



SAS 9.1 has now been launched in the UK and so there is a collection of SAS 9 formats, options and functions that hopefully you will find useful when your new version of SAS is delivered. There are also 2 new *VIEWS* consultants to introduce in this issue, Venkata Putcha and Simon Williams, as well as some of our regular contributors.

While the *VIEWS* 2004 Conference is still fresh in the minds of those who attended, I have written a short conference report for those who missed it (see the News section). The *VIEWS* Committee is already looking forward to the *VIEWS* 2005 Conference in April next year, so why not have a think about a presentation you could give there.

If you would like to contribute an article, or discuss the possibility of doing so, please send an email to me at newsletter@views-uk.org. A list of possible subjects for your articles can be found on the *VIEWS* web site, and anyone is very welcome to add to that list by sending emails with your own questions to newsletter@views-uk.org.

Philip R Holland (Newsletter Editor)

Membership of *VIEWS* is **free** and you can register for notification of all future *VIEWS* events by emailing us at membership@views-uk.org, making certain you include your name and postal address. If you would like to receive a free copy of the quarterly *VIEWS* News by email, please remember to also include your email address.

Stop Press!

Enterprise Guide to be bundled with SAS 9.1!

In response to a question I asked at the SAS User Forum held in London in October 2003, I received the following statement from Richard Kellett (SAS UK) at the recent SAS 9 Launch Day:

"The policy is that Enterprise Guide is supplied with Base SAS on the Windows platform. This is for standalone usage only."

Please note that this only applies to SAS licenses in the UK.

Philip R Holland (Newsletter Editor)

News

Report on the *VIEWS* 2004 Conference

The 2-day *VIEWS* 2004 Conference was held on Wednesday and Thursday 19-20 May 2004 at the Commonwealth Conference and Events Centre in Kensington, London, and attracted a total of 166 delegates over both days.

The conference was split into 3 streams: Papers, Tutorials and SAS 9 Launchpad. While the other rooms were air-conditioned, the Garner Room hosted the SAS 9 Launchpad, which was hot in more ways than one. The doors were opened and fans brought in from lunchtime on the first day. In spite of the conditions, the room was still filled on both days. Presenters travelled from as far away as Australia and the USA, but the award for Best User Paper was won by John Palmer from Friends Provident for his paper "Nursing SAS on the Mainframe". All the papers and/or presentations can be downloaded via the *VIEWS* web site.

Thanks are due to the conference sponsors, Amadeus Software, Destiny Corporation, Mango Solutions and Oxford Pharmaceutical Sciences, who provided welcome support, presentations and prizes.

Planning has already started for the *VIEWS* 2005 Conference in April next year. This year the organisers again provided most of the presentations, so the *VIEWS* Committee are considering cash incentives and free registration for paper presenters, to encourage some more user papers. It's never too early to plan your presentations so please start sending your 2005 abstracts to abstracts@view-uk.org.

Philip R Holland (Newsletter Editor)

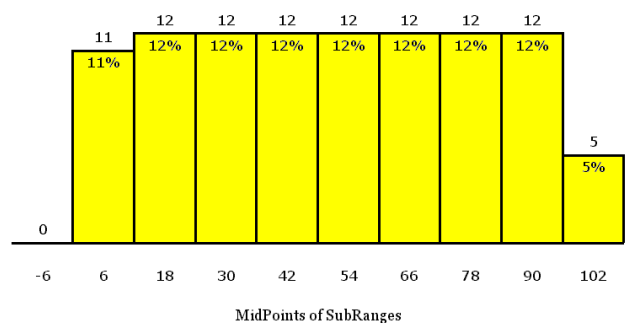
Did You Know?

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

Can I Create a Histogram with SAS/GRAPH?

Yes, but the results from the obvious method may not be what you expected.

