



HARTFORD AREA SAS® USERS GROUP

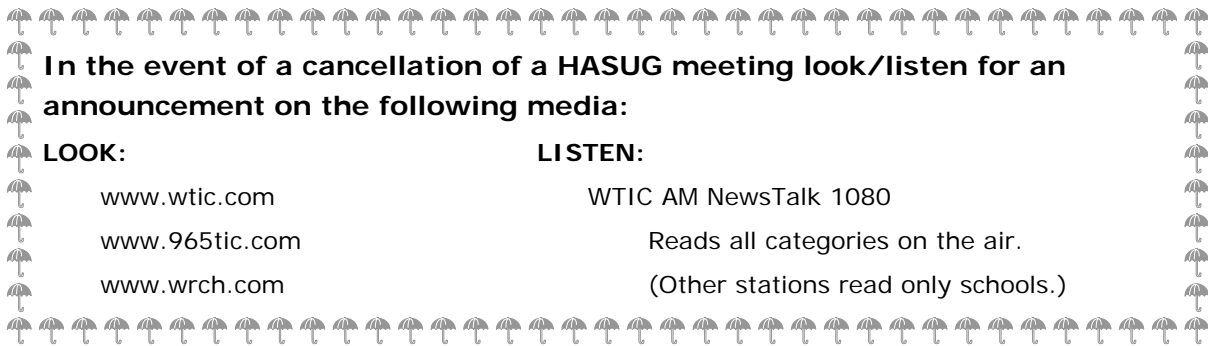
Volume 17 Issue 1

First Quarter, February 2005

Table of Contents

| | |
|--|----|
| Notes from the Chairman | 2 |
| Meeting Announcement, CIGNA-Bloomfield, CT | 3 |
| Calendar of Events | 3 |
| Highlights of November, 2004 HASUG Meeting | 4 |
| Editorial and Production Staff | 4 |
| Continuing with Education | 5 |
| Notes from NESUG 2004 | 6 |
| HASUG Recruiting Policy | 7 |
| HASUG Sponsorship Policy | 7 |
| Consultants Special Interest Group | 7 |
| HASUG Email Distribution List | 7 |
| Hyperlinks of Interest | 8 |
| Tips and Techniques, Disclaimer | 8 |
| Tips and Techniques | 9 |
| Steering Committee | 13 |
| Directions to CIGNA, Bloomfield, CT | 14 |

The HASUG Flash is available for reading on the World Wide Web at <http://www.hasug.org>
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In the event of a cancellation of a HASUG meeting look/listen for an announcement on the following media:

LOOK:

- www.wtic.com
- www.965tic.com
- www.wrch.com

LISTEN:

- WTIC AM NewsTalk 1080
- Reads all categories on the air.
- (Other stations read only schools.)

**Interim Chairman’s Notes
Karol Katz**

HASUG brings SAS users throughout Connecticut together to network and share ideas, applications, methods and tips. We invite your participation. Will you consider hosting a meeting, giving a presentation at a meeting or serving on the steering committee? There are many ways in which you can help. I have listed only a few of them below.

Host a meeting

Hosting a meeting is a great opportunity to have skilled programming professionals become acquainted with your business and facility. Here is a list of the things that a host would be expected to do:

- Set an available date which corresponds to our quarterly meeting schedule
- Reserve the meeting room and equipment
- Supply HASUG with the address, a map and directions on how to get to the facility and where to park
- Arrange for “coffee and” if your company will provide, or HASUG can bring refreshments.
- The host may supply the topics and presenters or HASUG can arrange for speakers.

Give a presentation:

There are many types of presentations that are given at our meetings. The presentations range from a 15-minute quick tip to an hour-long talk about some aspect of the SAS system that is relevant to many people. Some

of the advantages of giving a presentation include:

- Impressing your current employer
- Impressing your next employer
- Helping those around you that may have helped you
- Practicing your presentation skills in a casual, comfortable setting
- Presenting topics that you may present later at a more formal meeting
- Public praise and appreciation from HASUG attendees

Join the Steering Committee

The purpose of the steering committee is to plan future meetings and produce the newsletter, the HASUG Flash. There are four meetings a year in different sections in the state of Connecticut. There is a steering committee meeting after all of the presentations and a conference call in between the meetings. We meet, in total, eight times a year. The steering committee discusses topics for the meetings, presenters and articles for the Flash. We welcome your participation on the steering committee.

You are invited to join us, share your ideas, and help HASUG to grow.

