

Paper CS-051

SAS® Resources: Places to Find Answers and Ideas

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ABSTRACT

SAS' documentation has grown over the years from a few pages of printout to shelves of books written by SAS staff as well as users. There are now websites maintained by the Institute, universities, and private individuals. And, there are even more ways of exchanging ideas and solutions. This paper attempts to introduce a number of these information sources.

INTRODUCTION

Back in SAS' early days, the SAS documentation was stored on a mainframe used by NCSU. When a user needed a copy, they submitted a small batch of punch cards and some number of pages of printout eventually showed up on a printer. The other really good source was to grab Jim Barr or Jim Goodnight in the elevator and ask them a question. Things are a bit different today.

Today, we can devote many feet of bookshelves to SAS Institute manuals and more feet to books written under the SAS Books By User's program. Moreover, the availability of the internet has allowed an explosion of sites offering additional information and insights in how to apply SAS to solving our problems. The following is a laundry list of sources that I have discovered and I make no pretense of its being complete. You will find that there is a lot of overlap between sites which makes it easier to stumble upon the bit of knowledge that you seek.

I discovered many of the following items while preparing this paper so many of the nuances of specific pages are a bit obscure to me. I suspect that there is a lot of overlap among some. To muddle matters even further, during the fall of 2007 SI reorganized their Support website and moved and renamed parts of the site. Hence, the user needs to explore these sites in order to find old friends.

SAS INSTITUTE PUBLICATIONS

MANUALS AND BOOKS

Here, I focus on documents that generally exist in both paper and electronic format.

SI publishes a myriad of books which focus both on specific parts of the products – e.g., the manuals on Base SAS – as well as numerous texts on how to use the products in specific study areas. Then, there are books that cover the Institute products that focus on solutions to certain business and scientific needs such as Risk Analysis. Many of these titles may be viewed online at

<http://support.sas.com/onlinedoc/913/docMainpage.jsp>

Note that the above link is for V9.1.3. This page also allows downloads of pdf versions of the titles and gives a link if you should wish to purchase a copy.

Documentation is available for both releases 8 and 9 and there are manuals that focus on features found in specific operating systems (these are referred to as SAS Companion to the ... Operating System).

Let me add that seemingly outdated copies of older manuals can be handy. I keep a couple V5 manuals at home since they are compact and can serve as a quick reference. They lack the newest features, of course, but can still help when I need some basic syntax. I'm not the only curmudgeon. SAS Publishing tells the story of how following 911, someone whose office had been in one of the towers, called to say that their beloved and well-indexed V5 manual was part of the debris. The SAS staff scoured the nooks and crannies and found a replacement copy.

For many years now, the Institute has sponsored books written by users -- BBU. These are written at all levels from how to get started with SAS all the way to how to use macros and how to use SAS in specific interest areas such as genetics. There is even a SAS for Dummies title now available.

The main URL for SAS Publishing is

<http://support.sas.com/publishing/index.html>

A word of caution: I find the navigation here a little bewildering. I suggest that you find a quiet hour or so to get acquainted with the site and its many links.

TECHNICAL DOCUMENTS AND OTHER MATERIALS

These items usually may be read on line and downloaded.

In addition to their manuals and books, SI publishes a series of Technical Support Documents. These are now incorporated in a webpage called SAS Technical Papers. These lack the slick finish of a manual, are shorter and focus is on very specific topics.

An example title is TS-673, Reading Delimited Text Files In To SAS.

In addition to the TS docs, there are papers on specific topics. Basically, SI found that they had been producing support documents in two different series and now present the titles in a single source. The primary URL is

<http://support.sas.com/resources/papers/index.html>

These documents are displayed according to a series of categories and also by document number.

Many SI employees make presentations at various technical meetings and these papers may be found at

<http://support.sas.com/rnd/papers/index.html>

Note that some of these also appear in the proceedings of technical meetings such as SAS Global Forum (formerly, SUGI).

SI maintains a list of brief technical notes covering bugs and specific programming workarounds. If you ever think that you have encountered a bug, this is a good place to check to see if it has been reported. Of course, the problem can be figuring out the necessary search terms to find the correct note. The URL is

<http://support.sas.com/kb/?ct=51000>

Also on this page are samples of SAS code along with the data needed to run the code. This is a very good place to start when you are looking at something either new to you or something that you don't use often enough to really understand.

