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Chapter 3 & 4 homework
9.8.17

3.15.2 You are given a CSV (comma-separated values) file called political.csv containing state, political party, and age. A listing of this file is shown here: File political.csv a. Write a SAS program to create a temporary SAS data set called Vote. Use the variable names State, Party, and Age. Age should be stored as a numeric variable; State and Party should be stored as character variables.b. Include a procedure to list the observations in this data set. c. Include a procedure to compute frequencies for Party.

```
data vote;
 infile '/courses/d4e71f65ba27fe300/political.csv' dsd;
 informat State $2. Party $3.;
 input State
 Party
 Age;
run;
title "Listing of VOTE";
proc print data=vote;
run;
title "Frequencies";
proc freq data=vote;
 tables Party / nocum;
run;
```

Listing of VOTE

Obs	State	Party	Age
1	NJ	Ind	55
2	CO	Dem	45
3	NY	Rep	23
4	FL	Dem	66
5	NJ	Rep	34

Frequencies

The FREQ Procedure

Party	Frequency	Percent
Dem	2	40.00
Ind	1	20.00
Rep	2	40.00

3.15.5 You want to create a test data set that uses a DATALINES statement to read in values for X and Y. In the DATA step, you want to create a new variable, Z, equal to 100 + 50X + 2X2 – 25Y + Y2. Use the following (X,Y) data pairs: (1,2), (3,6), (5,9), and (9,11).

```
data testdata;
input X Y;
 Z = 100 + 50*X + 2*X**2 - 25*Y + Y**2;
 datalines;
1 2
3 5
5 9
9 11 ;
```

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```
 title "Listing of TESTDATA";
proc print data=testdata noobs;
run;
```

Listing of TESTDATA

X	Y	Z
1	2	106
3	5	168
5	9	256
9	11	558

3.15.6 You have a text file called **bankdata.txt** with data values arranged as follows:

.Roberts$M234$45000
Chien$M74777$$
Walters$$75000
Rogers$F7272$78131

Variable	Description	Starting Column	Ending Column	Data Type
Name	Name	1	16	Char
Acct	Account number	21	27	Char
Balance	Acct balance	15	20	Num
Rate	Interest rate	26	30	Num

Create a temporary SAS data set called Bank using this data file. Use column input to specify the location of each value. Include in this data set a variable called Interest computed by multiplying Balance by Rate. List the contents of this data set using PROC PRINT.
Here is a listing of the text file: File **bankdata.txt**

Philip Jones V1234 4322.32
Nathan Philips V1399 15202.45
Shu Lu W8892 451233.45
Betty Boop V7677 50002.78

```
data bank;
 infile '/courses/d4e71f65ba27fe300/bankdata.txt' pad;

 input Name $ 1-15
 Acct $ 16-20
 Balance 21-26
 Rate 27-30;
 Interest = Balance * Rate;
 format Balance Interest dollar10.2;
run;

title "Listing of BANK";
proc print data=bank noobs;
run;
```

Listing of BANK

Name	Acct	Balance	Rate	Interest
Philip Jones	V1234	$432.00	2.32	$1,002.24
Nathan Philips	V1399	$1,520.00	2.45	$3,724.00
Shu Lu	W8892	$45,123.00	3.45	$155674.35
Betty Boop	V7677	$5,000.00	2.78	$13,900.00

4.11.1 Run the program here to create a permanent SAS data set called Perm. You will need to modify the program to specify a folder where you want to place this data set. Run PROC CONTENTS on this data set and then use the SAS Explorer to investigate the properties of this data set as well.

```
libname learn '/home/thomaspattara0/sasuser.v94/learn';

data learn.perm;
 input ID : $3. Gender : $1. DOB : mmddyy10.
 Height Weight;
 label DOB = 'Date of Birth'
 Height = 'Height in inches'
 Weight = 'Weight in pounds';
 format DOB date9.;
datalines;
001 M 10/21/1946 68 150
002 F 5/26/1950 63 122
003 M 5/11/1981 72 175
004 M 7/4/1983 70 128
005 F 12/25/2005 30 40
;

title "Contents of data set PERM";
proc contents data=learn.perm varnum;
run;
```

Contents of data set PERM

The CONTENTS Procedure

Data Set Name	LEARN.PERM	**Observations**	5
Member Type	DATA	**Variables**	5
Engine	V9	**Indexes**	0
Created	09/08/2017 18:02:34	**Observation Length**	32
Last Modified	09/08/2017 18:02:34	**Deleted Observations**	0
Protection		**Compressed**	NO
Data Set Type		**Sorted**	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	131072
Number of Data Set Pages	1
First Data Page	1
Max Obs per Page	4078
Obs in First Data Page	5
Number of Data Set Repairs	0
Filename	/home/thomaspattara0/sasuser.v94/learn/perm.sas7bdat
Release Created	9.0401M4

Engine/Host Dependent Information	
Host Created	Linux
Inode Number	4852013
Access Permission	rw-r--r--
Owner Name	thomaspattara0
File Size	256KB
File Size (bytes)	262144

Variables in Creation Order

#	Variable	Type	Len	Format	Label
1	ID	Char	3		
2	Gender	Char	1		
3	DOB	Num	8	DATE9.	Date of Birth
4	Height	Num	8		Height in inches
5	Weight	Num	8		Weight in pounds

4.11.2 Run PROC PRINT on the data set you created in Problem 1. Use the SAS VIEWTABLE window to open this data set and compare the headings in the window to the column headings from your PROC PRINT. What is the difference?

```
title "Listing of PERM";
proc print data=learn.perm noobs;
run;
```

Listing of PERM

ID	Gender	DOB	Height	Weight
001	M	21OCT1946	68	150
002	F	26MAY1950	63	122
003	M	11MAY1981	72	175
004	M	04JUL1983	70	128
005	F	25DEC2005	30	40

The difference is that the column headings with PROC PRINT are variable names. With the SAS Viewer, you get variable labels.

4.11.3 Run this program to create a permanent SAS data set called Survey2007. Close your SAS session, open up a new session, and write the statements necessary to compute the mean age.

```
libname prob3 '/home/thomaspattara0/sasuser.v94/learn';
data perm.survey2007;
 input Age Gender $ (Ques1-Ques5)($1.);
datalines;
23 M 15243
30 F 11123
42 M 23555
48 F 55541
55 F 42232
62 F 33333
68 M 44122
;
```

```
libname prob3 '/home/thomaspattara0/sasuser.v94/learn';
title "Computing Average Age";
proc means data=perm.survey2007;
 var Age;
run;
```

Computing Average Age

The MEANS Procedure

Analysis Variable : Age				
N	Mean	Std Dev	Minimum	Maximum
7	46.8571429	16.4360232	23.0000000	68.0000000