Thanks to Michigan SAS Users Group www.misug.org for bulleted lists.

HASUG MEETING ANNOUNCEMENT

The next HASUG Meeting is planned for February 24 2005 at Cigna—Bloomfield, CT. 9:00 am to noon.

Our first topic will be: **What's New in SAS9?**
Presented by Rick Langston of SAS Institute.

ABSTRACT

Rick will talk about the new Base Product features in this new version, including ODS enhancements, performance improvements through threading technology in SUMMARY, DATA step enhancements, and new functions and formats.

SHORT BIO

Rick Langston is the manager of the Core Systems Department within the Platform R&D Division at SAS Institute. Rick's responsibilities include PROC FORMAT, format processing, date/time processing, licensing software, SAS/TOOLKIT Software. He also manages the staff for supporting various core-level subsystems in the Base product, such as the macro facility, system initialization, and language processing. He has delivered keynotes on various aspects of SAS for many regional and local SAS User group conferences in the past 10 years. Rick has been a SAS user for 27 years, 24 of which have been with SAS Institute.

Our second topic is: **A Peek at PROC DOCUMENT**

Presented by: Andrew Karp

ABSTRACT

If implementation of the Output Delivery System (ODS) in Version 8 changed the way you think about working with SAS procedure-generated output, then learning about PROC DOCUMENT, new to SAS 9, will change the way you think about the Output Delivery System itself. PROC DOCUMENT, along with the new Document Window and the ODS DOCUMENT Destination, revolutionizes the way we can work with the tables generated from applying ODS-compliant Procedures to your data sets.

This presentation shows you how these new features can be used to:

- reorganize your SAS generate output;
- save ODS tables as either permanent or temporary "documents" that you can re-use

repeatedly without having to re-run Procedures against data sets;

- work with ODS documents;
- use the Document Window to work with your ODS documents; and,
- use PROC DOCUMENT syntax to accomplish your tasks instead of using point-and-click methods in the Document Window.

"A Peek at PROC DOCUMENT" earned a "Best Paper Award" at the October 2004 Western Users of SAS Software (WUSS) regional conference in Pasadena, CA.

SHORT BIO

Andrew Karp is President of Sierra Information Services, Inc., a SAS Institute Quality Partner located in the California Wine Country north of San Francisco. Andrew has been using SAS Software in a variety of analytic and industry applications for 20 years, and is frequently invited to present at meetings around the world. He grew up on the east coast, and attended the George Washington University in Washington, DC for his undergraduate and

CALENDAR OF EVENTS

Future General Meetings and Conferences:

February 24, 2005 Cigna, Bloomfield, CT

May 19, 2005 The Hartford, Hartford, CT

May 22-25, 2005 PharmaSUG

August 18, 2005 TBD

HASUG Steering Committee Meetings:

February 24, 2005 After HASUG meeting

March 24, 2005 Conference call, 11:30-12:30

May 19, 2005 After HASUG meeting

November Meeting Highlights By Kevin Smith

The November 2004 meeting of the Hartford Area SAS Users Group was held on November 4, 2004 at the Pequot Tribal Nation Museum, in Mashantucket, Connecticut. We had a full agenda at this meeting as we had three wonderful speakers. The theme of the meeting was Data Mining, Cleansing and Modeling.

Michael Krumenaker, a Senior Project Manager from Palisades Research INC, gave the first presentation. Michael's presentation was titled "SAS Data Quality/Cleanse: Techniques for Merge/Purge on Very Large Datasets". The SAS System can merge/purge – the process of combining lists and removing duplicates – with the functionality provided by SAS Data Quality Solutions (SAS-DQ). In developing SAS programs for monthly merge/purge on hundreds of millions of records, Michael encountered various challenges including:

- (1) How to significantly decrease processing time
- (2) How to combine partially overlapping duplicate groups based on various criteria.

Michael walked the group through the reasons behind the DQ process within his company, the fuzzy matches, clusters and reasons behind using multiple sources to create the one record. His trial and error mechanisms, coupled with his examples were well received.

After a 15-minute break, our second speaker, Randy Collica, a SR Business/Data Mining Analyst from Hewlett Packard gave a presentation entitled "Data Mining Galore – For Business Applications." Randy gave an overview and structure of the customer data warehouse, data mart for data mining, issues for data cleansing and successful data mining, case studies and return on investment (ROI) projects for Hewlett Packard. Randy showed us how HP used raw text data clusters and survival data mining techniques to convert the raw text data into a relevant reporting mechanism. He showed us how data mining is used to understand and meet their customer needs.

