Instructions: Below are the questions for HW2. After completing Question I and II. , create one SAS program in which you will write data and proc steps to answer Questions III and IV.

When you have completed this assignment, in Moodle submit the following:

1) SAS program with data steps to write in the GroupIntro and Tecator datasets and proc steps to answer the questions related to each of these datasets. Be sure to follow SAS Programming Standards.

2) SAS Log file for the SAS Program in 1)

3) Either a Word or PDF document that contains the answers to all below Fill in the Blanks or Circle One questions below OR include the answers in comments in your SAS Program in 1). For your convenience these questions are in red. If providing your answers in SAS program via comments, be sure to include the question number (e.g. Ig) with each answer.

I. Creating course data files. The **cre8data** program creates data files for this course. The program must be executed once, at the start of the ***course***.

a. Go to Moodle and download the SAS Programming 1 data files. Remember where you have downloaded the materials, unzip it, and save it. Remember the path where you have saved the unzipped materials, we will refer to this as your course target location. SAS Programming 1 course materials defines the default location for all course data as **s:\workshop**. If your data files are to be created in a location other than **s:\workshop**, you must identify a location for the SAS data files. I suspect most of us will have a different path location. For example my path location on my desktop is:
\\stat.ad.ncsu.edu\Redirect\rhmoore\Documents\RHM\Teaching\St555\SASCourseNotes\New Program 1 Course Files

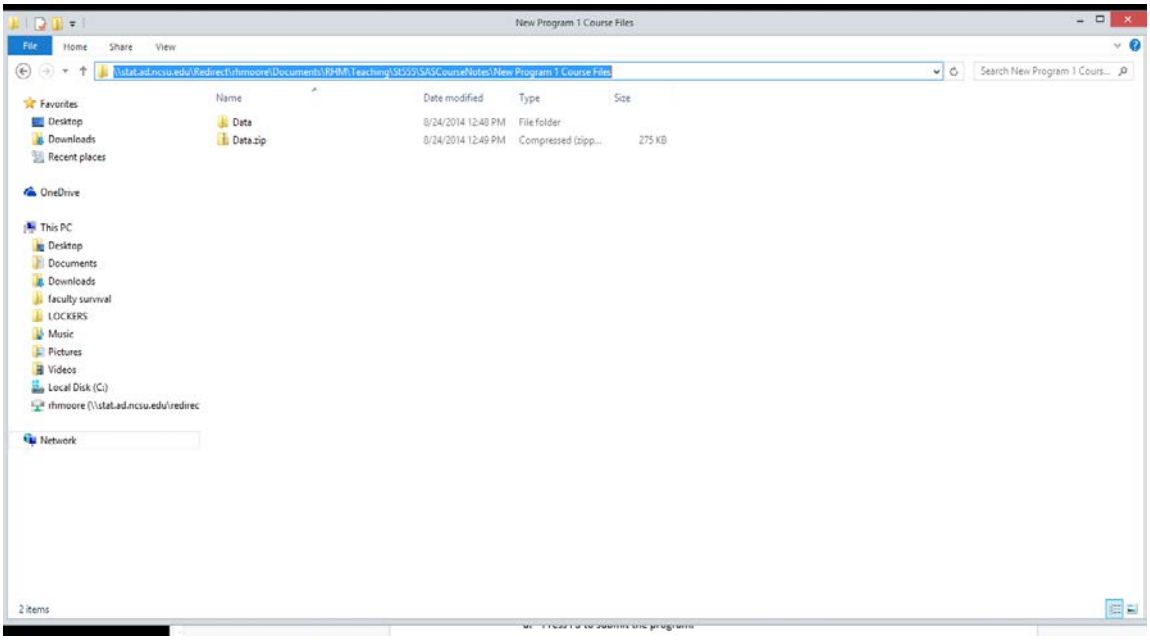
(Hopefully your path is shorter than this :-)

b. Now open the cre8data.sas program in SAS. If you open SAS, you can utilize the menu:

Select **File Open Program**.

