

Paper 118-28
***Renaming All Variables in a SAS® Data Set Using the
Information from PROC SQL's Dictionary Tables***

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ABSTRACT:

Renaming all variables in a SAS dataset has become much easier task by using the information contained in PROC SQL's DICTIONARY.TABLES and COLUMNS about the SAS libraries and their members. The technique defined here is a simple macro which uses the information such as NVAR(number of variables in a given SAS dataset) from PROC SQL's DICTIONARY.TABLES and the NAME(variable containing the names of the variables of a given dataset) from DICTIONARY.COLUMNS and renames all variables in the dataset using PROC DATASETS MODIFY statement attaching a prefix to each variable name. This paper uses Base SAS product and SAS Macro language and intended for beginner SAS users with some SAS macro language knowledge.

INTRODUCTION:

Renaming all variables in dataset could be annoying process when you have large number of variables in a dataset, the technique illustrated in this paper describes an easy way to rename or summarize all fields of a given dataset. PROC CONTENTS, PROC SQL's DICTIONARY.TABLES, DICTIONARY.COLUMNS and PROC DATASETS procedures have been used for this process. The same technique can be used to summarize all the fields of a given dataset with an intended SAS procedure. This technique uses the SAS libraries and their members information from PROC SQL's dictionary

tables. There is lot of information about the datasets contained in these tables which comes in real handy to perform any operation across all the fields of a given dataset.

PROCESS:

Extract NVAR variable from DICTIONARY.TABLES for a given dataset which contains the number of variables of the dataset and the NAME field from DICTIONARY.COLUMNS which contains the names of variables of the dataset and create macro variables of these using INTO clause of PROC SQL. Then resolve these macro variables in a macro DO LOOP to perform any necessary function. In this example a temporary dataset with 5 variables will be created, PROC CONTENTS will be been run before and after renaming the variables to confirm the operation and PROC DATASETS MODIFY statement is used to rename all the variables.

```
/* Creating a temporary dataset */
```

```
Data one;  
  U=1;  
  V=2;  
  X=3;  
  Y=4;  
  Z=5;  
Run;
```

```

/* Running the renaming macro */

options macrogen mprint mlogic;
%macro rename(lib,dsn);

options pageno=1 nodate;
proc contents data=&lib.&dsn;
title "Before Renaming All Variables";
run;

proc sql noprint;
  select nvar into :num_vars
  from dictionary.tables
  where libname="&LIB" and
         memname="&DSN";

  select distinct(name) into :var1-
:var%TRIM(%LEFT(&num_vars))
  from dictionary.columns
  where libname="&LIB" and
         memname="&DSN";
quit;
run;

proc datasets library=&LIB;
  modify &DSN;
  rename
  %do i=1 %to &num_vars;
  &&var&i=NEWNAME_&&var&i.
  %end;
;
quit;
run;

options pageno=1 nodate;
proc contents data=&lib.&dsn;
title "After Renaming All Variables";
run;

%amend rename;

%rename (WORK, ONE) ;

```

Before Renaming All Variables

```

1
          The CONTENTS Procedure

          Data Set Name: WORK.ONE
Observations:          Member Type:  DATA
Variables:             5
Engine:               V8
Indexes:              0
Created:              13:36 Thursday, August 22, 2002
Observation Length:   40
Last Modified:        13:36 Thursday, August 22, 2002
Deleted Observations: 0
Protection:
Compressed:           NO
Data Set Type:
Sorted:               NO
Label:

-----Engine/Host Dependent Information-----
Data Set Page Size:   4096
Number of Data Set Pages:  1
First Data Page:      1
Max Obs per Page:     101
Obs in First Data Page:  1
Number of Data Set Repairs: 0
File Name:             d:\_TD358\one.sas7bdat
Release Created:       8.0101M0
Host Created:          WIN_NT

```

-Alphabetic List of Variables and Attributes-

#	Variable	Type	Len	Pos
1	U	Num	8	0
2	V	Num	8	8
3	X	Num	8	16
4	Y	Num	8	24
5	Z	Num	8	32

```

    After Renaming All Variables
1
  The CONTENTS Procedure
  Data Set Name: WORK.ONE
Observations:      1  Member Type:  DATA
Variables:         5
Engine:           V8
Indexes:          0
Created:          13:36 Thursday, August 22, 2002
Observation Length: 40
Last Modified: 13:36 Thursday, August 22, 2002
Deleted Observations: 0
Protection:
Compressed:       NO
Data Set Type:
Sorted:          NO
Label:

```

```

-----Engine/Host Dependent Information-----
Data Set Page Size:      4096
Number of Data Set Pages: 2
First Data Page:        1
Max Obs per Page:       101
Obs in First Data Page: 1
Number of Data Set Repairs: 0
File Name:
d:\_TD358\one.sas7bdat
Release Created:         8.0101M0
Host Created:           WIN_NT

```

-Alphabetic List of Variables and Attributes-

#	Variable	Type	Len	Pos
1	NEWNAME_U	Num	8	0
2	NEWNAME_V	Num	8	8
3	NEWNAME_X	Num	8	16
4	NEWNAME_Y	Num	8	24
5	NEWNAME_Z	Num	8	32

SUMMARY:

Using the information from PROC SQL's DICTIONARY TABLES we can create macro variables for the dataset variable names and use those to perform any operation across all fields of a given SAS dataset.

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