Finally, our last speaker was Robert Chu from the SAS Institute. Robert's topic was "On-Demand SAS Predictive Model Scoring".

Application domains such as call centers, front office, and credit approval are requiring on-demand predictive model scoring. This presentation reviewed on-demand scoring issues and walked through all the needed steps live to deploy SAS predictive models. The five steps include:

- (1) Creating models in SAS Enterprise Miner
- (2) Registering models in a SAS metadata repository
- (3) Scoring in real-time with registered models
- (4) Scoring in batch with registered models
- (5) Summarizing and reporting scoring results.

Software tools used in the presentation included SAS Enterprise Miner, SAS Integration Technologies, messaging queues, and relational databases. Robert gave real world examples such as Amazon.com knowing what type of books you may want to purchase, by using previous purchases to predict future ones. His presentation was put together very well and was enjoyed by all.

This quarter we were able to hold a raffle for some SAS books that were donated by the SAS Institute. There were four lucky winners. HASUG would like to thank our hostess, Bonnie Laudig, and the Mashantucket Pequot

EDITORIAL and PRODUCTION STAFF:

| | |
|---------------|---|
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Continuing With Education...
Peter Prause, The Hartford

The SAS Institute Regional Training Center in Glastonbury, CT is offering these courses through June 2005. Course information for these courses and many other non-local courses is available on the Internet at the SAS web site: support.sas.com. To register for a course or to get more information, phone SAS Institute at 1-800-333-7660.

| | |
|--|--------------|
| SAS Programming II: Manipulating Data with the DATA Step | Mar 1-3 |
| Champion Training for Six Sigma | Mar 8-9 |
| SAS Programming III: Advanced Techniques | Mar 10-11 |
| Optimizing SAS Programs | Mar 22-23 |
| SAS Programming I: Essentials | Mar 29-31 |
| Creating Detail and Summary Reports | Apr 19-21 |
| Transactional Process Excellence with Six Sigma | Apr 27-May 9 |
| SAS Macro Language | May 4-5 |
| SAS Macro Programming: Advanced Topics | May 6 |
| SAS Programming I: Essentials | May 10-12 |
| SAS Programming II: Manipulating Data with the DATA Step | Jun 1-3 |
| Querying and Reporting Using SAS Enterprise Guide | Jun 13-14 |
| SQL Processing with SAS | Jun 15-16 |

When time and distance are an issue for you, SAS Institute offers Live Web classes and self-paced e-learning to help you get the training you need while accommodating your busy schedule. Call for more details.

Destiny Corporation is offering the following public courses at their new training facility located at 2075 Silas Deane Highway, Rocky Hill, CT. You can reach Destiny at 1-800-787-2464 or at 860-721-1684, or send an email to info@destinycorp.com. You can visit their web site at www.destinycorp.com.

| | |
|---|-----------|
| Programming II: Data Manipulation Using the Data Step | Feb 2-4 |
| Programming III: Advanced Techniques | Feb 17-18 |
| Programming I: SAS Essentials | Feb 21-23 |
| SQL Processing in SAS Software | Feb 24-25 |
| Programming IV: Optimization, Tips, and Techniques | Mar 3-4 |
| SAS Version 9 Changes and Enhancements | Mar 7-8 |
| Report Writing: A Programming Approach | Mar 17-18 |
| Output Delivery System (ODS) Basics | Apr 7-8 |
| Programming I: SAS Essentials | Apr 18-20 |
| Enterprise Guide: The Easy Way to Use SAS Software | Apr 21-22 |
| Programming II: Data Manipulation Using the Data Step | May 2-4 |
| Macros in SAS Software | May 9-11 |
| Introduction to Programming Using SAS Software | May 12-13 |
| Programming III: Advanced Techniques | May 16-17 |
| Output Delivery System (ODS) Basics | Jun 2-3 |
| SAS Version 9 Changes and Enhancements | Jun 9-10 |
| Programming I: SAS Essentials | Jun 20-22 |
| SQL Processing in SAS Software | Jun 27-28 |

In addition to Destiny's public course offerings, many of Destiny's courses are offered in a Virtual Learning Environment. Experience the quality and benefits of "Instructor Led" training from the comfort of your own pc. These courses cover the same basic content as traditional classroom training with the benefit of year long access and instructor support. Call or visit www.vdestiny.com for more details.