Counterintuitive Histogram of Counts & Percents, using the SAS/GRAPH LEVELS= feature for the VBAR statement to split the data range into 10 subranges & label their midpoints
Not a result expected for 100 distinct values in the range 1-100



```

DATA TestData;
  RETAIN x 0;
  DO i = 1 TO 100;
    x = x + 1;
    OUTPUT;
  END;
RUN;

GOPTIONS RESET = ALL;
GOPTIONS DEVICE = GIF BORDER GSFNAME = anyflref
  HPOS = 44 /* default is 88 */
  VPOS = 22 /* default is 43 */
  FTEXT = 'Verdana' HTEXT = 16 PT
  CTEXT = cx000000;

FILENAME anyflref 'C:\VIEWS\UsingLEVELS=.gif';

TITLE1 F = NONE H = 3 PCT ' '; /* spacer */
TITLE2 F = 'Georgia' H = 23 PT ' . . . ';

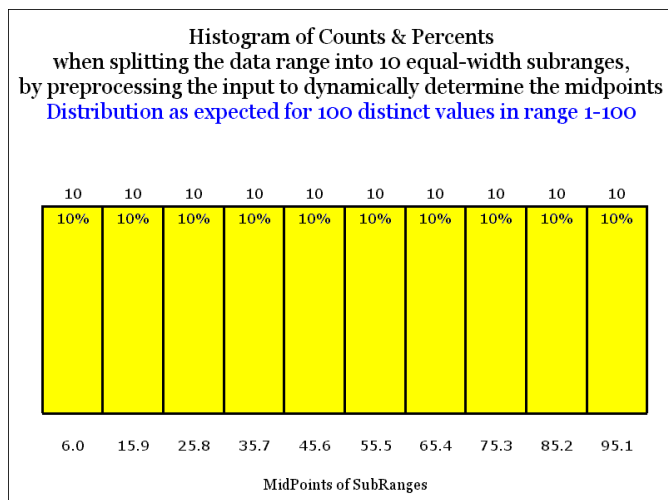
AXIS1 STYLE = 0 MAJOR = NONE MINOR = NONE
  LABEL = NONE VALUE = NONE;
AXIS2 STYLE = 1 WIDTH = 2
  LABEL = (F = 'Georgia' H = 16 PT
    'MidPoints of SubRanges');
PATTERN1 V = SOLID C = cxFFFFF00;

PROC GCHART DATA = TestData;
  VBAR x / OUTSIDE = FREQ INSIDE = PERCENT
    SPACE = 0 WIDTH = 4
    COUTLINE = cx000000 WOUTLINE = 2
    RAXIS = axis1 MAXIS = axis2
    LEVELS = 10;
RUN; QUIT;

FILENAME anyflref CLEAR;

```

For some of us, an intuitive result should take the actual data range, and divide it into N equal-width subranges, where integer N is a matter of personal preference. (A generalized macro version of this solution is available from the author via email.)



```

PROC MEANS DATA = TestData MIN MAX NOPRINT;
  VAR x;
  OUTPUT OUT = ToCreateMidPoints
    MIN = low MAX = high;
RUN;

```

```

DATA _NULL_;
  SET ToCreateMidPoints;
  subrange = (high - low) / 10;
  DO i = 1 TO 10;
    IF i EQ 1 THEN start = low;
    ELSE start = end;
    end = start + subrange;
    midpoint = ROUND((start +
      (end - start) / 2), 0.1);
    CALL SYMPUT('MidPt' || TRIM(LEFT(i)),
      TRIM(LEFT(midpoint)));
  END;
RUN;

GOPTIONS RESET = ALL;
GOPTIONS DEVICE = GIF BORDER GSFNAME = anyflref
  HPOS = 44 /* default is 88 */
  VPOS = 22 /* default is 43 */
  FTEXT = 'Verdana' HTEXT = 16 pt
  CTEXT = cx000000;

FILENAME anyflref 'C:\VIEWS\MethodLeRB.gif';

TITLE1 F = NONE H = 3 PCT ' '; /* spacer */
TITLE2 F = 'Georgia' H = 23 PT ' . . . ';

AXIS1 STYLE = 0 MAJOR = NONE MINOR = NONE
  LABEL = NONE VALUE = NONE;
AXIS2 STYLE = 1 WIDTH = 2
  LABEL = (F = 'Georgia' H = 16 PT
    'MidPoints of SubRanges');
PATTERN1 V = SOLID C = cxFFFFF00;

PROC GCHART DATA = TestData;
  VBAR x / OUTSIDE = FREQ INSIDE = PERCENT
    SPACE = 0 WIDTH = 4
    COUTLINE = cx000000 WOUTLINE = 2
    RAXIS = axis1 MAXIS = axis2
    MIDPOINTS = &MidPt1 &MidPt2 &MidPt3
      &MidPt4 &MidPt5 &MidPt6
      &MidPt7 &MidPt8 &MidPt9
      &MidPt10;
RUN; QUIT;

FILENAME anyflref CLEAR;

