

Those of you who have been waiting since September 2001 for the next *VIEWS* conference will not have to wait much longer. A date has now been set for the *VIEWS* 2003 Conference (see the News section for more details). The *VIEWS* Committee are hoping that the popular *VIEWS* Sub-group meetings can also be restarted after the conference, featuring authors from Books-By-Users, like LeRoy Bessler who has written a SAS/GRAPH article for this issue of *VIEWS* News.

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.

The Consultant

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

Customizing Symbol Tables on Scatter Plots

Q: How can you customize the size of a plot symbol table?

A:[SAS 8.2] If using the **LEGEND** statement does not suffice, build your own symbol table.

A default scatter plot can be created with this code:

```
goptions border device=PNG gsfname=anyname;
filename anyname 'C:\FolderName\FileName.png';
/* Using PNG (Portable Network Graphic) driver
to make a high-resolution image suitable for
imbedding in Microsoft Word. */
goptions hpos=41 hsize=3.493 IN xpixels=1942;
goptions vpos=35 vsize=2.955 IN ypixels=887;
proc gplot data=EnergyProductionSampleData;
plot prod*year=engtype;
run;
```

The default symbol table below the plot looks like this:

```
engtype      + + + Alternative
              + + + Coal
              + + + Gas
              + + + Nuclear
              + + + Oil
```

The symbol table can be customized with a **LEGEND** statement:

```
legend1 down=NumberOfLinesForEntries
label=(h=LabelHeight f=LabelFont
'LegendLabel')
value=(h=ValueHeight f=ValueFont)
shape=symbol(SymbolTripletWidth,SymbolSize);
plot prod*year=engtype / legend=legend1;
```

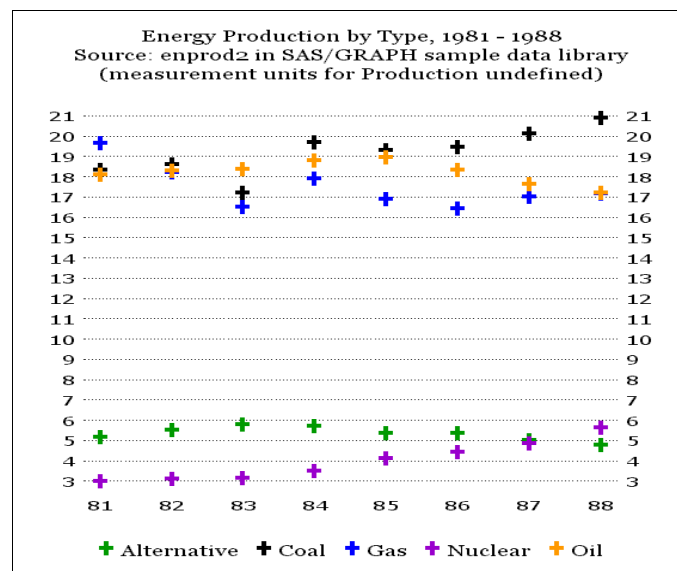
The legend always reserves space for the longest symbol label, for every symbol label, regardless of the actual space needed for the label, artificially limiting the number of legend entries on each line. Also, the legend always displays a triplet of symbols for each legend entry, even though one symbol would suffice. Reducing *SymbolTripletWidth* from its default value (5) merely squashes the symbols closer. With this code:

```
legend1 down=1 label=none
value=(h=1.0 f='Georgia')
shape=symbol(1.5,1);
```

SAS/GRAPH says it cannot fit **DOWN=1**, and produces this:

```
+++ Alternative      +++ Coal      +++ Gas
+++ Nuclear          +++ Oil
```

The best solution looks like this:



Absolute control over a legend is easily achieved with a **FOOTNOTE** statement, the content of which is co-ordinated with **SYMBOL** statements for the plot. When assigning colours in **SYMBOL** statements, realise that **PROC GLOT** uses the statements in the alphabetic order of the values of the classification variable (**engtype**). Colours used here are RGB colour codes, of the form **CXrrggbb**, and are restricted to “browser-safe” (or “web-safe”) values of 00, 33, 66, 99, CC, or FF, as shown in the following code:

```

footnote1 j=C
c=CX009900 h=1.0 f=marker 'S'
c=CX000000 h=1.15 f='Georgia' ' Alternative '
c=CX000000 h=1.0 f=marker 'S'
c=CX000000 h=1.15 f='Georgia' ' Coal '
c=CX0000FF h=1.0 f=marker 'S'
c=CX000000 h=1.15 f='Georgia' ' Gas '
c=CX9900CC h=1.0 f=marker 'S'
c=CX000000 h=1.15 f='Georgia' ' Nuclear '
c=CXFF9900 h=1.0 f=marker 'S'
c=CX000000 h=1.15 f='Georgia' ' Oil';
symbol1 c=CX009900 h=1.0 f=marker v='S';
symbol2 c=CX000000 h=1.0 f=marker v='S';
symbol3 c=CX0000FF h=1.0 f=marker v='S';
symbol4 c=CX9900CC h=1.0 f=marker v='S';
symbol5 c=CXFF9900 h=1.0 f=marker v='S';
plot prod*year=engytype / nolegend;

```

For the complete program, you may send the author an email.

LeRoy Bessler, Bessler Consulting & Research

Extract a Single Section from a Huge Dataset

Q: I have a large dataset containing 12 sections. What is an efficient way to extract 1 section at a time?

A: Here is a nice bit of sample code that demonstrates how to make a manual index to do efficient reading of large sections of huge files:

```

* make a big file holding multiple sections;
data big;
do section = 1 to 12;
do i = 1 to 20;
set sashelp.prdsale;
output;
end;
end;
stop;
run;

* now make a manual index file;
data index;
retain firstobs;
set big (keep = section);
by section;
if first.section then firstobs = _n_;
if last.section then do;
obs = _n_;
output;
end;
run;

* now put into macro variables for use;
data _null_;
set index;
call symput('f' || put(section, z2.),
firstobs);
call symput('o' || put(section, z2.),
obs);
run;

%put _user_;
*** now use them!;
proc print data = big (firstobs = &f03
obs = &o03);
run;

```

Phil Mason, Wood Street Consultants Ltd

Did You Know?

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

Generating SQL Code using Macros

Macros can be used to generate any SAS code, including code for PROC SQL, but the key to success is to plan your final code first. The following code listing is intended as an example of what we want to be able to generate, with the user-defined code in red, and the optional code in blue:

```

proc sql;
create table extract as
select *
from sashelp.prdsale
where country='CANADA'
order by actual desc
;
quit;

```

SQL code should actually be easier to generate, because of its rigid syntax requirements, and the lack of semicolons. Therefore the SQL syntax will help us lay out the code in a logical structure, and the optional code can be omitted if the related parameters are not set. However, while developing macros it is recommended that you use the debugging options, as used below. The following macro code will create the same data as before, but in a new table called **newextract**:

```

options macrogen mprint mlogic symbolgen;

* create the macro *;

%macro extract (table=extract, select=*,
from=sashelp.prdsale, where=, sort=);
proc sql;
create table &table as
select &select
from &from
%if &where ne %then %do;
where &where
%end;
%if &sort ne %then %do;
order by &sort
%end;
;
quit;
%mend;

* now use the macro *;

%extract (table=newextract,
where=country='CANADA',
sort=actual desc)

```

Philip R Holland, Holland Numerics

When and How was this Report produced?

It is sometimes useful when viewing SAS graphics output to know the time and date that a particular graph was produced. This can be achieved by setting macro variables for the date and time, and including these macro variables in the **TITLE** or **FOOTNOTE**. I also include an identifier for the graph in the same **FOOTNOTE** which tells me which of my SAS programs produced which graphics output. Below is an example program:

```

data plot1;
  input tvect ydata;
  cards;
  1.0    2.0
  2.0    5.0
  3.0    6.0
;
run;

footnote1 H=0.75 J=L 'Statistical Analysis'
  J=R 'Mike Johnson';
footnote2 ' ';

* Use the SYMPUT function to produce the macro
  variables "CRDATE" and "CRTIME";
data _null_;
  call symput('CRDATE', put(date(),ddmmyy8.));
  call symput('CRTIME', put(time(),time8.));
run;

* NOTE: Remember to use double quotes to
  enclose the text when macro variables are
  used in a TITLE or FOOTNOTE;
footnote3 H=0.85 J=R "&CRTIME &CRDATE"
  J=L 'libsas04.prog/views01.sas';
symbol1 V=NONE I=JOIN C=RED L=1;
title1 H=1.5 J=C 'Example Plot';
proc gplot data=plot1;
  axis1 WIDTH=1 LABEL=('tvect') OFFSET=(0);
  axis2 WIDTH=1 LABEL=('ydata') OFFSET=(0);
  plot ydata*tvect
    / HAXIS=axis1 VAXIS=axis2 FRAME;
run;

```

Mike Johnson, UKAEA Fusion / EFDA JET

What's the Sector?

