SAS

Tips, Tricks and Oddities

SAS Oddity

```
data proc contents;
        if fi then th=en;
        else el=se;
        ;
        _=__^=___;
        what=is; going=on!here;
        system=broken;
run;
```

How many errors?

More than 4   4   3   2   1   0

SAS Trick

Monotonic

- Every used monotonic?
- An "undocumented" feature in SAS
- Same as using _n_ in SAS but can be used in an SQL

```
PROC SQL;
    CREATE TABLE WORK.QUERY_FOR_SHOES AS
    SELECT DISTINCT
        monotonic() AS count,
            t1.Region,
            t1.Sales FORMAT=DOLLAR12. AS Sales,
            t1.Inventory FORMAT=DOLLAR12. AS Inventory,
            t1.Returns FORMAT=DOLLAR12. AS Returns,
            t1.Stores AS Stores
        FROM SASHELP.SHOES t1
;
QUIT;
```

Monotonic

- Using monotonic with a group – this will not work…..

```
PROC SQL;
   CREATE TABLE WORK.QUERY1_FOR_SHOES AS
   SELECT DISTINCT
     monotonic() AS count,
     t1.Region,
     SUM(t1.Sales) FORMAT=DOLLAR12. AS SUM_of_Sales,
     SUM(t1.Inventory) FORMAT=DOLLAR12. AS SUM_of_Inventory,
     SUM(t1.Returns) FORMAT=DOLLAR12. AS SUM_of_Returns,
     SUM(t1.Stores) AS SUM_of_Stores
   FROM SASHELP.SHOES t1
   GROUP BY    t1.Region;
QUIT;
```
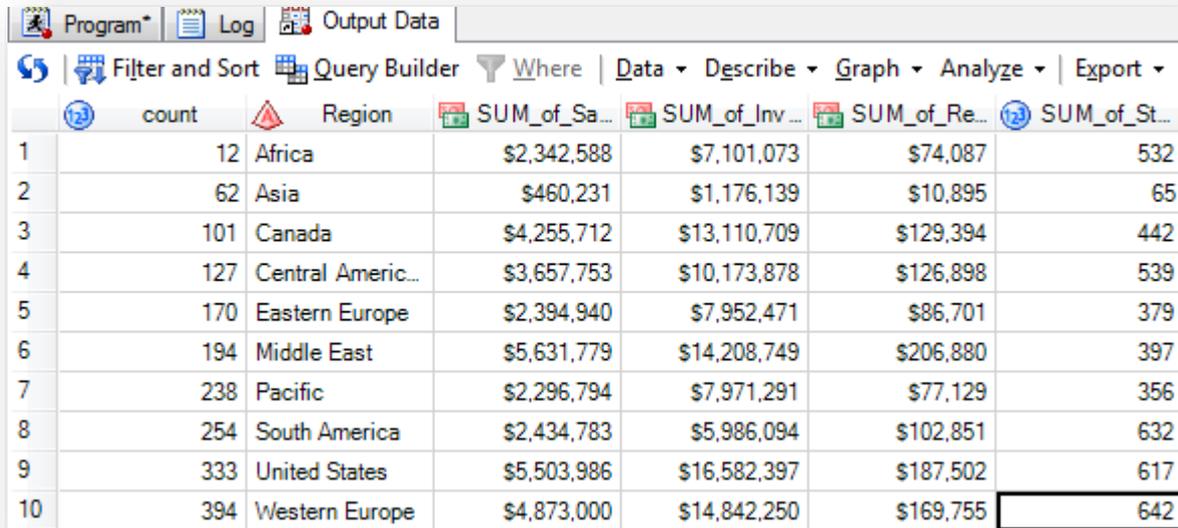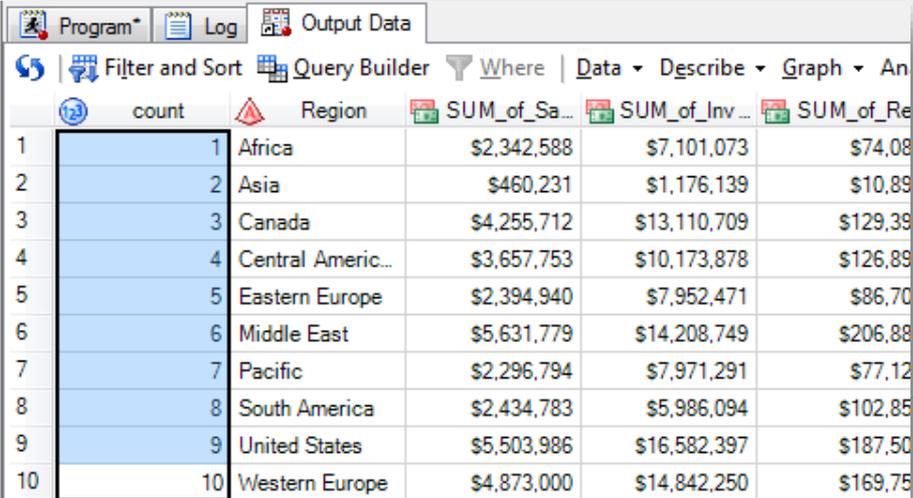
	count	Region	SUM_of_Sa...	SUM_of_Inv...	SUM_of_Re...	SUM_of_St...
1	12	Africa	$2,342,588	$7,101,073	$74,087	532
2	62	Asia	$460,231	$1,176,139	$10,895	65
3	101	Canada	$4,255,712	$13,110,709	$129,394	442
4	127	Central Americ...	$3,657,753	$10,173,878	$126,898	539
5	170	Eastern Europe	$2,394,940	$7,952,471	$86,701	379
6	194	Middle East	$5,631,779	$14,208,749	$206,880	397
7	238	Pacific	$2,296,794	$7,971,291	$77,129	356
8	254	South America	$2,434,783	$5,986,094	$102,851	632
9	333	United States	$5,503,986	$16,582,397	$187,502	617
10	394	Western Europe	$4,873,000	$14,842,250	$169,755	642

