Assignment 5

Assignment 5 Objective

In this assignment will be demonstrating your skills in sub-setting, combining, and reporting your data in SAS.

Deliverables

All requested submissions for this assignment must be uploaded as attached files in the assignment folder. Any additional written responses required to the assignment questions must be provided by filling out the 'Text Submission' section when you are uploading your assignment files. To ensure accuracy of feedback, please ensure that written responses to questions are clearly identified by question number.

In assignment 5 you will be producing a written report containing the following deliverables:

- **Deliverable 1-** A copy of your program submission components.
  When requested, for each question in the assignment that requires the development and running of SAS code, the student must include the following in the report:
  i) A complete listing of the code being run
  ii) An unedited copy of the log report that includes all run time information

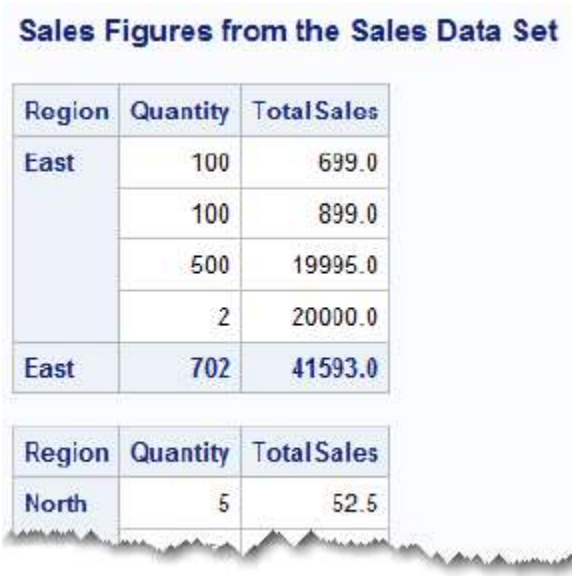
- ***Deliverable 2 -*** An electronic copy of all SAS programs
  Executable programs must be included as a separate file attachment with all assignments. Use the following naming convention for all SAS programs when you submit them for evaluation. XX_A5_QY.sas Where XX is your first and last initial, replace Y with the number of the question that this program is referring to.

  Please note that all individual programs that are submitted must be fully executable on a standalone basis in a SAS on Demand Enterprise Guide Session. For example, if you developed the program assuming some temporary files or library references were run previously, you must copy those steps so that each program you submit runs with a single execution of the program.
- ***Deliverable 3 -*** Written responses to Assignment Questions
  When requested, you may also be required to provide written responses to Assignment Questions that will assess your ability to interpret program output.

Instructions for Assignment 5:

Question 1 (Displaying your Data) **(2 marks)**

a) Using data set Sales in your BAN130 library, write a SAS program to create the report shown below:



Sales Figures from the Sales Data Set

Region	Quantity	TotalSales
East	100	699.0
	100	899.0
	500	19995.0
	2	20000.0
East	702	41593.0

Region	Quantity	TotalSales
North	5	52.5

b) List the first five observations from data set Blood. Print only variables Subject, Gender, and BloodType. Omit the Obs column.

Submit your program file as XX_A5_Q1.sas (replace XX with your first and last initials)
Submit a copy of the log as XX_A5_Q1_log.txt (replace XX with your first and last initials)
Submit a copy of the results as XX_A5_Q1_results.pdf (or .txt is acceptable) (replace XX with your first and last initials)

Question 2 (Customized Reports) **(2 marks)**

a) Using the Blood data set, produce a summary report showing the average WBC and RBC count for each value of Gender as well as an overall average. Your report should look like this:

Statistics from BLOOD by Gender

Gender	Average WBC	Average RBC
Female	7,112	5.50
Male	6,988	5.47
	7,043	5.48

Submit your program file as XX_A5_Q2.sas (replace XX with your first and last initials)
Submit a copy of the log as XX_A5_Q2_log.txt (replace XX with your first and last initials)
Submit a copy of the results as XX_A5_Q2_results.pdf (or .txt is acceptable) (replace XX with your first and last initials)

