Assignment 3

Note: For each question, produce separate PDF files for SAS code and output. Those PDF files shouldbe uploaded to the Crowdmark under each question.

Q1) Merge *EmpData_div_merged* dataset with *Personal* dataset to create the complete dataset and name it as *Air_Emps_Full*.

I. Ensure that the *Air_Emps_Full* dataset does not include the *PHONE* variable and update the salary variable to be named *CurrentSalary*. Include an appropriate format for this variable.

II. Assign descriptive labels to the variables using LABEL statement (Hint: Read the online document on LABEL statement available at https://documentation.sas.com, or any otherrelated SAS online document). Comment on the advantage of labelling variables.

b) Use the *Air_Emps_Full* data set to create a subset of data that only includes records for employees thatwere hired prior to January 1, 1990, and whose current salary is below $45,000. Name this dataset as *Air_Emps_Underpaid.*

c) Produce a PDF showing the first 10 observations with all variables in *Air_Emps_Underpaid*

Q2) The weather in Birmingham, Alabama on December 20, 1999, might have caused some customersto alter their shipping plans. Investigate how much cargo revenue was lost on all flights out of Birmingham by comparing the targeted revenue with the actual revenue.

a) Sort the SAS data set '`target121999`' into a temporary SAS data set called **work.sort_b** (Use the statement of PROC SORT with OUT option). Sort by the variable FlightID. Create a subset for Birmingham (BHM) on December 20, 1999.
b) Sort the SAS data set '`sales121999`' into a temporary data set called **work.sort_s** (Use the statement of PROC SORT with OUT option). Sort by the variable FlightID. Create a subset for Birmingham (BHM) on December 20, 1999.
c) Create a new temporary data set called *compare* by merging the **sort_b** and **sort_s** data sets by the variable **FlightID**. Subtract **CargoRev** from **CargoTarRev** to create a new variable called **LostCargoRev**.
d) Produce a PDF to print the merged data set compare (print only the variables **CargoRev**, **CargoTarRev** and **LostCargoRev**) and label the **LostCargoRev** variable. Format the **LostCargoRev** variable with a dollar sign and two decimal digits.

Q3) Produce separate PDF documents for each output in part a-b.

a) Use an iterative DO loop to plot the following equation:

$$y = 3sinx - 5x^2 + 10$$

Use values of x from 0 to 10, with an increment of 0.10.

b) You invest $1,000 a year at 4% interest, compounded quarterly. How many years will it take toreach $5,000? Use DO WHILE or DO UNTIL statements to solve this problem.