Navigate to the data folder, select **cre8data**, and click **Open**. The program is displayed in an editor.

c. Note the default values for the %LET statement. If your files are to be created at a location other than **s:\workshop**, change the value assigned to PATH= to reflect the location of the SAS data files. I suspect that most of you will have to change your path. Recall in module 2, my %let statement reflects my path. If you are unsure where you saved the data files, go to your Windows Explorer to find the path for the folder where you want to keep your SAS Programming 1 course data files. Here is a screen shot of my Windows Explorer and I've clicked in the top box to find the path name



d. Once you have entered the correct pathname in the %LET statement in cre8data.sas, click the running man or press F3 to submit the program.

e. Click the **Results** tab and verify that the output contains a list of data files. In the Result Viewer, the list of data files will appear.

f. Go to your course target location and you will see the libname.sas program and your course target location path should be automatically written in the %let path=… and *libname orion …; statements

g. How many datasets did the cre8data.sas program create? 37

(You may use the following code: proc contents data=orion._all_ nods; run; in combination with your libname.sas program to answer this question)

II. Examine the below SAS program and answer the questions that follow

```
DATA DummyData;
    input name $ IQ shoesize ;
    datalines ;
    John       105   9.5
    Paul       118  10.0
    Jane       121   7.5
    Irene      98    8.0
    George      95   11.0
    ;
 RUN;

PROC PRINT data=DummyData;                * print it out ;
RUN;

PROC MEANS data=DummyData; *get summary statistics for IQ;
   var IQ;
RUN;
```

a. How many SAS steps are in this program? 3

b. How many SAS statements are in this program? 9

c. What does the $ in the input statement tell SAS?

It tell SAS the variable 'name' is a character variable.

III. Creating Group Introduction Dataset: take the information in the forum for your Group Introductions and create one SAS dataset call it "Orion.GroupIntro" so it will be a permanent SAS dataset in your Orion library folder. The number of observations in your dataset should be equal to the number of group members in your dataset (3 or 4) and for the number of variables**,** I will leave it up to you to decide how many variables are required to enter in all of the information from the introductions." I just uploaded a new version that actually made this two difference sentences: The number of observations in your dataset should be equal to the number of group members in your dataset (3 or 4). I will leave it up to you to decide how many variables are required to enter in all of the information from the introductions.. Each observation should have the same data value for the "GroupTrait" variable.

a. Use the Print procedure to view how SAS displays your GroupIntro dataset.

Copy and paste the Output here.

Group Introduction

Obs	name	age	sex	decipline	GroupTrait
1	Ji	3	M	Economics	HavePets
2	Ian	2	M	Chemistry	HavePets
3	Elissa	2	F	NaturalResources	HavePets
4	Rongjing	2	M	ElectricalEngineering	HavePets

IV. Enter the below data step into SAS and use it to answer the questions that follow

```
DATA Tecator; /* see http://lib.stat.cmu.edu/datasets/tecator for details */
   * Each sample contains finely chopped pure meat with
     different moisture, fat and protein contents      ;
   input Fat Moisture Protein;
   datalines ;
      60.5   22.5   16.7
      46.0   40.1   13.5
      71.0    8.4   20.5
      72.8    5.9   20.7
      58.3   25.5   15.5
      44.0   42.7   13.7
      44.0   42.7   13.7
      69.3   10.6   19.3
      61.4   19.9   17.7
      61.4   19.9   17.7
      41.4   46.0   12.5
      76.6    0.9   21.2
      72.7    2.9   21.7
      71.4    3.5   21.5
      69.8    4.0   21.3
      74.5    5.2   20.2
      73.5    5.6   20.0
      74.1    6.3   19.2
      67.3    7.2   20.1
      71.8    7.8   20.2
      72.4    7.9   19.7
      71.6    9.2   18.7
      69.4    9.3   18.2
   ;
 RUN;

/*** END Data Step for HW2: Question IV ***/
```

a. After submitting the above data step, go to the Log to examine how many observations and variables SAS read into the tecator data set. Copy and paste the sentence from the Log that provides this information.

The data set WORK.TECATOR has 21 observations and 3 variables.

b. As entered above, is the tecator dataset a permanent or temporary SAS data set.

Circle one: Permanent (Temporary)

c. Write a CONTENTS procedure for the SAS dataset created above. What portion of the SAS dataset does the CONTENTS procedure display?

Circle one Descriptor Data

d. Write a PRINT procedure for the SAS dataset created in (a).
What portion of the SAS dataset does the PRINT procedure display?

Circle one: Descriptor Data

e. Write a MEANS procedure to find the means of Fat and Moisture. Consult the HELP facility to find the option to limit the printout of the means to two decimal places. Copy and paste your the Output from a proc MEANS data step that gives the means rounded to two decimal places for Fat and Moisture.

Copy and Paste Results Here:

Mean of Fat and Moisture

The MEANS Procedure

Variable	Mean
Fat	66.18
Moisture	13.88