Question 3 (Customized Reporting) **(2 marks)**

Using the SAS data set BloodPressure, compute a new variable in your report. This variable (Hypertensive) is defined as Yes for females (Gender=F) if the SBP is greater than 138 or the DBP is greater than 88 and No otherwise. For males (Gender=M), Hypertensive is defined as Yes if the SBP is over 140 or the DBP is over 90 and No otherwise. Your report should look like this:

Hypertensive Patients

Gender	SBP	DBP	Hypertensive?
M	144	90	Yes
F	110	62	No
M	130	80	No
F	120	70	No
M	142	82	Yes
M	150	96	Yes
F	138	88	No
F	132	76	No

Submit your program file as XX_A5_Q3.sas (replace XX with your first and last initials)
Submit a copy of the log as XX_A5_Q3_log.txt (replace XX with your first and last initials)
Submit a copy of the results as XX_A5_Q3_results.pdf (or .txt is acceptable) (replace XX with your first and last initials)

Question 4 (Creating Output Data Set with PROC FREQ) **(3 marks)**

Copy the following starter program into a new program

```
proc freq data=order_fact;
tables Product_ID; run;
```

a) Create an output dataset containing the frequency counts based on **Product_ID**.

b) Merge the output data set with **product_list** to obtain **Product_Name** value for each **Product_ID** code. Include only **Product_ID, Product_Name**, and **Count** in the new dataset.

c) Sort the merged data so that the most frequently ordered products appear at the top of the resulting data set. Print the first 10 observations – that is, those that represent the 10 products ordered most often. To limit the number of observations displayed by PROC PRINT, apply the OBS= data set option, as in the following:

proc print data=work.mydataset (obs=10);

d) Submit the program to produce the report below.

Top Ten Products by Number of Orders

Obs	Orders	Product Number	Product
1	6	230100500056	Knife
2	6	230100600030	Outback Sleeping Bag, Large,Left,Blue/Black
3	5	230100600022	Expedition10,Medium,Right,Blue Ribbon
4	5	240400300035	Smasher Shorts
5	4	230100500082	Lucky Tech Intergal Wp/B Rain Pants
6	4	230100600005	Basic 10, Left , Yellow/Black
7	4	230100600016	Expedition Zero,Medium,Right,Charcoal
8	4	230100600028	Expedition 20,Medium,Right,Forestgreen
9	4	230100700008	Family Holiday 4 10 4
		230100700011	Hurricane 4

Submit your program file as XX_A5_Q4.sas (replace XX with your first and last initials)
Submit a copy of the log as XX_A5_Q4_log.txt (replace XX with your first and last initials)
Submit a copy of the results as XX_A5_Q4_results.pdf (or .txt is acceptable) (replace XX with your first and last initials)

Question 5 (Creating a Tabular Report with PROC TABULATE) **(3 marks)**

You can get information on proc tabulate or any other procedures by using the SAS Knowledge Base, check out SAS Help Feature. You can bookmark the SAS Syntax Lookup Feature for future reference to get examples of how to use various SAS procedures. Here is a basic user manual on proc tabulate.

Copy the following starter program into a new program

```
proc tabulate data=customer_dim;
title 'Ages of Customers by Group and Gender'; run;
```

a) Add a CLASS statement to define **Customer_Group** and **Customer_Gender** as classification variables.
b) Add a VAR statement to define **Customer_Age** as an analysis variable.
c) Add a TABLE statement to create a report with the following characteristics:
   - **Customer_Group** defines the rows.
   - An extra row that combines all groups appears at the bottom of the table.
   - **Customer_Gender** defines the columns.
   - The N and MEAN statistics based on **Customer_Age** are displayed for each combination of **Customer_Group** and **Customer_Gender**.
d) Submit the program to produce the report below.

Ages of Customers by Group and Gender

	Customer Gender			
	F		M	
	Customer Age		Customer Age	
	N	Mean	N	Mean
Customer Group Name				
Internet/Catalog Customers	4	49.25	4	54.25
Orion Club Gold members	11	35.36	10	38.90
Orion Club members	15	32.53	33	47.03
All	30	35.80	47	45.91

Submit your program file as XX_A5_Q5.sas (replace XX with your first and last initials)
Submit a copy of the log as XX_A5_Q5_log.txt (replace XX with your first and last initials)
Submit a copy of the results as XX_A5_Q5_results.pdf (or .txt is acceptable) (replace XX with your first and last initials)