SAS FOCUS AREAS

This page originally appeared on the SAS Support Site as SAS Communities. It provides links to discussions such ODS and Universal Printing. For the adventurous, there is a section of features that are included on an experimental basis such as ODS Statistical Graphics. The programmer uses these at their own risk and there is no guarantee that the final production versions will not have changes; however, we do have access to cutting edge items that may make life easier.

The URL is

<http://support.sas.com/rnd/index.html>

WHITE PAPERS

Here, SI presents very high level overviews of topics of current interest such as text mining. The page is indexed by industry, solution, and technology. There are links to Webcasts , Success Stories, and Analysts Viewpoints. The latter includes comparisons of SAS BI solutions compared with those of other vendors. See <http://www.sas.com/whitepapers/index.html>

SAS COMMUNITY

This is a generic grouping of a number of topics and I will deal some of these later. Items of interest are:

USER GROUPS

These range from those such as the one that we are now attending to regional groups that meet around the country and world to the big one, SAS Global Forum (formerly, SAS User's Group, International or SUGI). There are also conferences devoted to specific areas such as the pharmaceutical industry. At the regional level and above, these meetings last up to two and a half days and often include special sessions and training in the preceding and following days. Back in the days that the larger groups published paper proceedings, the SUGI volumes were the size of the yellow pages listings of a mid-sized city. The papers include offerings from SI as well as invited and volunteer speakers. Topics can be anything from nifty bits of code to research results to "how I saved ... using SAS". There are also tutorials on a range of beginning and advanced topics. Proc Report and Proc Tabulate are always popular. In addition to the opportunity to be overwhelmed by hundreds of papers, these meetings offer the chance to meet a lot of people from a variety of areas and interests. Many face common problems and there is often a chance to find solutions to your own problems in papers or bull sessions with people from other areas. SGF meets in the spring while most of the regionals (RUGs) meet in the fall. Some papers appear at more than one meeting. SI offers links to the more recent SGF/SUGI proceedings and some of the RUGs and LUGs (local groups) post their own papers. Lex Jansen has a personal site that has gathered a lot of this material. His URL appears later.

The initial page is <http://support.sas.com/usergroups/index.html>

Events

This page lists SAS-sponsored events, some of which are listed elsewhere, also. It also includes the web seminars.

E-Newsletters

This page lists five newsletters available from SI and provides links to several others from around the web. Topics include technical issues, training, and publications. As I was completing this paper, I received an email with a copy of the SAS Tech Report which is a new incarnation of a printed magazine called Observations. Among the items, there is a link to an entry in the Samples and SAS Notes page showing some less-common uses of the round function. For example

```
dt = dhms('12mar2003'D,14,23,10); * create a datetime - 2:23pm;

dt2 = Round(dt,hms(0,15,00));      * round it to nearest 15 minutes;
```

creates a date time value and then rounds this value to the nearest 15 minutes.

RSS FEEDS AND BLOGS

Really Simple Syndication (RSS) allow the user to be kept abreast of updates to a variety of SI pages including usage notes and corporate information such as press releases. Included with the feeds are two listservs that distribute updates on technical notes and the like. And, of course, there are several blogs for the Blog-inclined.

SAS DISCUSSION FORUMS

This page lists 10 discussion groups ranging from SAS Procedures to SAS in Health Care Related Fields. Unlike SAS/L (discussed later), SI employees can take and active part in these discussions. Judging from the statistics presented, some of these groups are more active than others.

THE SAS HOME PAGE

The home page offers links to recently released information and announcements. Selecting at random, I see a press release dated 4March2008 describing how SAS and a partner, Detica, are working with the Department of Defense on sifting intelligence information looking for the trails of those who finance and build IEDs in the Middle East.

SAS TECHNICAL SUPPORT

Technical Support offers voice and email consultation on programming problems. If your name is not in their files, you will need to provide your site id number which appears at the start of your log. The telephone number is 919-677-8008. There is one level that asks for a reply from your keypad (i.e., do you have an existing tracking number or is this a new issue). From that point, you deal with humans. The first one will ask the nature of your issue and will send you to a consultant in that area. I would say that their analysis is correct most of the time.

BEYOND SAS INSTITUTE

Now we really reach an open-ended set of opportunities. As I have hinted already, individuals or organizations have set up web sites where they post information that they think would be of interest or offer their services. My list will not be exhaustive. I will deal first with group efforts.