Sierra Information Services is presenting the following half-day, full-day and two-day SAS Software Training Seminars in CT during Feb. and March. Detailed seminar outlines and registration information are available at www.Sierrainformation.com. You may contact Sierra by phone toll free at 1-877-SIERRA9, or via email at training@sierrainformation.com with any questions. Early registration discount deadline

In New Haven at the New Haven Hotel,
229 George Street:

| | |
|---|---------|
| SAS 101: An Intro to the SAS System | Feb 28 |
| Summarizing and Reporting Data Using the SAS System | Mar 1 |
| SAS 201: Advanced SAS Programming Techniques | Mar 2 |
| Advanced Reporting with SAS ODS | Mar 3 |
| Treatment of Missing Data | Mar 4-5 |
| Survival Analysis of Longitudinal Data | Mar 6-7 |
| ODS for Data Analysts and Statisticians | Mar 8 |
| Intro to SAS ODS Statistical Graphics (half day AM) | Mar 9 |
| Unleashing the SAS 9 ODS Document Resources (half day PM) | Mar 9 |
| Getting the Most From SAS 9 Software | Mar 10 |
| SAS System Programming Efficiencies Tips & Techniques | Mar 11 |

Sierra Information Services

In Hartford at the Rensselaer Campus,
275 Windsor Street.

| | |
|---|--------|
| SAS 101: An Introduction to the SAS System | Feb 21 |
| Summarizing and Reporting Data Using the SAS System | Feb 22 |
| Advanced Reporting with the SAS Output Delivery System | Feb 23 |
| Intro to SAS ODS Statistical Graphics (half day, 1 to 5 pm) | Feb 24 |
| Getting the Most From SAS 9 Software | Feb 25 |

NESUG 2004
By Karol Katz

The 17th Annual North East SAS User's Group (NESUG) Conference was held on Nov 14-17 at the Inner Harbor Renaissance in Baltimore, MD. The hotel conveniently connects to a 4 level mall. For food, shopping and Starbucks one only had to take an escalator down one flight. NESUG is a volunteer organization. Thanks go to co-chairs Warren Stinson and Earl Westerlund and everyone who gave their time and energy to keep NESUG vibrant.

The keynote speaker, Sandy McNeil, SAS Institute, spoke of the many new and expanded features in SAS9. A large display of a Dremel (a power tool) appeared on the screen. The next slide showed a large assortment of 'bits', which when attached to the Dremel, served a particular need. Sandy offered the analogy of Base SAS, the SAS foundation, as the Dremel. Then each added module (or 'bit') extends SAS to meet the user's requirements.

NESUG offered concurrent sessions in Administration & Support, Analysis, Applications, Hands-on-Workshops, Ins & Outs, Presentation and Programming & Manipulation. If two talks I wanted to attend were scheduled at the same time, I chose one to attend and then read the other paper in the Proceedings. The complete NESUG 2004 proceedings, which includes all papers and posters is available in .pdf format. The URL is <http://www.nesug.org/html/Proceedings/nesug04.pdf> You can select a section to read

and print the papers that offer ideas and code you can use.

NESUG 2005 will be held on Sept 11-14 in Portland, Maine. This is earlier than usual and offers an opportunity to visit Maine early in the fall. The request for papers has been posted. Do you have a SAS application you would like to share? How about submitting your abstract for NESUG2005? Volunteering as a session coordinator involves a half day commitment. You can select the section that interests you most, and is one you would most likely attend anyway. Attending NESUG is an excellent

THE HASUG RECRUITING POLICY

HASUG's primary mission is to provide a forum for SAS professionals to meet and share experiences. HASUG also recognizes that searching for new employment opportunities is a normal activity when professionals meet. Since we depend on our respective employers to support HASUG by providing time for members to attend, prepare presentations, and provide meeting facilities, we do not wish to jeopardize those relationships we have all nurtured.

Therefore, when attending any of our quarterly meetings, we request that all parties engaged in recruiting activities be "professional and discreet", and suggest that such activities be carried outside and after our meetings. Those seeking or offering positions may display materials at a location designated by HASUG at each quarterly meeting. The materials may include resumes, job openings, contract opportunities, business cards, etc. None of the materials may include salary information. All such materials left after the meeting will be discarded. Violators of this policy may be asked to leave the meeting.

