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Who We Are

The Puget Sound SAS Users Group (PUGSUG) helps SAS users learn more about SAS and network with other SAS users. We serve the SAS community all along the Puget Sound, from Bellingham to Olympia. We have meetings every spring and fall and social events every two months. Any SAS user is welcome to attend our events. Check us out at pugsug.org.

Sponsors

We are grateful for the support of [SAS Institute](#), [Smith Hanley](#), [SAS Canada](#) and the [Pacific Northwest SAS Users Group](#).

Newsletter Inputs

This newsletter gives information for/by the Puget Sound SAS community. If you would like to provide input to a future newsletter, please email us at newsletter@pugsug.org. We would love to hear from you!

Executive Team

Sara Beck (Nordstrom)
 Nate Derby (Stakana Analytics)
 Marla Husnik (SCHARP)
 Jim Steck (Nordstrom)
 Laura Vo (Stakana Analytics)

PUGSUG Update

The PUGSUG Executive Team: exec@pugsug.org

Welcome to our second meeting and newsletter! Over the next few months, we will have an evening social event (May 11), a general meeting (June, our first in Bellevue), and a training session (June). Come join us!

As always, we hope you'll find something fun at our events, which are listed on our website at pugsug.org. If you use Google Calendar, you can subscribe to have our events listed on your calendar. We also have job announcements on our website.

If you like this newsletter and would like to contribute an article to the next issue, we'd love to hear from you! We especially need tips and tricks. Please contact us at newsletter@pugsug.org.

TIPS & TRICKS: Shortcuts with Arrays

Scott Albrechtsen: scott.albrechtsen@bchydro.com

SAS arrays are useful tools for identifying and processing a group of related variables within a data step. Once an array of variables has been defined, the programmer can apply logic to the array without the convolution of applying that logic to each variable individually.

Below we have the variables a1, b2, c5, d2, g5, and f3, which we would like to multiply by 1.25 in a DATA step using an array.

```
DATA output;
  SET input;
  ARRAY vars a1 b2 c5 d2 g5 f3;
  DO i=1 to 6;
    vars(i) = vars(i) * 1.25;
  END;
  DROP i;
RUN;
```

Here the programmer must know that there were six variables within the array vars. Often in sophisticated programs this requires a separate macro function to determine the number of variables within the array. That's a waste of programmer and processing time. The programmer must then also drop the i declared variable from the DO loop.

Instead, using the DO OVER <array name> statement eliminates the need to declare the number of variables within the array or drop the declared i variable at the end!

```
DATA output;
  SET input;
  ARRAY vars a1 b2 c5 d2 g5 f3;
  DO OVER vars;
    vars = vars * 1.25;
  END;
RUN;
```

June Training Event

In June, Nate Derby of Stakana Analytics will present a PUGSUG half-day training event: "Generating Custom-Formatted Excel Output from SAS." Check out our website at pugsug.org later on for details.

TIPS & TRICKS: Last Business Day of the Month

James Profitt: james_profitt@yahoo.co.uk

If you have a list of dates and want to calculate the last business day of the month, you can do so via `proc means`:

```
data dates;
  do bill_date = mdy( 2, 1, 2011 ) to mdy( 3, 1, 2013 );
    workday = weekday( bill_date );
    year = year( bill_date );
    month = month( bill_date );
    output;
  end;
  format bill_date date9.;
run;

proc means data=dates( where=( workday not in ( 1, 7 ) ) )
  nway noprint;
  class year month;
  var bill_date;
  output out=maxdates( drop=_TYPE_ _FREQ_ ) max=;
run;
```

Be sure to use the `nway` option in the header and the `max=` option in the output statement, or you'll get some surprises.

TIPS & TRICKS: Quicker Jobs with PROC SQL

Yonah Karp: yonahkarp@gmail.com

I frequently connect to an Oracle database via SAS. My code hits a warehouse with hundreds of tables, each with 2-15 fields. Typical queries hit between 4 and 10 tables with various types of joins, subsetting, and various other DATA steps after one or more PROC SQL hits to the warehouse.

The `-NOTTHREADS` system option and the `READBUFF=n LIBNAME` option are the two tools I experimented with to whittle my time down. `READBUFF` changes the number of rows from the RDBMS held in memory; `THREADS` allows parallel processing (increases performance of sorting operations that involve large amounts of data), but in my case, suppressing the overhead required to do parallel processing with `-NOTTHREADS` actually gave me a performance boost.

Time (mm:ss)	READBUFF= <i>n</i>	-NOTTHREADS	Comments
61:32	didn't use	no	Baseline run
10:22	<i>n</i> =12,000	no	
6:16	<i>n</i> =12,000	yes	
6:54	<i>n</i> =15,000	no	
5:35	<i>n</i> =15,000	yes	
8:41	<i>n</i> =18,000	no	starting to swap to disk
5:26	<i>n</i> =18,000	yes	NOTTHREADS optimized this combo, but 18K performance degraded over 15K

Conclusion: `READBUFF` rocks! `-NOTTHREADS` gives mild improvement for this PROC SQL code.

Bellevue and Tacoma SAS Users Wanted

Are you a SAS user in Bellevue or Tacoma? Would you like to help PUGSUG set up a future meeting there? If so, we want to hear from you! Please contact us at exec@pugsug.org.

Our next networking social event, **the PUGSUG Evening Social**, will be 5-8pm on Wednesday, **May 11** at the Terrace Garden Lounge, 5th floor of the Red Lion Hotel at 1415 5th Avenue. More information is at pugsug.org. Come join us!

Our next meeting will be in Bellevue in June at T-Mobile corporate offices. Check out the PUGSUG website at pugsug.org later for more information.

SAS Global Forum 2011 will be held on April 4-7 in Las Vegas, NV. More information is at sasglobalforum.com.

The SAS Users Groups of Victoria (SUAVE) and Vancouver, BC (VanSUG) have half-day meetings May 3 (Victoria) and 4 (Vancouver). Each meeting is free and open to Americans, with a free breakfast! Check out sas.com/victoria or vansug.ca.

The 2011 Pharmaceutical Industry SAS Users Group (PharmaSUG) conference will be held on May 8-11 in Nashville, TN. Information is at www.pharmasug.org.

The 2011 Pacific Northwest SAS Users Group (PNWSUG) conference will be held in Seattle on September 19. Check out pnwsug.org for details.

The 2011 Western Users of SAS Software (WUSS) Conference will be held in San Francisco on October 12-14. Come on down! Information can be found at wuss.org.