Md Mahi Uddin

SAS programming

Final Exam Code

Question 01:

Import data:

```
%web_drop_table(WORK.RISKFACTORSANDACCESSTOCARE);
FILENAME REFFILE '/home/mdmahiuddin0/sasuser.v94/RISKFACTORSANDACCESSTOCARE.csv';
PROC IMPORT DATAFILE=REFFILE
        DBMS=CSV
        OUT=WORK.RISKFACTORSANDACCESSTOCARE;
        GETNAMES=YES;
RUN;
PROC CONTENTS DATA=WORK.RISKFACTORSANDACCESSTOCARE; RUN;
%web_open_table(WORK.RISKFACTORSANDACCESSTOCARE);
```

Replacing missing values:

```
**data with replacing; /*rest of the values are not contain in data set*/
data all;
set  riskfactorsandaccesstocare;
array change _numeric_;
do over change;
if change=-1111.1 then change=.;
if change=-2222  then change=.;
if change=-2222.2  then change=.;
end;
title "Listing of observations after replacing missing value with dot";
proc print data=  all (obs=10);
run;
```

Cleaning data:

```
**data with cleaning;
data allcleaning;
set all;
title "Listing of selected variable";
proc report data= allcleaning (obs=10);
column CHSI_State_Name No_Exercise  Few_Fruit_Veg Obesity High_Blood_Pres Smoker Diabetes
Uninsured Elderly_Medicare Prim_Care_Phys_Rate Dentist_Rate;
run;
```

Question 02: Mean of ten variables for each state without repeating mean function ten times

```
**only mean with state name ;
data meanallwithstate; /*data set new name*/
set  allcleaning; /*previous data set name setting*/
title "Mean of selected variables"; /*title of the works*/
proc means data= meanallwithstate mean; /*proc means statement indicating only mean*/
class CHSI_State_Name; /*state namewise result needed*/
var No_Exercise  Few_Fruit_Veg Obesity High_Blood_Pres Smoker Diabetes
Uninsured Elderly_Medicare Prim_Care_Phys_Rate Dentist_Rate; /*selected variables name*/
run;
```

Ten Pie-Charts of the selected variables:

```
**graph expected final report;
title1 ls=1.5 "Pie chart of selected variable";/*title of the works*/
pattern1 v=s c=cxCCFFCC repeat=0; /*expected pattern*/
proc gchart data=meanallwithstate; */proc gchart statement with data set;
pie CHSI_State_Name / type=mean  sumvar=No_Exercise
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=Few_Fruit_Veg
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=Obesity
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=High_Blood_Pres
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=Smoker
slice=outside coutline=gray55
other=0 descending;
```

```
pie CHSI_State_Name / type=mean sumvar=Diabetes
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=Uninsured
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=Elderly_Medicare
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=Prim_Care_Phys_Rate
slice=outside coutline=gray55
other=0 descending;
pie CHSI_State_Name / type=mean sumvar=Dentist_Rate
slice=outside coutline=gray55
other=0 descending;/*selected variabls with some instructions*/
run;
```

Question 03: Calculate the first quartile (Q1), the median, and the third quartile (Q3) of USA for each of the ten variables. Use a single table to present the three quartiles.

```
/*Exactly shown by Professor*/
ods exclude all; /*ods statement to modify exclusion lists at the DATA step with all*/
proc means data=quartiles q1 median q3 stackodsoutput;/*expected summary*/
ods output Summary=meanssummary;/* set name on output out*/
var No_Exercise  Few_Fruit_Veg Obesity High_Blood_Pres Smoker Diabetes
Uninsured Elderly_Medicare Prim_Care_Phys_Rate Dentist_Rate;/*selected variables*/
run;
ods exclude none; /*/*ods statement to modify exclusion lists at the DATA step with none*/
proc print data=meanssummary;/*print data*/
run;
```

Question 04: 90% Confidence interval of ten variables from South Dakota with adding given label and table title.

```
**CI of Mean of SD for all variables;
data CIofMeanSD; /*new data set name*/
set meanallwithstate; /*previous data set*/
where CHSI_State_Name= "South D";**from SD;
title 'Table 2 Confidence Interval'; **Name the table as given;
proc means data= ciofmeansd alpha=0.10 clm; **90% confidence intervals;
var No_Exercise  Few_Fruit_Veg Obesity High_Blood_Pres Smoker Diabetes
Uninsured Elderly_Medicare Prim_Care_Phys_Rate Dentist_Rate;**means of the ten variables;
LABEL No_Exercise = "NumExercise"
Few_Fruit_Veg= "FewFruitVeg";**Add label NumExercise to var No_Exercise,FewFruitVeg to var Few_Fruit_Veg;
run;
```

Question 05: Map of USA with given instructed state wise color light to dark. I use different colors for different variables. Brought data from part 3.