For other recruiting opportunities, please see the SAS CONSIG article elsewhere in this newsletter or visit www.sconsig.com

THE HASUG SPONSORSHIP POLICY

All parties are encouraged and welcome to attend our quarterly HASUG meetings scheduled during the months of February, May, August, and November of each year. Usually these meetings are scheduled the 3rd Thursday from 9:00 am to noon at various locations throughout Connecticut. Past locations have included Hartford, Meriden, Middletown, Norwalk, Glastonbury, Stamford and New Haven. We are always looking for new hosts within the state of Connecticut. If you feel your organization can host a meeting of up to 70 or so people, please contact one of the Steering committee members.

CONSULTANTS' SPECIAL INTEREST GROUP (SCONSIG)

The SAS Consultants' Special Interest Group (SCONSIG) operates and maintains a web site located at www.sconsig.com. The site lists employment opportunities, contracts, vitas, resumes, and companies seeking SAS professional talent. It is updated weekly. You are encouraged to visit that web site or to contact Charles Patridge at: Charles_S_Patridge@prodigy.net

HASUG2-L DISTRIBUTION LIST

This service is provided free of charge to all who wish to subscribe to the email notification process. In order to sign up for this service, you need only point your browser to the HASUG web site, <http://www.hasug.org>, and click the hyperlink

[Join HASUG Email Distribution List](#)

Or go directly to

<http://listserv.pace.edu/archives/hasug2-1.html>

then click on

[Join or leave the list \(or change settings\)](#)

After entering your name and e-mail address, there are a number of options available under "Subscription Type". If you know and understand the various options, feel free to alter them as desired. However, HASUG

suggests you leave them "as is". Your name and email address are not displayed nor given out to any party, including members of the HASUG steering committee. Only the list administrators have access to subscription information.

If you should change your email address under which you subscribed, you will need to unsubscribe with your old email address, and then re-subscribe using your new email address.

Typically, a notice is sent approximately 3 weeks before meetings, as well as a couple of days beforehand to remind people of the date, time, location and topics to be presented.

Only List administrators will be able to send out email messages to the HASUG2-L members.

HYPERLINKS OF INTEREST

SAS Users often ask, "How can I find any recent SUGI papers that deal with a particular subject?" Lex Jansen has put up the following link that lets one search the online SUGI proceeds using the Google search engine:

<http://www.lexjansen.com/sugi/>

Similarly, to search the SAS-L archives, one can use the following two links:

<http://www.axomsoftware.com/sas-l.php>

<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&group=comp.soft-sys.sas>

The SAS Consultants Special Interest Group's web site URL is:

<http://www.sconsig.com>

Read Past SUGI Proceedings Online at:
(link supplied by Curtis Smith):

<http://support.sas.com/usergroups/sugi/proceedings/index.html>

Information about the North East SAS Users Group (NESUG), including information about the 2004 conference in Baltimore can be found at:

<http://www.nesug.org>

SAS OnlineDoc is available from SAS on the World-Wide Web. To register to view SAS Version 8 OnlineDoc on the web, register at the following URL:

<http://www.sas.com/v8doc>.

To register to view SAS Version 9 Online Doc on the web, register at the following URL:

<http://www.sas.com/v9doc>.

Some of the papers and other handouts distributed at recent HASUG meetings can be found at the following two web sites:

<http://www.hasug.org>

<http://www.bassettconsulting.com>

TIPS AND TECHNIQUES FROM SCONSIG

Disclaimer:

"Each tip included here addresses a problem, and presents a use of one or more SAS concepts. Use it to stimulate your thinking and help you on your way to solving your own problem. Some tips may or may not work in your environment or with your version of the SAS Software, and you should use these tips with this in mind. Neither HASUG nor contributing Author(s) should be held responsible for any direct and/or indirect damage to you or your applications from using these free tips."

SAS, SAS/ACCESS, SAS/CONNECT, SAS/FSP, SAS/GRAPH, SAS/IntrNet, and SAS/STAT are registered trademarks of SAS Institute Inc., Cary, North Carolina.

TIPS AND TECHNIQUES FROM SCONSIG

Scrollable Tables

A common problem with viewing large tables in a Web browser is that the column headers only occur at the very top of the table. After you've scrolled down several rows, you can no longer see the column headers. Learn how Kevin Smith, a systems developer at SAS, has solved this problem.

Read More at: support.sas.com/rnd/base/topics/scrolling-table/?ETS=1803&PID=44951

Using the SCAN Function

Suppose you want to produce an alphabetical list by name, but your NAME variable contains FIRST, possibly a middle initial and LAST name. The SCAN function makes quick work of this. In his book, "SAS Functions by Example," BBU author Ron Cody explains how.