Many companies have data that contains address information. Often the postal sector is required from the complete postcode. The postal sector could be 1-2 characters long, and the "first" part of the postcode could be 2-4 characters long. This makes **SUBSTR()** functions a bit trickier to use. One option is to use **SCAN()** and **COMPRESS()** functions. This requires a "gap" between the 2 sections of the postcode. However, if there isn't a "gap" you could use the **TRANSLATE()** function first followed by the **SCAN()** function.

```

data sectors;
  length sect $ 8;
  input type $ pcd $ 2-10;
  * Obtain the first section of the postcode
    and remove any numbers;
  if type='A' then
    sect=compress(scan(pcd,1,' '), '1234567890');
  * Change numbers to spaces and take 1st word;
  else if type='B' then
    sect=scan(translate(pcd,' ','1234567890'),
      1,' ');

  cards;
  A OX29 5PG
  A L21 7UP
  A B1 4DR
  B OX295PG
  B L217UP
  B B14DR
run;

```

Amadeus Software Consultancy Team

News

Announcing the **VIEWS 2003 Conference**

The **VIEWS 2003** Conference will be on Tuesday 20 May 2003 at the Commonwealth Conference and Events Centre, Kensington High Street in London (www.commonwealth.org.uk).

Suggested streams this year are:

- Pharmaceutical
- Statistics
- Tips and Techniques
- Data Warehousing
- Which Product?
- New Stuff
- Tutorials
- Web
- Applications Development
- Systems Architecture

Bigger, Brighter, Informative and Independent

This year's conference is planned to be bigger, brighter, more informative, more independent and more valuable than ever before. Planned activities include networking, education centre, question and answer booth, papers, demonstrations, tutorials, quizzes, themed lunch, mixer session, coder's corner, proceedings, software and hardware vendor exhibitions, new software directions, 3rd party add-on products and services, alternative and competitive products, and much, much more.

Value for Money

VIEWS gives the opportunity for over 20 hours of education in one day, with access to industry experts, independent consultants and a focus on technical aspects of SAS and other products such as S-Plus, Oracle, VB.NET, Perl, Excel and SQL Server. The registration fee will be £135.00+VAT, with a discounted rate of £20.00+VAT for academics.

Registration discount for presenters

Present a paper and pay the reduced registration fee of £67.50+VAT. We are looking for people to present papers on all aspects of their work, at all levels. Send your abstract, maximum 200 words, to abstracts@views-uk.org by **1 March 2003**.

For up to date information, sponsorship options and on-line booking forms visit the **VIEWS** web site at www.views-uk.org.

The provisional agenda and registration forms will be mailed to you in March, we hope to see you at **VIEWS 2003**.

The **VIEWS** Committee

Call for Papers for **VIEWS 2003 Conference**

All abstracts must be received no later than **1 March 2003**.

Please supply the following information with your abstract:

- Name
- Organisation
- Address
- Post Code
- Daytime Telephone Number
- E-mail
- Paper Title

Please indicate the stream appropriate for your paper:

- (a) Tips and Techniques
- (b) Data Warehousing

- (c) Pharmaceutical
- (d) Statistics
- (e) Which Product
- (f) New Stuff
- (g) Applications Development
- (h) Web
- (i) Systems Architecture
- (j) Tutorials
- (k) Other - please suggest stream name

Length of paper:

- 15 mins
- 30 mins
- 45 mins

Abstract:

The 200 word abstract you provide to us will be published in the *VIEWS* Conference Program. Please indicate the skill level of the intended audience, introductory or advanced. Email your abstract to abstracts@views-uk.org, post it to Louise Harvey, Amadeus Software Limited, Orchard Farm, Witney Lane, Leafield, Oxfordshire OX29 9PG, UK, or fax it to +44-(0)1993-878042. Your abstract can be accepted typed, or hand-written, on a separate sheet of paper.

