Module 2: SAS Assignment 1

**40 points**

Names:

Section:

Group Number:

# INSTRUCTIONS

**Answer all questions.**

**Notes**:

1. You will work in the assigned groups for this assignment.
2. At the end of the assignment, you will evaluate yourself and your group members. If the group evaluations indicate that a group member did not participate, this will affect that individual's score on the assignment. Complete the self and group evaluation assignment on Canvas.
3. For your assignment file name, include, course code, group number, and module number; for example, **CHS762\_Grp1\_M2**
4. List the names of the group members on the header section, in the top right-hand corner of the assignment document.
5. Use Word file format (unless otherwise specified).
6. Submit a combined file (Word) for the sections of your SAS Program, SAS Log, and SAS Output. Don’t upload the SAS files; instead, copy and paste SAS program, log, and output into the Word file.
7. **It is strongly recommended that you review and practice with the following SAS programs, available on Web Campus (Canvas), before attempting this assignment:**
   1. **UNR CHS 762 Reading data into SAS sample program**
   2. **UNR CHS 762 Proc freq and proc means sample program**
   3. **UNR CHS 762 Creating output destinations sample program**

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1. The following DATA step attempts to create a SAS dataset that contains information from Nevada 2017 County Health Rankings and Roadmaps.

**data** healthrank;

State = 'Nevada';

Fipscode = '32000'

PercentPoorHealth = **17**;

PercentLBW = '8';

**run**;

* 1. Copy the preceding program into the SAS editor and submit it. Review the information in the SAS log.

**Note**: You can use the S*nipping Tool* (or other similar tool such as *Snagit*) to copy and paste the notes from the SAS log in this Word assignment document.

* + 1. Identify and state the number of error(s) produced by this program. Paste the SAS log here to show these error(s). Do not include any SAS start-up messages. (**1 point**)
    2. Identify and state the number of notes produced by this program. Paste the SAS log here to show these notes. Do not include any SAS start-up messages. (**3 points**)
    3. Identify and state the warning produced by this program. Paste the SAS log here to show the warning. Do not include any SAS start-up messages. (**2 points**)
  1. Revise the program to fix the programming mistakes and then resubmit the revised SAS program. Copy and paste your revised SAS program and the SAS log here. (**2 points**)
  2. Looking at the “NOTES” in the SAS log from question 1b, how many observations and variables were created in this dataset? (**1 point**)

1. The body mass index (BMI) is a measure used as a rough indicator of an individual’s body fat. The following program computes BMI using weight (in pounds) and height (in inches).

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Compute body mass index using pounds and inches

The two asterisks are used to square (height squared)

A single asterisk means multiply

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

**data** bodymass;

weight = **150**;

height = **68**;

bmi = (weight / height \*\* **2**) \* **703**;

**run**;

1. Copy and paste the preceding program into the SAS editor and submit it. Paste the program and log here.**(1 point)**
2. The program in question a) creates a SAS dataset named BODYMASS in SAS Work library. View the data set. Find the value that was calculated for the BMI variable and record this value as a comment in your SAS program. Paste your commented SAS program here. **(2 points)**
3. View the properties of this data set. Find the types and lengths for the variables and record them as comments in your program. Paste your commented SAS program here. **(3 points)**

**Note**: To view the properties, go to the SAS Explorer 🡪Work 🡪 bodymass 🡪 right click on the bodymass dataset 🡪 properties 🡪 Columns tab

An oval shape in bold red highlighting the Columns feature on the table


1. Choose different values for the weight and height variables in your program. Add a PROC PRINT statement to list the data in the BODYMASS data set and submit the revised program. Include a title for the proc print. Paste your SAS program, PROC PRINT, output, and log here. **(4 points)**
2. Following is data for five students and their homework scores.

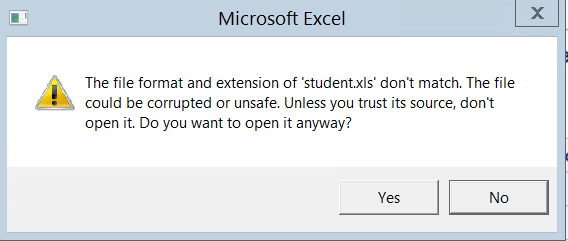
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fname** | **Lname** | **ID** | **homewk1** | **homewk2** |
| John | Smith | NV111 | 8 | 7 |
| Mary | Johnson | IL222 | 9 | 7 |
| Mark | Miller | UT333 | 10 | 8 |
| Jay | Chavez | K444 | 6 | 10 |
| Cynthia | Ragan | CA555 | 10 | 10 |
|  |  |  |  |  |

1. Create a SAS data file with the preceding data using the INPUT statement; use PROC PRINT to print the dataset. Include two titles for the PROC PRINT output. Paste your SAS program, log, and PROC PRINT output here. **(2 points)**
2. Develop a SAS program to create a SAS library named “CHS762”. Paste your SAS program and log here. **(3 points)**
3. Use the INFILE statement to import the text data file “County1.txt”. The County1 text file has four columns with the following variables*:* ID*,* RACE, AGE, AND COUNTY*.* Save the imported data as a permanent data file in the CHS762 library. Use PROC PRINT to print the data you imported. Paste the SAS program, log, and PROC PRINT output here. **(3 points)**

**Note**: The county1.txt file is tab-delimited. Refer to example on program 4 in the “UNR CHS 762 reading data into SAS sample program” SAS program.

1. Include any two comments in the SAS program, in question 3 c, that provide information about the SAS program. **(1 points)**
2. The csv data file “student1” contains information about students at a Western college. The variables in the file are IDS, MAJOR, HEIGHT, ENGLISH, and STATE.
3. Import the csv data file “student1” into SAS and use PROC MEANS to compute the mean height and mean English score (variable names “height” and “English”). Use a PROC MEANS option so that the SAS output has zero decimal places. Paste the SAS program, PROC MEANS output, and SAS log here. **(2 points)**
4. Add SAS statements that will output the PROC MEANS results from question 4a as a PDF file. Include a title and a footnote in the output. Paste the SAS program and log here. Upload on Canvas the PDF file with this assignment. **(2 points)**
5. Use a one-way PROC FREQ to compute the number of students who were in-state and out of state (variable name is STATE). Use PROC FREQ options such that there is no cumulative frequency. Paste the SAS program, log, and PROC FREQ output here. **(2 points)**
6. Add SAS statements that will output the one-way frequency table in question 4b as an Excel file. Include a title and a footnote in the output. Paste the SAS program and log here. Upload on Canvas the Excel file with this assignment. **(2 points)**

**Note**: The following message will appear when you click on the open the Excel file. Ignore the message and open the Excel file by clicking “Yes”.



1. Use a two-way PROC FREQ to compute the number of students by major and state (variable names MAJOR and STATE respectively). Use PROC FREQ options such that there is no percent, row percent, or column percent on the output. Paste the SAS program and log here. **(2 points)**
2. Add SAS statements that will output the two-way frequency table in question 4e as a RTF file. Include a title and a footnote in the output. Paste the SAS program and log here. Upload on Canvas the RTF file with this assignment. **(2 points)**