

## Paper 431-2011

## Enough Really Good SAS® Tips to Fill a Book

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### ABSTRACT

You may or may not be familiar with SAS-L, the listserv-based bulletin board where many SAS users have been going, since 1986, to learn more about SAS, help other users, or get answers that they couldn't find elsewhere. Regardless of whether you are familiar with SAS-L, you've probably seen SAS-L posts, as they are often among the results of any SAS-related web search.

In 2006, Michael Raithel challenged SAS-L members to post tips that the SAS community might find helpful. The thread, titled *OT: Chance to Make SAS-L History: Did You Know That...*, is still active, has received almost 470 replies and over 250 different tips. While many of us have learned a lot from those posts, until now no one has categorized and shared the tips with the rest of the SAS community. This paper describes an index of those tips that the author developed as a sascommunity.org page, discusses the merits and limitations of the effort, and presents overviews of several of the author's favorite tips.

### BACKGROUND

A number of SAS Global Forum, SUGI and regional user group papers, over the years, have discussed the availability and merits of the various SAS-related discussion forums, bulletin boards and informational sites that are available for free to all SAS users. SAS-L, the oldest of those forums, is a user run bulletin board that started in 1986 and is currently housed on the University of Georgia's ListServ.

In an environment like a bulletin board a *thread* is synonymous with a *conversation*. That is, a bulletin board is like an oversized, permanent, shared email inbox, comprised of numerous conversations, with each conversation having been started by someone sending an email. And, like any set of emails, each post contains a subject line, a date, the sender's email address and a body that might contain a question, an explanation, a comment or an answer. The emails which share a common lineage comprise a thread.

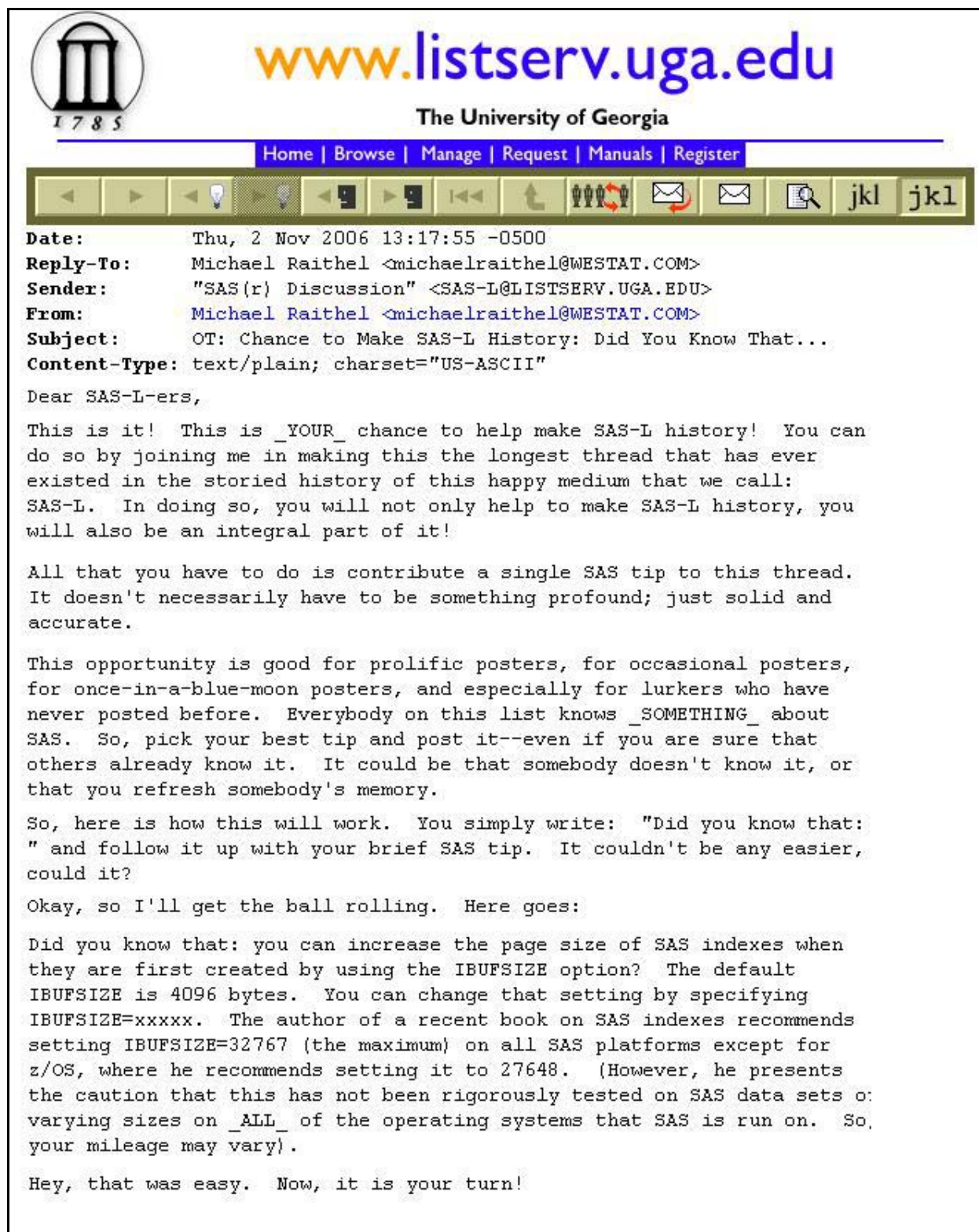
The thread, titled *OT: Chance to Make SAS-L History: Did You Know That...*, may have had the SAS community's common good in mind when Michael Raithel started it on November 2, 2006. The post, shown in Figure 1 on the following page, contained three distinct messages. First, Michael asked SAS-L members to join him in creating "the longest thread that has ever existed in the storied history of this happy medium we call: SAS-L." Second, he asked everyone to contribute a SAS tip to the thread. And, finally, he provided a tip about how to optimize the use of SAS indexes.