Final Paper Due:

If accepted, please send your final paper only by email to papers@views-uk.org in Word or PowerPoint format by **20 April 2003**. If you have any questions about the paper format, please call Louise Harvey on +44-(0)1993-878287.

Equipment:

An online projector and PC with PowerPoint installed are provided for every presentation. Additional equipment must be provided by the presenter.

The *VIEWS* Committee

Formats, Options, and Functions

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

[SAS 8] If you looking to make your applications easy to adapt to different international locations, then the formats **EURDFDEw.**, **EURDFDDw.** and **EURDFDTw.d** can be used, as they are the European equivalents of **DATEw.**, **DDMMYYw.** and **DATETIMEw.d**. The actual format of the date and date-time values are controlled by the system option **DFLANG=**, which defaults to **DFLANG=English**, so that the European formats are indistinguishable from their standard equivalents, but can be set to a range of European settings, including **German**, **Swiss-German**, **French**, **Swiss-French**, **Italian**, **Spanish**, **Dutch**, **Portuguese**, **Norwegian**, **Swedish**, **Finnish** and **Czech**.

[SAS 8.2?] There is a system configuration or invocation option **-REGSERVER**, which can be used to register the default location of the **SAS.EXE** program. This is, as far as I can tell, an undocumented option, which seems to have been introduced with SAS 8.2, which can assist users installing Enterprise Guide on PCs with non-standard local SAS environments. To use the option just make the **!SASROOT** location the default folder, then run the following command line:

```
sas.exe -regserver
```

[SAS 8] There are two SCL functions that can help you allocate library and file references conditionally. The

LIBNAME() function returns a value which indicates the success or failure of the allocation of a library reference, so that a failure can be reported or corrected. The **FILENAME()** function is the equivalent function for allocating file references.

In Brief

- Back issues of *VIEWS News* are available from the *VIEWS* web site.

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.

February 2003

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

See the Amadeus Software web site for further details.

March 2003

18 Data Warehousing Explained, London

See the Amadeus Software web site for further details.

28 An Independent Overview of SAS Products, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

30-April 2 SUGI, Seattle, Washington

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

April 2003

15 Alternative Analytical Tools (SAS and S-PLUS),

Amadeus Software - FREE!

See the Amadeus Software web site for further details.

May 2003

VIEWS News 22nd edition

15 Communicating with SAS (Web, IntrNet, SAS IT and VB), London

See the Amadeus Software web site for further details.

20 VIEWS 2003 Conference, London

A 1-day conference of user presentations on the technical aspects of SAS software. See the *VIEWS* web site for the latest information.

28 Data Warehousing Explained, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

June 2003

5 Changes and Enhancements to SAS Version 9, London

See the Amadeus Software web site for further details.

12 Communicating with SAS (Web, IntrNet, SAS IT and VB), Amadeus Software - FREE!

See the Amadeus Software web site for further details.

17-19 SeUGi, Vienna, Austria

The European SAS User Group International (SeUGi) Conference is held each year and focuses more on the commercial aspects of SAS software.

July 2003

3 Data Mining Techniques and Tools, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

15 Changes and Enhancements in SAS Version 9 for the Applied Statistician, London

See the Amadeus Software web site for further details.

July 2003

24 Tricks of the Trade, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

August 2003

VIEW'S News 23rd edition

5 An Independent Overview of SAS Products, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

September 2003

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

See the Amadeus Software web site for further details.

October 2003

23 Tricks of the Trade, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

30 Alternative Analytical Tools (SAS and S-PLUS),

Amadeus Software - FREE!

See the Amadeus Software web site for further details.

November 2003

VIEW'S News 24th edition

4 Data Warehousing Explained, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

25 Changes and Enhancements in SAS version 9 for the Applied Statistician, Amadeus Software - FREE!

See the Amadeus Software web site for further details.

December 2003

2 Communicating with SAS (Web, IntrNet, SAS IT and VB), Amadeus Software - FREE!

See the Amadeus Software web site for further details.

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

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