Monotonic

- Using monotonic with a group – this will work

```sas
PROC SQL;
   CREATE TABLE WORK.QUERY2_FOR_SHOES AS
   select monotonic() AS count, A.*
    from
   (SELECT DISTINCT
      t1.Region,
      SUM(t1.Sales) FORMAT=DOLLAR12. AS SUM_of_Sales,
      SUM(t1.Inventory) FORMAT=DOLLAR12. AS SUM_of_Inventory,
      SUM(t1.Returns) FORMAT=DOLLAR12. AS SUM_of_Returns,
      SUM(t1.Stores) AS SUM_of_Stores
    FROM SASHELP.SHOES t1
    GROUP BY   t1.Region) as A
   ;
QUIT;
```

	count	Region	SUM_of_Sa...	SUM_of_Inv...	SUM_of_Re
1	1	Africa	$2,342,588	$7,101,073	$74,08
2	2	Asia	$460,231	$1,176,139	$10,89
3	3	Canada	$4,255,712	$13,110,709	$129,39
4	4	Central Americ...	$3,657,753	$10,173,878	$126,89
5	5	Eastern Europe	$2,394,940	$7,952,471	$86,70
6	6	Middle East	$5,631,779	$14,208,749	$206,88
7	7	Pacific	$2,296,794	$7,971,291	$77,12
8	8	South America	$2,434,783	$5,986,094	$102,85
9	9	United States	$5,503,986	$16,582,397	$187,50
10	10	Western Europe	$4,873,000	$14,842,250	$169,75

SAS Tip

Rename all variables

```
%macro rename(lib,dset);
          /* get a list of all variables in the dataset
*/

          PROC CONTENTS DATA=&lib..&dset OUT=TEMPA(KEEP=NAME);
          RUN;
          /* take the list of variables and create macro variables that resolve to the variable name        */
          /* and the variable name with "pre_" as a prefix as well as the number of variables                */
          DATA _null_;;
          SET tempa end = eof;
            retain cnt;
            cnt = sum(cnt,1);
            call symput(compress('old_name'||trim(put(cnt,8.))),name);
            call symput(compress('new_name'||trim(put(cnt,8.))),compress("pre_"||name));
            if eof then
                call symput('cnt',put(cnt,8.));
          RUN;
          /* tale a look at the macro variable values (in the log)
*/

          %put name1 &new_name1 &old_name1;
          %put name2 &new_name2 &old_name2;
          %put cnt....&cnt;
          /* run the rename
*/

          data &dset._out;
          set &lib..&dset;
            rename
              %do i = 1 %to &cnt;
                 &&old_name&i = &&new_name&i
              %end;
          ;
          run;
%mend rename;

%rename(lib=sashelp,dset=shoes)
```

Rename all variables

TEMPA ▾

	NAME
1	Inventory
2	Product
3	Region
4	Returns
5	Sales
6	Stores
7	Subsidiary

Name1 pre_Inventory Inventory
Name2 pre_Product Product
cnt....   7

SHOES ▾

Filter and Sort | Query Builder | Where | Data ▾ | Describe ▾ | Graph ▾ | Analyze ▾ | Export ▾ | Send To ▾ | ▦

	Region	Product	Subsidiary	Stores	Sales	Inventory	Returns
1	Africa	Boot	Addis Ababa	12	$29,761	$191,821	$769
2	Africa	Men's Casual	Addis Ababa	4	$67,242	$118,036	$2,284
3	Africa	Men's Dress	Addis Ababa	7	$76,793	$136,273	$2,433
4	Africa	Sandal	Addis Ababa	10	$62,819	$204,284	$1,861

rename variables in dataset ▾

Program* | Log | Output Data (2)

SHOES_OUT ▾

Filter and Sort | Query Builder | Where | Data ▾ | Describe ▾ | Graph ▾ | Analyze ▾ | Export ▾ | Send To ▾ | ▦

	pre_Region	pre_Product	pre_Subsidi...	pre_Stores	pre_Sales	pre_Inventory	pre_Returns
1	Africa	Boot	Addis Ababa	12	$29,761	$191,821	$769
2	Africa	Men's Casual	Addis Ababa	4	$67,242	$118,036	$2,284
3	Africa	Men's Dress	Addis Ababa	7	$76,793	$136,273	$2,433
4	Africa	Sandal	Addis Ababa	10	$62,819	$204,284	$1,861

Non SAS® variable names in Excel

Non SAS® variable names in Excel


```
proc contents data=work.book2 out=tempa noprint;
run;
/* determine the "literal" for each variable */

data tempc(keep=name test1 nliteral );
  set tempa;
  test1 = trim(nliteral(name)); /* returns the value of the literal */
  nliteral=nvalid(name,'nliteral'); /* creates a variable called nliteral that determines if the value can be a literal */
  run;
```