

Those of you who attended the SAS User Forum events in Edinburgh, Manchester and London will have your own views on how useful they were. I attended the London event and you can read my report in this issue. The *VIEWS* response to the events is to start the planning of a *VIEWS* 2003 Conference (see the Stop Press! section for more details).

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!

VIEWS 2003 Conference in London?

The *VIEWS* Committee are considering staging a 2-day user conference in London during May 2003. The probable venue will be the Churchill Intercontinental Hotel in Portman Square. We want this to be **your** event, so we would like you to email your comments and support to events@views-uk.org.

The Consultant

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

Using Microsoft Excel as the Front-End Analysis Tool to your SAS Data

Q: How can I access my SAS data using Microsoft Excel?

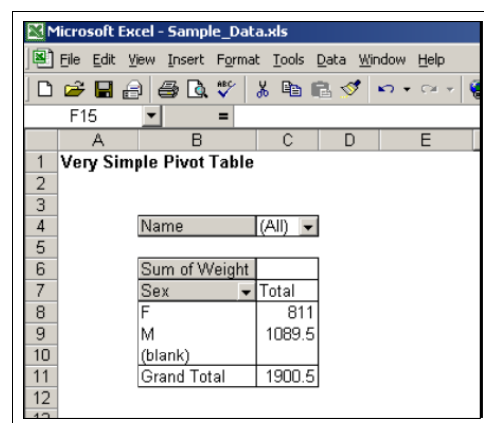
A:[SAS 8.2] The Visual Basic editor available in Microsoft Excel allows you to develop simple interactive graphical user interfaces using hyper-links and pivot tables. You can use this technique to produce a very dynamic point and click interface without having to write more complex SAS/AF or SAS/EIS solutions.

The basic idea is to use a Base SAS program in the normal way to retrieve the data you require from your data-mart or warehouse, and then export it to a common file format such as CSV, or XLS. Note that the XLS export will require a licence for the SAS/ACCESS for PC File Formats component.

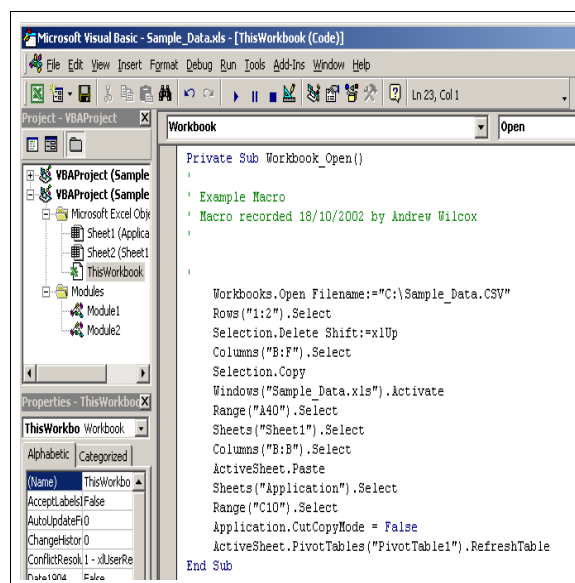
For example (using the experimental ODS CSV destination):

```
ODS LISTING CLOSE;
ODS CSV FILE="C:\Sample_Data.CSV";
PROC PRINT DATA=sashelp.class;
RUN;
ODS CSV CLOSE;
```

Now using this CSV file, build an application in Microsoft Excel:



Now we need some VBA code so that opening the spreadsheet will automatically reload the CSV file and refresh the pivot table:



Obviously this is a very simple example, but it demonstrates the functionality.

Amadeus Software Consultancy Team.

How to Read the Next Value of a Variable

Q: I know you can use the LAG() function to read the previous value, but how do you read the next value of a variable?

A: The **LAGn()** functions can be used to read previous values, but we can read the next value of a variable by merging a table with itself, and not using a **BY** statement. We then start the second table reading from observation 2, whereas the first is reading from observation 1. We only keep the variable of interest from the second table, and rename it so it doesn't conflict with the variable from the first.

Here is an example:

```
data _null_;
  merge xxx
        xxx(firstobs=2
             rename=(var=next_var)
             keep=var);
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.

Have your Macro Cake and Eat It

There are many scenarios where corporately tested and validated macro are used in the SAS environment where, to prevent accidental editing of code, the macro is used through stored macro catalogs. At the same time SAS programmers may wish to employ these macros but also use a macro autocall library, allowing macro code to be both viewed and edited; perhaps for development. The SAS System, through its many environment options allows the use of an autocall library and the stored macro facility, concurrently. The following SAS code demonstrates this technique.

This **LIBNAME** points to the network folder containing the **SASMACR** catalog of compiled macros:

```
libname smLib "N:\amadeus\Stored Macros";
```

This **FILENAME** statement point to the local directory containing .SAS files which are autocall macros:

```
filename acLib "C:\amadeus\Autocall Library";
```

Now the **OPTIONS** statement which allows both sets of compiled and non-compiled macros to work:

```
options sasautos=(acLib,sasautos)
        mstored sasstore=smLib;
```

Amadeus Software Consultancy Team.

Auto-Saving your SAS Programs

[SAS 8] You can set auto-save using the menu options **Tools, Options, Preferences**, then clicking the **Edit** tab. Set it to auto-save every 10 minutes, say. The auto-saved code is saved to the user's **TEMP** directory (see the Windows **TEMP** environment variable), e.g. c:\temp.

If a SAS program is loaded in, auto-save does not save over it. When a SAS program called '**gdevice2.sas**' is loaded into the editor. It is auto-saved into the **TEMP** directory as '**Autosave of Gdevice2.SAS**'.

If you exit the SAS session and say you do not want to save the modified code, then the auto-saved file is discarded. If the SAS session stops before you can do so, then the auto-saved file is kept. Note, however, that it is not automatically loaded back

into SAS when SAS is restarted, although you could probably write a macro to do this if you wanted to.

Phil Mason, Wood Street Consultants Ltd.

News

SAS User Forum - News from London

The SAS User Forum (London, November 5) was preceded by similar events held in Edinburgh and Manchester during October. It opened with Alistair Sim, SAS Marketing Director, announcing that it would be a "forum to allow users to exchange ideas". However, I am now not sure about the name 'SAS User Forum', which suggested much more interaction between the 95 attendees, rather than SAS UK and a handful of speakers from some large SAS customers providing product information to them.

For most of the day there was a choice of 3 streams: Technology, Business and User Knowledge, although the 1 hour Tips & Tricks session (with introductions to Client/Server, Macros, Reading data, and Enterprise Guide) was run in the morning in User Knowledge, and again in the afternoon in Technology. I stayed with the Technology stream all day and saw product demos of Enterprise Guide v2.0 and Data Builder v3 (formerly Warehouse Administrator). There was also news of the release dates for a number of SAS products:

- Now - Enterprise Guide v2.0.
- 2003Q3 - SAS v9.1, Data Builder v3, Enterprise Miner v5.0.

In its current form the SAS User Forum could happily co-exist with a **VIEWS** Conference, with the SAS User Forum concentrating on the higher level view of new and existing technologies, and the **VIEWS** Conference providing information at a more detailed technical level. Maybe 'SAS User Briefing' would have been a better title, and as such I would have considered it to have been a success!

Philip R Holland, Holland Numerics Ltd.

Formats, Options, and Functions

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

Formats and informats with single letter names are sometimes overlooked. The format **Zw.d** is useful for padding numbers with leading zeroes. The format **Ew.** will display numeric values in scientific notation. There is also the related informat **Ew.d**, which is used to input numeric values in scientific notation. This is generally unnecessary, as the informat **w.d** will input similar numeric values, but could be useful if you wish to restrict your input data to only be in scientific notation.

Have you ever wanted to see what data was stored in your **WORK** tables after the SAS session had been closed? There is a system option that may be helpful: **USER=**. This option sets the library reference used when you specify single level table names. By default it is set to **USER=WORK**, which results in the removal of all temporary tables at the end of the SAS session. However setting it to **USER=STORE**, say, will allow you to allocate a **STORE** library reference which will store all your 'temporary' tables for investigation later.

Data step arrays can be very useful for processing large numbers of variables in the same way, but you will probably also need to know how big the arrays are. There are several functions that can help. The most commonly used is **DIM()**, which will

give you the number of elements in each dimension. However, this may not be useful if the array dimensions do not start at 1, so **LBOUND()** and **HBOUND()** can be used to give you the lower and upper bounds of an array dimension instead.

Sponsored Advertising

Can [sas.answers @ Holland Numerics] Help You?

As a user of SAS software, you are likely to be well aware of the ever-increasing functionality of SAS, as well as the cost of training and supporting your staff that use SAS every day. There are also occasions when you need the assistance of expert contract staff for short periods of time, but either cannot afford to take them on, or are completely unable to find any suitable candidates that are available.

It was to solve these specific problems, and to give clients a quick and independent view of SAS software, that Holland Numerics Limited developed the [sas.answers @ Holland Numerics] service. For a fixed subscription the service will provide email support for up to 5 of your email addresses for a calendar month. The SAS Certified support staff will answer SAS-related questions requiring up to 30 minutes effort within 48 hours. For example, the team can provide answers about programming techniques, support for novice SAS programmers, debugging SAS code, and more general advice on the growing range of SAS components. There are also, currently, no limits to the number of questions that can be sent during a calendar month.

There is also a web-based interface to the service, which alerts the support team immediately to any incoming questions. Holland Numerics Limited have found that this method of sending questions results in responses being sent much more rapidly than to those sent using direct email messages. The web interface can be accessed at:

www.hollandnumerics.com/SAS_QUESTIONSTM

Full details of the service, including the scope and subscription rates, can be obtained at:

www.hollandnumerics.com/SAS_ANSWERSSTM

In Brief

- Back issues of *VIEWS News* are available from the *VIEWS* web site.
- A new web page specifically designed for SAS software users has recently been created. The web page can be found at www.hollandnumerics.co.uk/CSP.HTM, and it advertises useful links for SAS-related Careers, Services and Products.

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.

November 2002

29 **Data Warehousing Explained**, Amadeus Software

This is a free seminar! See the Amadeus Software web site for further details.

February 2003

VIEWS News 21st edition

March 2003

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.

May 2003

VIEWS News 22nd edition

tba **VIEWS 2003 Conference**, London

A 2-day conference of user presentations on the technical aspects of SAS software. See the *VIEWS* web site for further details.

June 2003

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.

August 2003

VIEWS News 23rd edition

November 2003

VIEWS News 24th edition

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 events@views-uk.org, and don't forget to look at the web site for the latest news.

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