

CS130 Assignment #4

Date assigned: Monday, April 5, 2010

Date due: Monday, April 12, 2010

Points: 50

Create a Word document **WordAnswers4PUNetID.docx** using your PUNetID that will contain answers to each of the following questions in order when applicable. The Word document and any other files created are to be placed in a folder called **PUNetID_Solution4** once again using your PUNetID.

Problem #1

Import the following data into an SPSS worksheet. Name the file **PUNetID_Assign4Prob1.sav**

ID	Gender	Calories burned per Day	Height (ft)
1	m	1788	6.3
2	m	1676	5.9
3	f	994	3.8
4	f	1431	5.3
5	m	1400	5.1
6	f	1414	4.8
7	m	1358	4.7
8	f	1503	5.4
9	m	1260	4.1
10	m	1615	5.9
11	f	1190	4.8
12	f	915	4.8
13	m	1461	6.1
14	f	1125	5.0
15	m	1060	3.9
16	f	1350	4.8
17	f	1210	4.3
18	m	1870	6.2

In the Word document described above, answer each of the following questions in order under the heading specified. That is, list the heading in bold and then give your answer. You are to find if the calories burned by women is significantly different than the calories burned by men.

Problem1 – Question 1

What hypothesis test will you need to perform to find this result? Fully explain why you selected the test you did.

Problem1 – Question 2

State the NULL Hypothesis for the statistical test you selected.

Problem1 – Question 3

Paste in the results of the statistical test.

Problem1 – Question 4

State your conclusion.

Problem1 – Question 5

Explain exactly what the Sig. (2-tailed) value means in this case. I don't want just if the value is less than 0.05 reject the null hypothesis or greater than 0.05 accept the null hypothesis, but in terms of the problem explain the meaning

of the Sig. (2-tailed) value including the concept of chance occurrences. Someone without a statistics background must be able to understand your explanation.

Problem1—Question 6

How well does height predict calories burned? Justify your answer by analysis. Copy and paste any analysis you perform in SPSS into the Word document.

Problem #2

Return to the California Economic Indicators spreadsheet used in Assignment #3. You can download a fresh copy of this data from the following website: http://www.dof.ca.gov/HTML/FS_DATA/indicatr/ei_home.htm Download **Excel Table 4** of the California Economic Indicator data for **Sep/Oct 2009**. Save this file as **CEI_4_PUNet.xlsx**. Import the table in worksheet “**CEI3 Leading Indicators**” into SPSS. You will need to determine which cells in the worksheet to import into SPSS. To more easily import the data into SPSS you might need to alter the spreadsheet.

Once the data is imported, check the type and measure. Make any changes necessary. Save this SPSS file as **CEI_4_PUNetID.sav**.

Problem2 – Question 1

What pair of variables (of the set: Overtime Hours, Average Weekly Hours, Unemployment Insurance Claims) has the highest correlation and what is the Pearson correlation coefficient?

Problem2 – Question 2

Create and paste into your Word document a Scatterplot of these two variables produced by SPSS.

Problem2 – Question 3

Perform a linear regression on the two different variables with the highest correlation and paste in the Coefficients table produced by SPSS.

Problem2 – Question 4

Using the Equation Editor and the Coefficient table, write out the linear regression equation and R^2 value.

Problem2 – Question 5

Perform the same linear regression using Excel and paste in a graph of the linear regression where the graph includes the linear equation and R^2 value.

Submitting your work:

To submit your work, copy your single folder **PUNetIDSolution4** (for me that's will4614Solution4) containing (**WordAnswers4PUNetID.docx**, **PUNetID_Assign4Prob1.sav**, **CEI_4_PUNetID.xlsx**, and **CEI_4_PUNetID.sav**) into the **CS130 Drop** folder on Turing. You must submit your work by the time specified above for your assignment to be considered on time. Reread the syllabus for the late policy. The official time can be found <http://time.gov/timezone.cgi?Pacific/d/-8/java>.

Grading:

Grading will be based on:

- 1) Correctness of your results
- 2) Completeness of your results
- 3) Professional look and correctness of your Word document answers.

Be sure to come see me early with any questions!
Also, make sure you reread the Academic Dishonesty policy from the course syllabus.

This is NOT a group project.