occurs?
- 9 (True/False) When an incorrect number of arguments is specified for a function, a Syntax error results.
- 10 When a character data value is attempted to be read into a numeric-defined variable, what type of error results?
- 11 When the comparison operator ">=" is specified instead of "<=", what type of error is produced?

DOWN

- 1 When a report needs to be produced in landscape mode and instead has the system option ORIENTATION=PORTRAIT specified, what type of error results?
- 2 (True/False) A Syntax error occurs when a programming statement does not conform to the rules of the SAS language.
- 5 (True/False) A Macro-related error occurs when the macro facility is not used correctly.
- 6 When a keyword or statement is misspelled in a program, a semi-colon is missing, or an unmatched quotation marks is specified, what type of error is produced?
- 7 (True/False) When a Data error is encountered by the SAS System, the automatic variable _ERROR_ is set to 1.
- 8 When the SAS procedure code produced by the macro facility is incorrect, what type of error occurs?

Comments and suggestions can be sent to:

Kirk Paul Lafler
 Software Intelligence Corporation
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