```

LeRoy Bessler, Assurant Health

Titles and Footnotes in Excel Output

[SAS 9.1] Creating titles in CSV or Excel output using **PROC REPORT** is problematic. The ODS CSV statements were experimental in SAS 8.2, but have production status in SAS 9.1. As shown in the following example program, the **TITLE** and/or **FOOTNOTE** statements do not work when output is exported to Excel in CSV format, as they are ignored when saving the report data.

```

DATA sample;
  INPUT age $5. odds ci_low ci_upp;
  DATALINES;
5 1.00 0.88 1.69
10 1.00 0.89 1.56
15 2.89 1.00 3.87
20 1.77 1.05 5.62
45+ 6.01 2.66 8.76
RUN;

ODS CSV FILE = 'c:\sample.csv';

```

```
PROC REPORT DATA = sample NOWD HEADSKIP;
  COLUMN age ('-Estimates-' odds
    ('-95% CI-' ci_low ci_upp));
  DEFINE age / 'Age';
  DEFINE odds / 'Odds Ratio' FORMAT = 5.2;
  DEFINE ci_low / 'Lower' FORMAT = 5.2;
  DEFINE ci_upp / 'Upper' FORMAT = 5.2;
  TITLE 'Odds ratio by age group';
  FOOTNOTE 'Source: sample data';
RUN;
ODS CSV CLOSE;
```

	-Estimates-		-95% CI-	
Age	Odds Ratio	Lower	Upper	
5	1	0.88	1.69	
10	1	0.89	1.56	
15	2.89	1	3.87	
20	1.77	1.05	5.62	
45+	6.01	2.66	8.76	

Instead of using the **TITLE** statements, you can use the **COMPUTE...ENDCOMP** clause with a **LINE** statement within the **PROC REPORT** procedure.

```
ODS CSV FILE = 'c:\sample2.csv';
PROC REPORT DATA = sample NOWD HEADSKIP;
  COLUMN age ('-Estimates-' odds
    ('-95% CI-' ci_low ci_upp));
  DEFINE age / 'Age';
  DEFINE odds / 'Odds Ratio' FORMAT = 5.2;
  DEFINE ci_low / 'Lower' FORMAT = 5.2;
  DEFINE ci_upp / 'Upper' FORMAT = 5.2;
  COMPUTE BEFORE _PAGE_;
    LINE 'Odds ratio by age group';
  ENDCOMP;
  COMPUTE AFTER _PAGE_;
    LINE 'Source: sample data';
  ENDCOMP;
RUN;
ODS CSV CLOSE;
```

	Odds ratio by age group		-Estimates-		-95% CI-	
Age		Odds Ratio	Lower	Upper		
5		1	0.88	1.69		
10		1	0.89	1.56		
15		2.89	1	3.87		
20		1.77	1.05	5.62		
45+		6.01	2.66	8.76		
Source: sample data						

Venkata Putcha, Thames Cancer Registry

Ask The Consultant

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

Proper Case Text in SAS 9

Q: Is there a way to correctly convert text to title case?

A: [SAS 9] SAS 9 introduces numerous new functions to Base SAS. One such function is the **PROPCASE** function. This converts text into “Proper Case” which is sometimes also referred to as title case.

For example:

```
DATA propercases;
  INPUT text $ 1-50;
  converted = PROPCASE(text);
DATALINES;
AMADEUS SOFTWARE LTD. (UK)
RUN;
```

Produces:

text	converted
AMADEUS SOFTWARE LTD. (UK)	Amadeus Software Ltd. (Uk)

The function works by firstly converting all the text in the provided string or variable into lower case. It then iterates through the string converting into upper case each character that follows a space, hyphen, full stop, open parenthesis, tab or forward slash, before returning the result. This presents an undesired effect in the case of some abbreviations, such as can be seen in the example above as “UK” has been presented as “Uk”.

