

VIEWS

International SAS Programmer Community



News, Hints, Tips and Information
for SAS® Users

Issue 64, 2nd Quarter 2021

This newsletter issue contains an article from new VIEWS Consultant Steve Bloom on avoiding variable truncation when appending data sets, and I have added an article on macro syntax specifically to encourage discussion and a report on the recent virtual SAS Global Forum. As usual I have publicised some SAS-related events for the next few months, and I have also added some more SAS formats, options and functions that you may or may not have come across before, but you might find interesting, and even useful.

If you would like to contribute an article, to re-visit and improve an existing article, or just discuss the possibility of doing so, please feel free to send an email to me at views-uk@hollandnumerics.org.uk.

Philip R Holland (Newsletter Editor)

Membership of VIEWS is **free** and you can register for notification of all future VIEWS News issues by registering at blog.hollandnumerics.org.uk, and then emailing views-uk@hollandnumerics.org.uk, or using the blog site menu, to request access to the VIEWS UK forum. Members will receive an email notification whenever a new issue of the free quarterly VIEWS News is published on the web site, please inform us when you change your email address, otherwise your registration may be cancelled.

Did You Know?

If you have a useful hint or tip, please send it to the Editor, and share it with the VIEWS membership.

Avoiding truncation when appending datasets

It is often the case where a number of data sets need to be appended, but the individual character variables have different lengths. If the data sets are read in the correct order, with the longest variables first, the lengths are correctly specified for the values in the variables. However, if the order is not correct, then the data can be truncated.

In some cases, certain variables may have a greater length in one dataset, whereas other variables have a greater length in another dataset, so there is no possible correct order to avoid this issue.

```
DATA a;  
  x = "x"; y = "yd";  
RUN;
```

```
DATA b;  
  x = "x"; y = "y";  
RUN;  
  
DATA c;  
  x = "xd"; y = "y";  
RUN;  
  
DATA dsout2;  
  SET a b c;  
RUN;
```

The DSOUT2 data set created has truncation of the values in variable x, because the first variable length is honoured:

	x	y
1	x	yd
2	x	y
3	x	y

The standard solution would be to use a length statement before the set statement in data step. This is potentially very laborious and time consuming; there could be 100+ text variables. I've seen other macros out there that would use proc contents on all the input datasets, then work out the maximum length of each variable. This is the proverbial sledge hammer to crack a nut, when such a simple solution exists.

```
*****  
| Macro Name : setnotrunc.sas  
| Parameters :  
|   dsout = output dataset  
|   dsin = input datasets separated by blanks  
|   indexvar = index variable (default=indexvar)  
*****;  
  
%MACRO setnotrunc(  
  dsout=  
  , dsin=  
  , indexvar=indexvar  
);  
  PROC SQL;  
    CREATE TABLE &dsout. AS  
      SELECT *  
        ,1 AS &indexvar.  
      FROM   %SCAN(&dsin., 1, %STR( ))  
%DO igc = 2 %TO  
  %SYSFUNC(COUNTW(&dsin., %STR( )));  
  OUTER UNION CORRESPONDING  
  SELECT *  
    ,&igc. AS &indexvar.  
  FROM   %SCAN(&dsin., &igc., %STR( ))  
%END;  
  ;  
  QUIT;  
%MEND setnotrunc;
```

```
%setnotrunc (dsout=dsout, dsin=a b c);
```

This DSOUT data set created has no truncation of the values in variable x:

	 x	 y	 indexvar
1	x	yd	1
2	x	y	2
3	xd	y	3

Steve Bloom, Independent Statistician

Ask The Consultant

This part of VIEWS News is where you can get your technical questions answered. Send your questions to the Editor.

Annoying SAS Programming Styles: Part 5

Q: Why should I append the name of a macro to the %MEND statement?

A:[SAS] The appending of the macro name to the %MEND is optional, and adding the wrong name will generate a WARNING message in the SAS Log, which could discourage its inclusion. However, adding the macro name could help when it is unclear which macro has a syntax issue.

1. The following macro code is complete, and relatively short, so any syntax issues should be easy to find:

```
%MACRO one;
* some code *;
%MEND;
%MACRO two;
* more code *;
%MEND;

%one
%two
```

2. The following macro code is missing a %MEND statement, but from which macro has the statement been omitted? Even though nested macros are generally encouraged, the SAS parser will assume that the missing %MEND statement is related to %three after the end of %four. However, this cannot be proved by looking at the code:

```
%MACRO three;
* some code *;
** <--- missing %MEND three? **;
%MACRO four;
* more code *;
** <--- missing %MEND four? **;
%MEND;

%three
%four
```

3. The following macro code is missing a %MEND statement, and the macro names appended to the other %MEND statement should make it easier to work out which %MEND statement has been omitted, but not necessarily where:

```
%MACRO five;
* some code *;
** <--- missing %MEND five? **;
%MACRO six;
* more code *;
%MEND six;
** <--- missing %MEND five? **;

%five
%six
```

4. The following macro code includes 2 copies of the code in (3), but the indentation gives extra information about where the missing %MEND statement could be:

```
%MACRO seven;
* some code *;
%MACRO eight;
* more code *;
%MEND eight;
** <--- missing %MEND seven? **;

%seven

%eight

%MACRO nine;
* some code *;
** <--- missing %MEND nine? **;
%MACRO ten;
* more code *;
%MEND ten;

%nine

%ten
```

It is often argued that adding the macro name to %MEND is an unnecessary overhead, but I truly believe that the readability argument beats the overhead argument if your code is ever likely to be reused or maintained by anyone else. Also a little indenting can go a long way! Whatever time you might have saved by not adding it will be lost many times over later, so it is a false economy!