The thread is still active, even today, but has already accomplished Michael's stated goal of creating SAS-L's longest running thread. At the time of this writing the thread had already amassed almost 470 replies.

### PURPOSE

While it may or may not have been Michael's primary intent, the thread did entice SAS-L members to provide over 250 different tips, many of which were new to even the most seasoned of SAS users. Of course, Michael's thread wasn't the first time that a collection of SAS tips had been amassed. Phil Mason started posting a *SAS Tip for the Day*, on SAS-L, beginning in August 1994. Phil, of course, subsequently amassed his tips into two editions of *In the know ... SAS tips and techniques from around the globe*.

Other collections of SAS tips can be found on Charles Patrige's *sconsig.com web site*, the *SAS technical tips archive*, sasCommunity.org's *sasCommunity Tip of the Day*, Roland Rashleigh-Berry's *SAS tips and techniques page*, Chris Hemedinger's *The SAS Dummy blog*, Dr. Chong Ho Yu's *SAS Tips page*, many SAS Global Forum, SUGI and regional user group papers (there are over 8 SAS Global forum tips-related papers this year alone) and likely numerous additional resources I don't even know about.



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**Date:** Thu, 2 Nov 2006 13:17:55 -0500  
**Reply-To:** Michael Raithel <michaelraithel@WESTAT.COM>  
**Sender:** "SAS(r) Discussion" <SAS-L@LISTSERV.UGA.EDU>  
**From:** Michael Raithel <michaelraithel@WESTAT.COM>  
**Subject:** OT: Chance to Make SAS-L History: Did You Know That...  
**Content-Type:** text/plain; charset="US-ASCII"

Dear SAS-L-ers,

This is it! This is YOUR chance to help make SAS-L history! You can do so by joining me in making this the longest thread that has ever existed in the storied history of this happy medium that we call: SAS-L. In doing so, you will not only help to make SAS-L history, you will also be an integral part of it!

All that you have to do is contribute a single SAS tip to this thread. It doesn't necessarily have to be something profound; just solid and accurate.

This opportunity is good for prolific posters, for occasional posters, for once-in-a-blue-moon posters, and especially for lurkers who have never posted before. Everybody on this list knows SOMETHING about SAS. So, pick your best tip and post it--even if you are sure that others already know it. It could be that somebody doesn't know it, or that you refresh somebody's memory.

So, here is how this will work. You simply write: "Did you know that: " and follow it up with your brief SAS tip. It couldn't be any easier, could it?

Okay, so I'll get the ball rolling. Here goes:

Did you know that: you can increase the page size of SAS indexes when they are first created by using the IBUFSIZE option? The default IBUFSIZE is 4096 bytes. You can change that setting by specifying IBUFSIZE=xxxxx. The author of a recent book on SAS indexes recommends setting IBUFSIZE=32767 (the maximum) on all SAS platforms except for z/OS, where he recommends setting it to 27648. (However, he presents the caution that this has not been rigorously tested on SAS data sets of varying sizes on ALL of the operating systems that SAS is run on. So, your mileage may vary).

Hey, that was easy. Now, it is your turn!