To help avoid this, the **PROPCASE** function has a second parameter in which we can extend or override the default list of delimiters:

```
DATA propercases;
  INPUT text $ 1-50;
  converted = PROPCASE(text, "'09'x .-/('U");
DATALINES;
AMADEUS SOFTWARE LTD. (UK)
RUN;
```

By appending the “U” onto the list of default delimiters, the function now ignores the K of UK, achieving the result below:

text	converted
AMADEUS SOFTWARE LTD. (UK)	Amadeus Software Ltd. (UK)

Amadeus Software Consultancy Team

SAS Views Sorts with Fixed-Length Variables

Q: Is it possible to lose valid records when sorting and removing duplicate records?

A: [SAS 8.2, 9.0] The two programs below differ only in the fact that the variables called “num” and “char” are fixed as lengths 3 and 1 respectively in the first program and allowed to inherit default lengths of 8 in the second.

However, the first program removes an extra record as a result of the **NODUP** option on the **SORT** procedure.

```
DATA one;
  LENGTH num 3 char $1;
  INPUT num char $;
  CARDS;
2 q
1 a
2 b
1 a
RUN;

DATA view_one / VIEW = view_one;
  SET one;
RUN;

PROC SORT DATA = view_one OUT = try_one NODUP;
  BY num char;
RUN;
```

The **try_one** table contains the following records:

num	char
1	a
2	b

When using the default characteristics only “true” duplicates are removed as a result of the **SORT** procedure.

```
DATA two;
  INPUT num char $;
  CARDS;
2 q
1 a
2 b
1 a
RUN;

DATA view_two / VIEW = view_two;
  SET two;
RUN;

PROC SORT DATA = view_two OUT = try_two NODUP;
  BY num char;
RUN;
```

The **try_two** table contains the following records:

num	char
1	a
2	b
2	q

This problem is fixed in SAS 9.1. Further information can be found on the SAS Institute Technical Support website at:

<http://support.sas.com/techsup/unotes/SN/009/009123.html>

Simon Williams, esure Services Ltd

Scatter Plots with Filled and Empty Circles

Q: How do you create a scatter plot with filled and empty circles to identify 2 groups of points?

A: Unlike most special characters that can be used in SAS/GRAPH plots by using the parameter **FONT=fontname** (or **F=fontname**), there is a collection of special symbols that can be specified by words, e.g. **DOT**, **CIRCLE**, **SQUARE**, **PLUS**, **STAR**, etc., which use the special parameter syntax **FONT=** (or **F=**). Note that omitting this parameter will only work if the

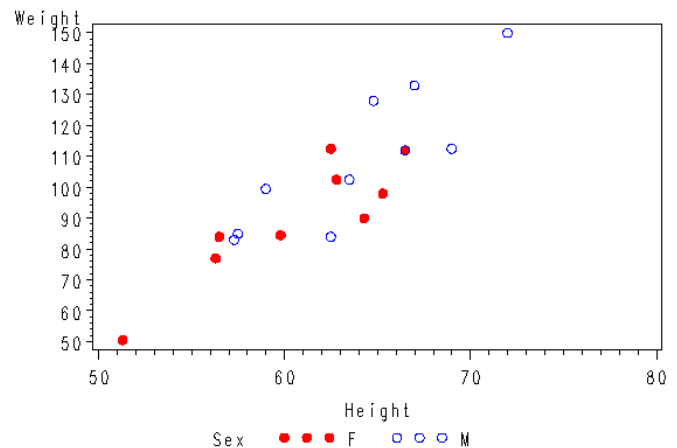
FONT=fontname (or **F=fontname**) parameter has not previously been used on a **SYMBOL** statement in the same session.

```
GOPTIONS DEVICE = WIN;

SYMBOL1 C = RED FONT= V = DOT I = NONE;
SYMBOL2 C = BLUE FONT= V = CIRCLE I = NONE;

PROC GGPLOT DATA = sashelp.class;
  PLOT weight * height = sex;
RUN; QUIT;

ODS HTML CLOSE;
```



This syntax could be used in SAS 6, and is still valid in SAS 9.1. A full list of the available special symbols can be found in SAS Help.

