Chapter 15 & 16 Assignment (64pts)

For this assignment I will have you run both a simple linear regression and a multiple linear regression analysis. This will give you the opportunity to run the analysis and interpret the findings.

The data file consists of data that measure the depression (BDI) of those before (Base\_QoL) and after cosmetic surgery (Post\_QoL)

The research question: is there a relationship between depression and quality of life before and after cosmetic surgery?

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| 1. Write a null hypothesis (3pts) |  |
| 2. Write a research hypothesis (3pts) |  |

3. Run descriptive statistics (mean, median, mode, standard deviation, skewness, kurtosis) on the following variables (Paste the tables below): (6pts)

a. BDI

b. Base\_QoL

c. Post\_QoL

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| 4. Are the data normally distributed? Explain (4pts) |  |

5. Run a simple linear regression using BDI as the dependent variable and age as the independent variable. Run the analysis as the Enter method. Paste the tables below: (6pts)

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| 6. What is the correlation coefficient between age and BDI? Is this significant and what does this mean? (4pts) |  |
| 7. How much does age contribute to the BDI score? HINT: look in the model summary table (3pts) |  |
| 8. Does age significantly contribute to BDI? Explain. HINT: Look at the ANOVA table (3pts) |  |
| 9. Generate the regression equation using the values in the Coefficients table (5pts) |  |
| 10. If a person was 37 years old what would their predicted BDI score be? (4pts) |  |

In this next analysis I want you to run a multiple linear regression analysis using the variables age, Base\_Qol, and Post\_QoL. What you are trying to do with this data is find the variables that BEST predict BDI given the three independent variables.

11. Run the multiple linear regression and include all the above variables. Use the ENTER method. Paste the tables below (6pts)

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| 12. Is the model significant and how do you know this? (4pts) |  |
| 13. Of the variables entered into the analysis which ones significantly contribute to the BDI score and how do you know this? (3pts) |  |

14. Run the same variables but this time run a FORWARD method. Paste the tables below (6pts)

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| 15. What is different between the ENTER method and the FORWARD method in regards to the output (4pts) |  |