**Figure 1**  
**The Original "Chance to Make SAS-L History: Did You Know That ..." Post**

The original purpose of the present paper was to publish an index that organized the collection of amassed tips into a format that would make the posts easily accessible by the rest of the SAS community. One complaint that some SAS-L members had regarding the original thread was that they didn't think the rest of the community would know how to find the collection of posts. However, once we developed the index, we realized that simply publishing it in the conference proceedings wouldn't allow the index to be updated, which was essential since the thread is still active.

Thus, we decided to provide the index as a page on sasCommunity.org. While not our intent, creating the page resulted in an unanticipated benefit, namely making the posts appear when one did a web search. One of the problems we all confront in doing web searches these days is the fact that desired findings get lost amongst the many irrelevant hits that happen to match our selected keywords. However, using the *site:* Google search feature, or just including sas-l and sascommunity.org as additional keywords, often eliminates many of the irrelevant findings.

This was important to the present effort because many SAS users rely on web search tools when trying to find answers to SAS-related questions. This is not to say that the index isn't a good read in and of itself but, given the fallibility of human memory, it is probably more important for SAS-related information to be searchable.

## THE INDEX

Part of the index's first page is shown, below, in Figure 2. As you can see, the index begins with a brief description of the project, then contains a link from which a spreadsheet version of the index can be downloaded and, finally, the index itself.

The index has four columns. The first column, labeled *Link*, provides links to the actual posts that contain the tips. The second column, labeled *Date*, provides the dates on which the tips were posted. The third column, labeled *Subject*, provides a brief description of every tip. The fourth column, labeled *Category*, provides our crude attempt at categorizing the various tips.

One of the benefits of the index being posted as a Wiki is that the SAS Community is free to change our initial categories if it is determined that better and/or different categories might make improve the page's utility. Similarly, since the page is downloadable as a spreadsheet, users can personalize the categories to better meet their own specific needs and can sort it in whatever order they want.

Index to SAS-L Chance to Make SAS-L History Posts			
<p>In 2006, Michael Raithel challenged SAS-L members to become part of a thread that was intended to be the longest running SAS-L thread ever. The goal of the thread, other than to become the longest running thread, was to get people to share things that they thought would be useful to other SAS users.</p> <p>Well, the thread did indeed become the longest running one ever on SAS-L, and is still ongoing, but was criticized because it was just a bunch of posts without any inherent organization.</p> <p>The goal of this page is to provide a way for people to discover those posts and categorize them as desired. I've attached the index as a spreadsheet to make it easy for people to save the spreadsheet and modify it as desired. The sheet contains the same information as shown in the table, below, including links to all of the posts that actually contained tips, brief summaries of every post, the posting dates, and my crude attempt to assign each post to a category.</p> <p>If you want a copy of the spreadsheet, itself, click on the following link: <a href="#">File:Chance to make sas-l history.xls</a>.</p>			
Link	Date	Subject	Category
<a href="#">219909</a>	2-Nov-2006	you can increase the page size of SAS indexes when they are first created by using the IBUFSIZE option?	Useful to know
<a href="#">219910</a>	3-Nov-2006	title statement options that were originally supported only in SAS/GRAPH to support changing the height and justification of title and footnote text are now supported in many ODS destinations?	Useful to know
<a href="#">219911</a>	3-Nov-2006	As an aid to figuring out what your created data sets are about when a few days have elapsed, consider using data set labels	Data Set Labels
<a href="#">219914</a>	3-Nov-2006	options details ; (in your autoesec.sas) or -details in your config (sasv9.cfg) file will display dataset labels (and n-rows and n-cols) in the details display of a SAS Explorer window	Useful to know

**Figure 2**  
**Index to SAS-L Chance to Make SAS-L History Posts**

## THE AUTHOR'S FAVORITES

While I've selected my five favorite tips, they definitely do not necessarily represent the five best or most useful tips. They just happened to be five things I didn't know about before the thread began and which I appreciated discovering. Of course, there were other tips from which I also learned about things I didn't know and it would be easy to fill a book describing the entire collection.

### DID YOU KNOW THAT YOU CAN USE THE HASH METHOD TO SPLIT A FILE?

Sashelp.class is a file that comes with every SAS installation and describes what must either be a one-room, outback schoolhouse, or an extremely small school. Specifically, it contains records on 9 female and 10 male students, whose ages range between 11 and 16.

Did you know that if you needed to split that file into two files, one for males and another for females, you could easily accomplish it with two simple datasteps?