Philip R Holland (Newsletter Editor)

(In response to a question asked at the SAS Programmers Helpdesk, VIEWS 2004 Conference)

Formats, Options, and Functions

This section is devoted to the description of useful, or unusual, SAS Formats, Options, and Functions.

[SAS 9] The **MMYYxw.** and **YYMMxw.** date formats are shortened forms of the well-known **DDMMYYxw.** and **YYMMDDxw.** formats, without the day of the month. The **x** specifies the separator to be used, where **x** can be one of the following: **C**=colon, **D**=dash, **N**=no separator, **P**=period, or **S**=forward slash. The **MMYYw.** and **YYMMw.** date formats both use the letter 'M' as the separator.

[SAS 9] The **RESTRICT** option of the **PROC OPTIONS** statement displays the system options that have been restricted by your site administrator. These options cannot be changed by the user. For each option that is restricted, the **RESTRICT** option displays the value, scope, and how it was set.

[SAS 9] The **CAT**, **CATS**, **CATT**, and **CATX** functions are used to concatenate strings. **CAT** concatenates with no changes to the strings, **CATS** trims leading and trailing blanks, **CATT** just trims trailing blanks, and **CATX** trims leading and trailing blanks and adds a separator between each trimmed string. They are equivalent to using certain combinations of the concatenation operator (||) and the **TRIM** and **LEFT** functions. However, using a **CAT**, **CATS**, **CATT**, or **CATX** function is faster than using **TRIM** and **LEFT**.

In Brief

- Back issues of *VIEWS News* are available from the *VIEWS* web site.
- Please also note that members will now only receive notification of when the latest issue of *VIEWS News* has been uploaded to the web site, and will no longer receive a copy of the newsletter by email. This is in response to comments by members about the size of emails received.
- Phil Mason now has a daily SAS tips newsletter, which can be requested by going to www.woodstreet.org.uk and then clicking on Tips. Previous tips can also be found on the web site. This month's article from Phil was taken from a tips newsletter.
- SAS users looking for contracts, jobs, services and products may find what they are looking for on the Sponsored Links web page at www.hollandnumerics.com/CSP.HTM.

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.

June 2004

15-17 **SAS Forum International**, Copenhagen, Denmark

The SAS Forum International (formerly SEUGI) is held each year and focuses on the more commercial aspects of SAS software.

29 **Communicating with SAS (Web, IntraNet, SAS IT and VB)**, Amadeus Software -FREE!

See the Amadeus Software web site for further details.

July 2004

20 **Data Analytics and Reporting**, Amadeus Software -FREE!

See the Amadeus Software web site for further details.

August 2004

VIEWS News 27th edition

17 **Tricks of the Trade**, Amadeus Software -FREE!

See the Amadeus Software web site for further details.

September 2004

28 **Data Warehousing Explained**, Amadeus Software -FREE!

See the Amadeus Software web site for further details.

October 2004

28 **The Implementation of a Microsoft .NET & SAS System Solution in a Day**, Amadeus Software -FREE!

See the Amadeus Software web site for further details.

November 2004

VIEWS News 28th edition

tba **VIEWS BBU Event**, London

A statistics seminar day presented by an author of SAS books. See the VIEWS web site for the latest details.

23 **Changes and Enhancements to SAS Version 9**, Amadeus Software -FREE!

See the Amadeus Software web site for further details.

December 2004

2 **Changes and Enhancements to SAS Version 9 for the Applied Statistician**, Amadeus Software -FREE!

See the Amadeus Software web site for further details.

April 2005

tba **VIEWS 2005 Conference**, London

See the VIEWS web site for the latest details.

10-13 **SUGI**, Philadelphia, USA

The SAS User Group International (SUGI) Conference is held each year and focuses on the technical aspects of SAS software.

All VIEWS event information will be posted and/or emailed to registered members of VIEWS, and will include an event application form. Please send your queries about any VIEWS events to event@views-uk.org, and don't forget to look at the web site for the latest news.

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