**Workshop4A**

**Book: Learning SAS by Example: A programmer's Guide**

**Section: 13.10**

**Exercises: 1,2,3,4,5**

**Question 1**

\* Program to create new dataset where there are reversed values using arrays by using Survey1 dataset. ;

/\* Using the permanent SAS data set Survey1, create a new, temporary SAS data set (Survey1)

where the values of the variables Ques1–Ques5 are reversed as follows:

1 -> 5; 2 -> 4; 3 -> 3; 4 -> 2; 5 -> 1.

Note: Ques1–Ques5 are character variables. Accomplish this using an array.

\*/

libname pract '/home/u58712040/Programming\_Workshops';

data survey1;

set pract.survey1;

array questions[5] $Q1-Q5;

do i=1 to 5;

questions[i] = translate(questions[i],'54321','12345');

end;

drop i;

run;

title "Original values for Survey 1 questions:";

proc print data=pract.survey1 noobs;

run;

title "Reversed values for Survey 1 questions:";

proc print data=survey1 noobs;

run;

**Question 2**

\* Program to create new dataset where there are reversed values using arrays by using Survey2 dataset.;

/\* Redo Problem 1, except use data set Survey2.

Note: Ques1–Ques5 are numeric variables.

\*/

libname pract '/home/u58712040/Programming\_Workshops';

data survey2;

set pract.survey2;

array questions[5] $Q1-Q5;

do i=1 to 5;

questions[i] = translate(questions[i],'54321','12345');

end;

drop i;

run;

title "Original values for Survey 2 questions:";

proc print data=pract.survey2 noobs;

run;

title "Reversed values for Survey 2 questions:";

proc print data=survey2 noobs;

run;

**Question 3**

\* Program to create dataset where values are replaced by SAS missing values. ;

/\* Using the SAS data set Nines, create a new temporary SAS data set (Nonines) where all values of

999 are replaced by SAS missing values. Do this without explicitly naming the numeric variables

in data set Nines (use \_NUMERIC\_ when you define your array).

\*/

libname pract '/home/u58712040/Programming\_Workshops';

data Nonines;

set pract.nines;

array numbers[\*] \_numeric\_;

do i=1 to dim(numbers);

if numbers[i]=999 then

call missing(numbers[i]);

end;

drop i;

run;

/\* Call statement is used to assign value to given variables.

Missing() is used to assign numeric missing value.

THis is call missing routine.

\*/

title "List of dataset with 999 :";

proc print data=pract.nines;

run;

title "List of dataset after replacing 999 :";

proc print data=Nonines;

run;

**Question 4**

\* Program to check value of survey questions using arrays. ;  
  
/\* Data set Survey2 has five numeric variables (Q1–Q5), each with values of 1, 2, 3, 4, or 5. You  
 want to determine for each subject (observation) if they responded with a 5 on any of the five  
 questions. This is easily done using the OR or the IN operators. However, for this question, use an  
 array to check each of the five questions. Set variable (ANY5) equal to Yes if any of the five  
 questions is a 5 and No otherwise.  
\*/  
  
libname pract '/home/u58712040/Programming\_Workshops';  
  
data any5;  
 set pract.survey2;  
 array questions[5] Q1-Q5;  
 Any5='NO ';  
 do i=1 to 5;  
 if questions[i]=5 then  
 do;  
 Any5='YES ';  
 end;  
 end;  
 drop i;  
run;  
  
title "Survey 2 details";  
proc print data=pract.survey2 noobs;  
run;  
  
title "Showing observations where there is a response of 5";  
proc print data=any5 noobs label;  
label Any5='Are there any questions with value of 5?';   
run;

**Question 5**

\* Program to use temporary array to count no. of tests passed by each student.;

/\* The passing score on each of five tests is 65, 70, 60, 62, and 68. Using the data here, use a

temporary array to count the number of tests passed by each student.

ID Test 1 Test 2 Test 3 Test 4 Test 5

001 90 88 92 95 90

002 64 64 77 72 71

003 68 69 80 75 70

004 88 77 66 77 67

\*/

data pass;

array passing\_score[5] \_temporary\_ (65,70,60,62,68);

array Test\_Score[5];

input ID $3. Test\_Score1-Test\_Score5;

TestsPassed = 0;

do test=1 to 5;

TestsPassed + (Test\_Score[test]) >= passing\_score[test];

end;

drop test;

datalines;

001 90 88 92 95 90

002 64 64 77 72 71

003 68 69 80 75 70

004 88 77 66 77 67

;

/\* 2 arrays are used here, one to store values for passing marks

and other to input test scores.

\*/

title "No. of tests passed by each student:";

proc print data=pass noobs label;

label Testspassed='Number of tests passed by student';

id ID;

run;