Read More at: support.sas.com/publishing/bbu_tip/cody_scanFunction.html?ETS=1803&PID=44951

Tipped Off! - Customizing Titles and Footnotes

By Lora D. Delwiche (University of California, Davis) and Susan J. Slaughter (Avocet Solutions)

When you send output to the Listing destination, you have little control over how titles and footnotes look. That's because the Listing destination uses only one font (SAS Monospace) and one color (black). Other destinations, such as HTML, RTF, PDF, and PostScript, give you more options. For these destinations, if you don't like the default appearance of titles or footnotes, you could use PROC TEMPLATE to define a custom style template. However, you can also change the appearance of titles and footnotes by inserting a few simple options directly in your TITLE and FOOTNOTE statements.

To learn how to do this, please visit

support.sas.com/publishing/tip.html.

TIP00405 - Macro to calculate deciles of a list of SAS variables from a single SAS dataset, and merge all the deciles onto a single record into an output SAS dataset using Proc Univariate by Charles Patridge

Read More at: <http://www.sconsig.com/sastips/tip00405.htm>

TIP00406 - Find and delete records that offset (net zero) each other but only when the absolute values are equal by Charles Patridge

```
/******  
/** TIP 00406  
/** Find and delete records that offset  
/** (net zero) each other but only when  
/** the absolute values are equal  
/******
```

```
/** create sample test file */  
data test;  
  claimno = 'A100';  
  x = -100; output; /** will offset with next  
  record */  
  x = 100; output; /** will offset with prior  
  record */  
  x = 100; output;  
  x = -50 ; output;  
  x = -50 ; output; /*** will offset with next  
  record */  
  x = 50 ; output; /*** will offset with prior  
  record */  
  x = 90 ; output;  
  x = 70 ; output; /*** will not offset with  
  next 2 records */  
  x = -35 ; output;  
  x = -35 ; output;  
  x = 70 ; output;  
run;
```

```
/** separate transactions into positive and  
negative datasets */  
data plus minus;  
  set test;  
  absx = abs(x);  
  if x ge 0.00 then output plus;  
  else output minus;  
run;
```

```

proc sort data=plus ; by claimno x ; run;
proc sort data=minus; by claimno absx; run;

/**** create unique id for each duplicate valued
record ****/
data plus;
set plus;
by claimno absx;
if first.absx then _cnt_ = 1;
else _cnt_ + 1;
run;

/**** create unique id for each duplicate valued
record ****/
data minus;
set minus;
by claimno absx;
if first.absx then _cnt_ = 1;
else _cnt_ + 1;
run;

proc sort data=plus ; by claimno x _cnt_ ;
run;
proc sort data=minus; by claimno absx _cnt_ ;
run;

/**** now join positive and negative records for
each equal ABS and delete if equal ****/
data join;
merge plus (in=p)
minus (in=m)
;
by claimno absx _cnt_;
if p and m then delete;
run;
/**** end of tip 00406 ****/

```

TIP00404 - A little example of what SAS Dictionary Tables can provide by Charles Patridge

```

/**** TIP 00404 ****/

/*****
/**** Dictionary Tables ****/
/**** ****/
/**** dictionary.catalogs ****/
/**** or sashelp.vcatalog ****/
/**** .columns .vcolumn ****/
/**** .extfiles .vextfl ****/
/**** .indexes .vindex ****/
/**** .macros .vmacro ****/
/**** .members .vmember ****/
/**** .options .voption ****/

```

```

/**** .tables .vtable ****/
/**** .titles .vtitle ****/
/**** .views .vview ****/
/**** ****/
/**** An Example of what you can find in the */
/**** Dictionary Tables or SASHELP V views*/
/**** ****/
/****Create a TEST Dataset in WORK Library**/
/**** to Illustrate ****/
/*****

```

```

options obs=20 linesize=255 pagesize=59
nocenter;

```

```

%let _mylib_ = WORK ; /**** Use WORK
LIBRARY for Demo Purposes ****/

```

```

/**** direct all output to external file for
review ****/
/**** you will need to know where this gets
created ****/
/**** or direct it to specific directory that you
know ****/

```

```

proc printto file="dictionary_tables.txt" new;
run;