1.

```
/*First Variable*/
pattern v=e;/*start with empty pattern*/
title 'Quartile information of selected variables'; /*title*/
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all; /*map data set as instrunted in d2l*/
id state; /*need state wise grap*/run;
proc format; /*proc format to instruct values to produce map data*/
value inter low - 21.90= "Less than Q1"
               21.91 - 26= "Between Q1 and the Median"
               26.01 -30.8 = "Between the Median and Q3"
               30.81 - high= "Greater than Q3"; /*use quartile information for color matching*/run;
pattern1 v=s c=lib; /*light color*/
pattern2 v=s c=mob;
pattern3 v=s c=meb;
pattern4 v=s c=dab; /*dark color*/
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties; /*rename data to combine both data*/
id State; /*state wise map*/
choro No_Exercise / discrete; /*discrete data of the variable*/
format No_Exercise inter.; /*format of that variable*/
note "Number of Excercise"; /*note*/
```

2.

```
/*Second Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 75.50= "Less than Q1"
               75.51 - 79= "Between Q1 and the Median"
               79.01 - 82.4 = "Between the Median and Q3"
               82.41 - high= "Greater than Q3"; run;
pattern1 v=s c=lio;
pattern2 v=s c=moo;
pattern3 v=s c=sto;
pattern4 v=s c=dao;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Few_Fruit_Veg / discrete;
format Few_Fruit_Veg inter.;
note "Few Fruit Vegetable";
```

3.

```
/*Third Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 21.10= "Less than Q1"
                21.11 - 24.30= "Between Q1 and the Median"
                24.31 -27.20 = "Between the Median and Q3"
                27.21 - high= "Greater than Q3"; run;
pattern1 v=s c=lig;
pattern2 v=s c=mog;
pattern3 v=s c=stg;
pattern4 v=s c=dag;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Obesity / discrete;
format Obesity inter.;
note "Obesity";
```

4.

```
/*Fourth Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 22.80= "Less than Q1"
                22.81 - 26.20= "Between Q1 and the Median"
                26.21 -29.90 = "Between the Median and Q3"
                29.91 - high= "Greater than Q3"; run;
pattern1 v=s c=lipk;
pattern2 v=s c=mopk;
pattern3 v=s c=stpk;
pattern4 v=s c=dapk;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro High_Blood_Pres / discrete;
format High_Blood_Pres inter.;
note "High Blood Pressure";
```

5.

```
/*Fifth Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 19.4= "Less than Q1"
               19.41 - 23= "Between Q1 and the Median"
               23.01 -27.70 = "Between the Median and Q3"
               27.71 - high= "Greater than Q3"; run;
pattern1 v=s c=liy;
pattern2 v=s c=moy;
pattern3 v=s c=sty;
pattern4 v=s c=day;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Smoker / discrete;
format Smoker inter.;
note "Smoker";
```

6.

```
/*sixth Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 5.90= "Less than Q1"
               5.91 - 7.50= "Between Q1 and the Median"
               7.51 -9.50 = "Between the Median and Q3"
               9.51 - high= "Greater than Q3"; run;
pattern1 v=s c=libr;
pattern2 v=s c=mobr;
pattern3 v=s c=stbr;
pattern4 v=s c=dabr;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Diabetes / discrete;
format Diabetes inter.;
note "Diabetes";
```

7.

```
/*Seventh Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 1551= "Less than Q1"
                1551.01 - 3430= "Between Q1 and the Median"
                3430.01 -8118 = "Between the Median and Q3"
                8118.01 - high= "Greater than Q3"; run;
pattern1 v=s c=liol;
pattern2 v=s c=mool;
pattern3 v=s c=stol;
pattern4 v=s c=daol;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Uninsured / discrete;
format Uninsured inter.;
note "Uninsured";
```

8.

```
/*Eighth Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 1649= "Less than Q1"
                1649.01 - 3495= "Between Q1 and the Median"
                3495.01 -8138 = "Between the Median and Q3"
                8138.01 - high= "Greater than Q3"; run;
pattern1 v=s c=lip;
pattern2 v=s c=mop;
pattern3 v=s c=stp;
pattern4 v=s c=dap;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Elderly_Medicare / discrete;
format Elderly_Medicare inter.;
note "Elderly Medicare";
```

9.

```
/*Nineth Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 30.5= "Less than Q1"
                30.51 - 50.60= "Between Q1 and the Median"
                50.61 -74.7 = "Between the Median and Q3"
                74.71 - high= "Greater than Q3"; run;
pattern1 v=s c=liv;
pattern2 v=s c=mov;
pattern3 v=s c=stv;
pattern4 v=s c=dav;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Prim_Care_Phys_Rate / discrete;
format Prim_Care_Phys_Rate inter.;
note "Prime Care Physian Rate";
```

10.

```
/*Tenth Variable*/
pattern v=e;
title 'Quartile information of selected variables';
* use a SAS-supplied map data set (US) as both the map and response data sets;
proc gmap
map= mapsgfk.us_counties
data= mapsgfk.us all;
id state; run;
proc format;
value inter low - 18.7= "Less than Q1"
                18.71 - 30= "Between Q1 and the Median"
                30.01 -43.30 = "Between the Median and Q3"
                43.31 - high= "Greater than Q3"; run;
pattern1 v=s c=lir;
pattern2 v=s c=mor;
pattern3 v=s c=str;
pattern4 v=s c=dar;
proc gmap data=quartiles(rename=(State_FIPS_Code=State)) map=mapsgfk.us_counties;
id State;
choro Dentist_Rate / discrete;
format Dentist_Rate inter.;
note "Dentist Rate";
```