First, use a datastep to create an index:

Line	Code
1	data temp (index= (sex));
2	set sashelp.class;
3	run;

Then, write a data \_null\_ step that defines a hash and outputs the desired files:

Line	Code
1.	data _null_;
2.	dcl hash hh ( );
3.	hh.definekey ('k' );
4.	hh.definedata ('sex', 'name', 'age', 'height', 'weight');
5.	hh.definedone ();
6.	do k= 1 by 1 until ( last.sex );
7.	set temp ;
8.	by sex ;
9.	hh.add ();
10.	end ;
11.	hh.output (dataset: sex);
12.	run;

### DID YOU KNOW THAT YOU CAN STILL USE OLD STYLE MACROS?

Old style macros start with the word macro, followed by the macro name and a semi-colon. Everything between the initial semi-colon and a % sign represent the macro. And, with old style macros, simply typing the macro's name is sufficient (i.e., no ampersands or percent signs are needed). Thus, for example, the following code would make the letter p represent and run a complete proc print statement:

Line	Code
1.	macro p;
2.	proc print;
3.	run;
4.	%

**DID YOU KNOW THAT YOU CAN GET SAS TO SEND YOUR CELL PHONE A TEXT MESSAGE?**

Have you ever started a job, and then left for the night or weekend, only to wonder if the job really finished without resulting in any notes or warnings? Did you know that could have gotten SAS to send a customized text message to your cell phone letting you know how the job went?

```

Line                                     Code
-----
1.  filename mail email
2.  5555551234@mobile.mycingular.net
3.  subject= "A message from SAS";
4.
5.  data _null_;
6.    file mail;
7.    put "Your job finished!
8.        Go have a nice weekend.";
9.    put "!EM_SEND!";
10. run;

```

**DID YOU KNOW THAT YOU CAN USE PROC SUMMARY TO TRANSPOSE DATA?**

Suppose you had the following file:

```

Line                                     Code
-----
1.  data have;
2.    input memberID IC charge;
3.    cards;
4.  1 301 5207
5.  1 301 .
6.  1 . 6082
7.  2 473 5207
8.  2 473 5207
9.  2 301 6082
10. 3 325 6082
11. 3 473 5207
12. 4 473 94
13. 4 352 94
14. ;

```

And you needed to have the following file:

```

Line                                     Code
-----
1.  data need;
2.    input memberID IC_1-IC_3
3.        charge1-charge3;
4.    cards ;
5.  1 301 301 . 5207 . 6082
6.  2 473 473 301 5207 5207 6082
7.  3 325 473 . 6082 5207 .
8.  4 473 352 . 94 94 .
9.  ;

```

Did you know that you could do it with one proc summary call?

```

Line                                     Code
-----
1.  proc summary nway data=have missing;
2.    class memberID;
3.    output out=want (drop=_)
4.        idgroup(out[3](ic charge)=);
5.  run;

```

## DID YOU KNOW THAT SAS HAS A PROCEDURE THAT CAN CHECK FOR SPELLING ERRORS?

Suppose you had the following file:

```

Line                                     Code
-----
1.  options caps;
2.  filename temp temp;
3.  data _null_;
4.    file temp;
5.    informat sentence $100.;
6.    input sentence &;
7.    put sentence;
8.    cards;
9.  Let's see if sas spell procdure can be used
10. to verify whether tha seperate words in
11. this, uhm, flie are, uhm, valid against a
12. stantard internal dictionary and let's see
13. how versatile it is
14. ;

```

Did you know that there is a no longer documented procedure in SAS that can be used to identify how frequently each word is used, which words appear to be misspelled and, for any misspellings, suggest alternatives?

For example, to find out how often each word was used one could just run:

```

Line                                     Code
-----
1.  proc spell in=temp nomaster;
2.  run;

```

To identify any words that aren't in the system's dictionary one could just run:

```

Line                                     Code
-----
1.  proc spell in=temp verify;
2.  run;

```

To obtain suggestions for any identified misspelled words one could just run:

```

Line                                     Code
-----
1.  proc spell in=temp suggest;
2.  run;

```

The procedure can be used to check the spelling in external files, or in SAS catalog entries of type HELP or CBT, and can be used to create new or update existing dictionaries.

## CONCLUSION

The purpose of the project described in the present paper was to create and publish an index to the tips that were amassed as part of Michael Raithel's Chance to make SAS-L History thread. In accomplishing that goal the paper's author discovered some of the benefits of utilizing [sasCommunity.org](http://sasCommunity.org) as a vehicle for both housing such an index and making the provided tips more accessible to all SAS users by increasing their chances of their discovery during the conduct of any web search for SAS-related information.

**DISCLAIMER**

The contents of this paper are the work of the author and do not necessarily represent the opinions, recommendations, or practices of the author's organization.

**CONTACT INFORMATION**

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