Philip R Holland (Newsletter Editor)

Conference News

Virtual SAS Global Forum 2021

This year's SAS Global Forum was a virtual conference with video user presentations published between 18-25 May in 3 regions: America, Asia Pacific and EMEA. This allowed SAS users in the 3 regions to watch the SAS announcements, keynote speakers and entertainments in their own time zones. My particular favourites amongst the entertainments were Keith Urban's interview and music, and the SAS Bowl quizzes.

Some user presentations had live question and answer sessions on YouTube, which gave the impression that the presentations were nearly live too, but this was a long way from the truth, as most of the user presentations had been recorded 3 months earlier in February!

If you attended the conference from one of the regions, then you will know that the conference proceedings can now be accessed via SAS Communities at <https://communities.sas.com/t5/SAS-Global-Forum-Proceedings/tkb-p/proceedings-2021>, where you can find links to the papers, slides and videos. I would strongly encourage you to browse through these papers and watch the videos, as there is a wealth of SAS information you can learn about there, including my own paper on Enterprise Guide and SAS Studio!

Philip R Holland (Newsletter Editor)

Formats, Options, and Functions

This section is devoted to the description of useful, or unusual, SAS Formats, Options, and Functions. Please read the SAS documentation to find out more about them.

[SAS 9.4] The SAS format \$UUIDw. will convert a 16-byte or longer string into a 36-character Universally Unique Identifier (UUID), e.g. '1548611fb8cb6a47a721a6fd284e74f2'x will be converted to '1548611f-b8cb-6a47-a721-a6fd284e74f2'.

[SAS 9] When writing to PDF files the bookmark generation option **ODS PDF BOOKMARKGEN** is the default. **ODS PDS NOBOOKMARKGEN** can be used to switch off bookmark generation when writing to PDF files.

[SAS 9] The Base SAS Data Step function **FCOPY()** can be used to copy every record from one fileref to another. It returns 0 if the records were copied without errors or warnings, a positive value if errors occurred, and a negative value if warnings were issued.

In Brief

- Back issues of *VIEWS News* are available from the VIEWS UK forum at blog.hollandnumerics.org.uk. Please register for free membership on the blog, and then request free access to the VIEWS UK forum.
- The SAS Professional Forum group on LinkedIn, which currently has over 36,200 members. Everyone is welcome to request to join, but discussions here are restricted to SAS-related topics: www.linkedin.com/groups?gid=70702.
- The SAS Opportunities group on LinkedIn, which currently has over 13,400 members. Everyone is welcome to request to join, but discussions here are also restricted to SAS-related topics: www.linkedin.com/groups?gid=805217.
- In the UK and Ireland the SUGUKI group had been holding regular meetings in London, and also occasional meetings in Bristol, Dublin, Edinburgh, Leeds and Manchester. Unfortunately lockdown has necessitated running webinars instead. For more details and to register for future events please go to meetup.com/SUGUKI.
- Fancy joining the SAS EMEA Analytics Explorers, then please send your **country, name, email address** and **company** with your permission to pass these details on to SAS to views-uk@hollandnumerics.org.uk. Other regions include Asia Pacific, Canada, Latin America and US, but to join these communities based on where you live, you will now need to provide this information to a current member of these communities, instead of me. Sorry, but this is a change from the information in *VIEWS News* issue 61!
- WPS Community Edition provides users with free access to WPS Analytics software including a SAS language compiler with coding and workflow tools on unlimited data volumes. A Community Edition licence key will be issued that will activate the software for up to six months. At the end of this term, users may be invited to renew their licence and to upgrade to the latest available version of the software. No technical support service is offered with the Community Edition. Download from www.worldprogramming.com/try-or-buy/editions. Note that the software is made available without warranty or indemnity, and is not made available to US residents.

Diary

Are you organising an event that would be of interest to the VIEWS readership? Let us know as we are interested in all non-profit making events related to SAS.

July 2021

1 Virtual SUGUKI Meetup

For more details about times and speakers please go to the SUGUKI web site at meetup.com/SUGUKI.

August 2021

5 Virtual SUGUKI Meetup

For more details about times and speakers please go to the SUGUKI web site at meetup.com/SUGUKI.

27-28 PharmaSUG China, Shanghai, China

For more details about times and speakers please go to the PharmaSUG China web site at www.pharmasug.org/china.

September 2021

2 Virtual SUGUKI Meetup

For more details about times and speakers please go to the SUGUKI web site at meetup.com/SUGUKI.

12-14 MWSUG, Pittsburgh, PA, USA

For more details about times and speakers please go to the MWSUG web site at www.mwsug.org.

October 2021

29 PharmaSUG North Carolina, Chapel Hill, NC, USA

For more details about times and speakers at this Single Day Event please go to the PharmaSUG web site at www.pharmasug.org.

November 2021

15-19 Virtual PhUSE EU Connect

For more details about times and speakers please go to the PhUSE web site at www.phuse-events.org.

April 2022

10-13 SAS Global Forum, San Diego, CA, USA

For more details about times and speakers please go to the SAS Global Forum web site at www.sasglobalforum.org.

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