```

```

/**** create a format table just so there is a
catalog entry in WORK
library to illustrate ****/
proc format;
value fmtz 0 = "0"
1-9 = "1"
10-25 = "2"
26-high= "3"
other = "?"
run;

```

```

/**** delete view or table TEST just to make
sure it does not exist ****/
/**** there will be warning message issued
depending on which one ****/
/**** does not exist or both do not exist
****/

```

```

proc sql; drop view test;
drop table test;
quit;

```

```

/**** Generate Test SAS Dataset in work
library ****/
data test (label="Dictionary_Table.sas" );
retain note "Test";
label note = "Dictionary Tables";

```

```

label today = "Today's Date";
label i     = "Counter";
label x     = "Squared";
label z     = "Dummy" ;
format note $20. i z2. x 5. z fmtz3. today
datetime. ;
today = today();
do i = 1 to 10;
  x = i**2;
  z = x+i;
  output;
end;
run;

/**** create an INDEX in Test dataset for
column Z
so there is an entry
for INDEX Dictionary Table for
demonstration Purpose ****/
proc sql; create INDEX Z on Test(Z); quit;

/**** Now Illustrate what each Dictionary
Table Contains
for MetaData about your SAS Session ****/

Title1 "Catalogs in &_mylib_";
proc sql;
  select *
  from dictionary.catalogs
  where upcase(libname) = "&_mylib_";
quit;

Title1 "Columns in &_mylib_";
proc sql;
  select *
  from dictionary.columns
  where upcase(libname) = "&_mylib_";
quit;

Title1 "Indexes in &_mylib_";
proc sql;
  select *
  from dictionary.indexes
  where upcase(libname) = "&_mylib_";
quit;

Title1 "Members in &_mylib_";
proc sql;
  select *
  from dictionary.members
  where upcase(libname) = "&_mylib_";
quit;

Title1 "Tables in &_mylib_";
proc sql;
  select *

```

```

  from dictionary.tables
  where upcase(libname) = "&_mylib_";
quit;

Title1 "Extfiles in &_mylib_";
proc sql;
  select *
  from dictionary.extfiles;
quit;

Title1 "Macros in &_mylib_ - GLOBAL only";
proc sql;
  select *
  from dictionary.macros
  /**** select only GLOBAL Macro Variables
****/
  where scope = "GLOBAL" ;
quit;

Title1 "Options in &_mylib_ starting with S";
proc sql;
  select *
  from dictionary.options
  /**** select only options starting with
letter "S" ****/
  where substr(optname,1,1) = "S" ;
quit;

Title1 "Titles in &_mylib_";
proc sql;
  select *
  from dictionary.titles ;
quit;

Title1 "Views in &_mylib_";
proc sql;
  select *
  from dictionary.views ;
quit;

/**** re-direct all output to default ****/
proc printto; run;

/**** end of SAS program ****/

/**** end of tip 00404 ****/

```

TIP00403 - Check for SAS Variable Consistency (type and length) across multiple Datasets within a SAS Library - Using SASHELP.VCOLUMN (dictionary view) by Charles Patridge

Read More at: <http://www.sconsig.com/sastips/tip00403.htm>

TIP00402 - Doing a Simple HASH Total for Quality Control on a Character Field by Charles Patridge

/** tip00402 ***/

/** To Do a Hash Total on a Character Field to determine if you read a field correctly ***/

/** this example assumes all special characters are assigned '00' values ***/
 /** Author: Charles Patridge ***/

```
proc format;
value $chrhash
'0'=0
'1'=1
'2'=2
'3'=3
'4'=4
'5'=5
'6'=6
'7'=7
'8'=8
'9'=9
'A','a'=11
'B','b'=12
'C','c'=13
'D','d'=14
'E','e'=15
'F','f'=16
'G','g'=17
'H','h'=18
'I','i'=19
'J','j'=20
'K','k'=21
'L','l'=22
'M','m'=23
'N','n'=24
'O','o'=25
'P','p'=26
'Q','q'=27
'R','r'=28
'S','s'=29
'T','t'=30
'U','u'=31
'V','v'=32
'W','w'=33
'X','x'=34
'Y','y'=35
'Z','z'=36
other = 00
;
run;
```

```
%macro hashchar(_hshvar_=, _sasvar_= );
/** _hshvar_ is the numeric summed values
of the characters read ***/
/** _sasvar_ is the character variable to read
***/
```

```
&_hshvar_ = 0;
do _i_ = 1 to length(&_sasvar_);
&_hshvar_ + input(put(substr
(&_sasvar_,_i_,1),$chrhash.), 2.);
end;
drop _i_ ;
%mend hashchar;
```

```
data test ;
infile cards missover;
input ;
record = _infile_;
cards;
123 !@#$$%^&*()_+ -=[]{}|\|<.,>?/
charlespatridge..
123charlespatridge
;;;
run;
```

```
data test;
set test;
%hashchar(_sasvar_=record,
_hshvar_=record_hash );
run;
/** end of tip 00402 ***/
```

