Homework 2

Due: Tuesday August 22th

Instructions: For the General Knowledge Questions, answer as succinctly as possible. For the Programming Assignment, show your code as well as a partial screenshot of your output.

General Knowledge Questions

1. What do missing numeric and character values appear as?
2. Are missing values treated as the smallest or largest values?
3. User-defined formats can be created for which type(s) of variable(s)?
4. Does the sort procedure generate any results in the Results Viewer or Output windows?
5. By default, variables are sorted in which order?
6. Are label and format attributes found in a data set's descriptor temporary or permanent?
7. Which statement creates page breaks in the print procedure? Does this statement have to be used in conjunction with any other statement?
8. In a SAS data set, the columns are ____, and the rows are ____.
9. List three types of data input statements.

Programming Assignment

1. Use the talent data set posted on Gauchospace for the following exercise.
a. Sort the data set talent by Address2 (alphabetical order) and Rate (largest to smallest), and output the sorted data set into work.talent.
b. Create a report that
i. Is sent to the Output window.
ii. Does not display date and time, nor page numbers.
iii. Has a linesize of 100.
iv. Displays the variables FirstName, Rate, Comment (in this order).
v. Displays the Address2 on separate pages.
vi. Assign the label 'Location' to Address2.
vii. Uses the LastName as an identification variable.
viii. Has an appropriate title.
c. How many columns are in your tables?

For exercises 2-4, use the SFOSCH.dat file posted on Gauchospace. The SFOSCH.dat is a raw data file that contains information on flights from San Francisco to various destinations.
The table below provides the complete record layout of the raw data file.

Variable Name	Field Description	Columns	Data Type
FlightID	Flight ID Number	1-7	Character
RouteID	Route ID Number	8-14	Character
Destination	Flight Destination	18-20	Character
Model	Aircraft Model	21-40	Character
Depart	Departure Date	41-49	Character 01JAN2000
DepartDay	Departure Day of Week	51	Numeric 1=Sunday
FClassPass	First Class Passengers	53-55	Numeric
BClassPass	Business Class Passengers	57-59	Numeric
EClassPass	Economy Class Passengers	61-63	Numeric
TotPassCap	Aircraft Capacity – Total Passengers	65-67	Numeric
CargoWt	Weight of Cargo in Pounds	69-73	Numeric
CargoRev	Revenue from Cargo in Dollars	75-79	Numeric

2. Reading Raw Data Using Column Input
a. Create a SAS data set named **work.sanfran**, by writing a DATA step that uses column input, and reads in only the variables **FlightID, RouteID, Destination, Model, Depart, DepartDay, and TotPassCap**.

b. Read the log to answer the following questions:
i. How many records were read from the raw data file?
ii. How many observations does the resulting SAS data set contain?
iii. How many variables does the resulting SAS data set contain?

c. Use PROC CONTENTS to display the descriptor portion of the data set.

d. Use PROC PRINT to display the data portion of the data set. Do not display the date and time the SAS session started. Do not display page numbers. Set the line size to 90.

3. Reading Raw Data Using Formatted Input
a. Create another SAS data set named work.passengers by writing a DATA step that uses formatted input to read in and create only the variables FlightID, RouteID, Destination, Depart, FClassPass, BClassPass, and EClassPass. Use pointer control AND an appropriate SAS date informat to store the values of Depart.

b. Read the log and answer the following questions:
i. How many records were read from the raw data file?

ii. How many observations are in the resulting SAS data set?
iii. How many variables are in the resulting SAS data set?
iv. What data errors are indicated in the SAS log?

c. Use PROC PRINT to display the data portion of the data set. Do not display the date and time, but do display page numbers starting at page 1. Set the line size to 75. Display the values of Depart using a 08/03/2015 format.

4. Changing Variable Attributes
a. Modify the Data Step of the previous program to assign the following attributes to the FClassPass, BClassPass and EClassPass variables.
i. Assign the label 'First Class Passengers' to the FClassPass variable.
ii. Assign the label 'Business Class Passengers' to the BClassPass variable.
iii. Assign the label 'Economy Class Passengers' to the EClassPass variable.
iv. Run PROC CONTENTS to verify that the changes were made.