TO DO LIST

1) **SAS Question:**The **bad debt ratio in Texas** for the financial institution is defined to be the dollar value of loans defaulted divided by the total dollar value of all loans made. A random sample of seven Texas banks is selected. The bad debt ratios (written as percentages) for these banks are 7, 4, 6, 7, 5, 4, and 9%.

a) The mean bad debt ratio for all federally insured banks is 3.5%. Federal banking officials claim that the mean bad debt ratio for Texas banks is higher than the mean for all federally insured banks. Set up the null and alternative hypotheses that should be used to justify this claim statistically.

b) Assuming that bad debt ratios for Texas banks are normally distributed, use the sample results given above to test the hypotheses you set up in part (a) with . Interpret the outcome of the test.

2) **SAS Question-**Many factors, such as the type of job, education level, and job experience, can affect the stress felt by workers on the job. Locus of control (LOC) is a term in psychology that describes the extent to which a person believes he or she is in control of the events that influence his or her life. Is feeling “more in control” associated with less job stress? A recent study examined the relationship between LOC and several work-related behavioral measures among certified public accountants in Taiwan. LOC was assessed using a questionnaire that asked respondents to select one of two options for each of 23 items. Scores ranged from 0 to 23. Individuals with low LOC believe that their own behavior and attributes determine their rewards in life. Those with high LOC believe that these rewards are beyond their control. Each accountant’s job stress was assessed using the averaged score on 22 items, each scored on a five-point scale. The higher the score, the higher the perceived job stress. We will consider a random sample of 100 accountants.

a) Make a scatter plot of the data (including the least squares regression line) with LOC on the x axis and Stress on the Y axis. Briefly describe the relationship between the job stress and LOC.

b) Compute the correlation coefficient between Stress vs. LOC.

c) Find the equation of the least-squares regression line for predicting Stress from

LOC.

d) What is r2 for these data?

e) Obtain the residuals and plot them versus LOC. Is there anything unusual to report?

Please explain.

f) Do the residuals appear to be approximately Normal? Explain your answer.

g) Based on your answers for parts (a), (e) and (f), do the assumptions for the linear regression analysis appear reasonable? Explain your answer.

h) Construct and interpret the 95% confidence interval for the slope and y-intercept.

i) Does Job Stress increase with LOC? Carry out a test of significance on the slope.

State hypotheses, give a test statistic and P-value, and state your conclusion.

j) Briefly summarize what your data analysis shows.

3) Solve Exercises 3.9, 3.10, 3.11, 3.18, 3.22, 3.30, 3.35, 3.36 from the Bowerman textbook (Data is in Table 3-8 and Table 3-12) (use SAS software)

4) Solve Exercise 4.23 page 216 from the Bowerman textbook

5) Solve Exercises 4.2 4.4 4.6, 4.8, 4.10, 4.19, 4.20, 4.22 from the Bowerman textbook (Data is in Table 4-11, Table 4-16, and Table 4-18) (use SAS software)

6) Solve Exercises 5.13, 5.16 from the Bowerman textbook (Data is from Table 3.2 QHIC, and Table 5.5 Hospital) (use SAS software)

7) Solve Exercise 5.15 page 273 from the Bowerman textbook (use SAS software)

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