Quick Tip: Using the PROPCASE Function

In his book, SAS Functions by Example, BBU author Ron Cody explains how to capitalize the first letters of words using the PROPCASE function in SAS 9.1.

Read More at: http://support.sas.com/publishing/bbu_tip/cody_propcaseFunction.html?ETS=1799&PID=44951

Data Storage Performance Tuning Techniques by Kirk Paul Lafler

Read more at: http://www.sconsig.com/sastips/data_storage_performance_tuning_techniques.pdf

TIP00128F - Another Data Scrubbing Routine - Similar to TIP 00128a but Much Faster - using Formats as a technique by Charles Patridge

Read More at: <http://www.sconsig.com/sastips/tip00128f.htm>

**Customizing Titles and Footnotes
By Lora D. Delwiche (University of California, Davis) and Susan J. Slaughter (Avocet Solutions)**

When you send output to the Listing destination, you have little control over how titles and footnotes look. That's because the

Listing destination uses only one font (SAS Monospace) and one color (black). Other destinations, such as HTML, RTF, PDF, and PostScript, give you more options.

For these destinations, if you don't like the default appearance of titles or footnotes, you could use PROC TEMPLATE to define a custom style template. However, you can also change the appearance of titles and footnotes by inserting a few simple options directly in your TITLE and FOOTNOTE statements.

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**DIRECTIONS to:
CIGNA Corp., Bloomfield, Connecticut**

FROM POINTS NORTH:

Follow I-91 South to Exit 35B (Route 281, Bloomfield/Windsor). Turn right at the end of the ramp and follow Route 218 West (Cottage Grove Road) for approximately 4 miles (13 lights). The main entrance to the CIGNA grounds is located on the left at the stoplight just past the intersection of Routes 189 (Bloomfield Ave.) and 218.

FROM POINTS SOUTH:

Follow I-91 North to Exit 35B (Route 281, Bloomfield/Windsor). Turn left at the end of the ramp and follow Route 218 West (Cottage Grove Road) for approximately 4 miles (14 lights). The main entrance to the CIGNA grounds is located on the left at the stoplight just past the intersection of Routes 189 (Bloomfield Ave.) and 218.

FROM POINTS EAST:

Follow I-84 West to Exit 61 (Route I-291 West). Remain on I-291 West to Exit 1 (Route 218). Turn left at the end of the ramp and follow Route 218 West (Cottage Grove Rd.) for approximately 4 miles (12 lights). The main entrance to the CIGNA grounds is located on the left at the stoplight just past the intersection of Routes 189 (Bloomfield Ave.) and 218.

FROM DOWNTOWN HARTFORD:

Take Asylum St. west (which becomes Asylum Ave.) to Scarborough Street. Turn right on Scarborough, then left at Albany Ave. (Route 44). Move immediately to the right lane and bear right onto Bloomfield Ave (Route 189). Turn left at the intersection of 189 and 185. The entrance to the CIGNA grounds is located in about a mile, on the right.

FROM POINTS WEST:

Follow I-84 East to Exit 41 (South Main St./Elmwood). Turn left at the end of the exit ramp and continue on Route 218 East (North/South Main St.) through West Hartford to Bloomfield. Turn right at the intersection with 185. Take your first left onto the CIGNA grounds.

CIGNA GROUNDS:

FROM POINTS SOUTH and NORTH and EAST:

Follow the main road around the blue, Wilde building to the South building. There is a small Visitor's lot at the entrance to this building. If this is full, go to Parking Lot "A". (Exit the South Building driveway turning left.) Take next left. Parking Lot "A" is on left. The South Building will be in front of you. Entrance is to the left (west).

FROM POINTS WEST and Downtown HARTFORD:

Take first right, then next left into Parking Lot "A". The South Building will be in front of you. Entrance is to the left (west). Or, there is a small parking that will fill early at your second right.

PARKING MAP AT:

www.hasug.org/directions/directions_cigna_bloomfield.htm