SAS/L

This is a listserv that is maintained as a joint effort by parts of the SAS community at large. Many of you have heard me speak of it before and you will hear of it again. The list has a world wide following and often receives close to a hundred postings most business days. Correspondents range from the newest users to those with broad experience and years of experience. Of course, answers can range from the crudest to the most elegant and everywhere in between. As a training tool, it is interesting to see the range of replies that some postings generate. If you still lack the confidence to publicly expose your answers, you can always work out a solution and then see what others offer. The list members are usually very polite and there are not many flames. Newbie questions are well-tolerated unless it becomes obvious that someone views the list as an easy means of getting their homework done without making any effort to solve the problem themselves. If you are working on a problem late at night on a weekend when more sensible programmers are not on line, the archives may hold a useful solution.

SAS/L may be viewed through several portals. To search the archives or join the group, go to

<http://www.listserv.uga.edu/archives/sas-l.html>

or, go to Google Groups (I do not know the details of joining this way).

When posting coding questions to the group, it is very helpful (and you will probably get speedier replies) if you include an actual data step that reads in your variables. When you have a problem that is more complex than something like "how do I find the second obs from each group of id variables", it is helpful to post the answer to the group. Thank you notes are also appreciated.

In order to protect the community from viri, the listserv automatically strips off attachments.

Although SAS Institute does not officially monitor the postings, participants occasionally receive private emails from Institute employees. These employees give the inside information on the subject and the employee is spoken of publicly only as a "little birdie".

SASCOMMUNITY.ORG

This is a very new resource that was founded about a year ago and is based on the Wikipedia model. From my observations, some of the active SAS/L contributors saw recurring themes in SAS/L questions and saw this approach as a means of posting articles that the community could keep up to date. Although I am presenting very little about this effort here, I highly recommend it to the newer users.

The URL is

http://www.sascommunity.org/wiki/Main_Page

SAS CONSULTANTS/CONTRACTORS

A number of individuals and companies who offer SAS services maintain websites. In addition to advertising their wares, some include educational materials. The following are in no particular order and there are many more that I have not mentioned.

ThotWave

ThotWave offers a variety of Business Intelligence services and does occasional web seminars.

<http://www.thotwave.com/>

SCONSIG

This site was originally intended to serve the consultant's community as a whole. It includes some information on salary surveys and job listings plus a number of tips and techniques. There are a number of useful links.

<http://www.sconsig.com/>

SAS CONSULTANT'S GROUP

This is discussion group that allows consultants to have frank discussions about work and work-related issues. One has to apply for membership. The URL is

<http://groups.google.com/group/sasconsulting>

QUALEX

Qualex provides SAS contracting services.

www.qlx.com

SIERRA INFORMATION SERVICES

Sierra offers consulting and training services. Recently, they have started presenting web based presentations of papers given at user group meetings. These presentations require that the participant place a toll call. They are also offering half-day fee-based on line classes. Copies of the papers can be found at

www.sierrainformation.com/

The web based presentations and classes may be found at

www.virtualsug.com

PROHELP

This is a page maintained by Gupta Programming. It provides lots of links to university sites, many of the SAS Institute pages that I have mentioned, and many more.

<http://www.prochelp.com/>

Gupta's home page is

<http://www.guptaprogramming.com/sasspots.htm>

where there are a number of other potentially useful links.

PERSONAL WEB SITES

I have no idea how many of these exist and the ones shown here are simply those that I have encountered one way or another.

LEX JANSEN

I have mentioned this site before. He has gathered as many of the user group proceedings as possible and offers other material as well.

www.lexjansen.org

MICHAEL FRIENDLY

Dr. Friendly does psychological research and has published a number of papers on statistical graphics and methods. His web site includes a number of these papers as well as macro code for some of his graphics.

His home page may be found at <http://www.math.yorku.ca/SCS/friendly.html>

CHANG CHUNG

Chang was recently voted the most valuable rookie of the year on SAS/L. His site lists a number of his papers as well as macros that he has written.

<http://changchung.com/>

ROLAND RASHLEIGH-BERRY

Roland has developed a large number of general purpose macros that may be downloaded. In addition, he has been working on clinical reporting macros and other medically-related macros.

<http://www.datasavantconsulting.com/roland/>

As I said at the start, the sites that I have presented are those that I have found or heard of and I do not for a moment suggest that this is a complete list. However, there is more than enough material to allow one to while away many an otherwise boring afternoon.

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