

Please Begin working on the 9.03 project by **Tuesday, April 25th, 2017**.

9.03 (first draft) is **due Monday, May 1<sup>st</sup>, 11:59 pm**.

Even if you don't plan on submitting a second/final draft of 9.03, this is still the deadline.

Second/Final Drafts (also called revisions) for 9.03 are **due no later than Monday, May 8th, at 11:59 pm**. Submitting revisions are completely optional and at the decision of the student.

### **Grading Rubric:**

The owner of the company wants you to identify if there is a correlation between salaries employees earn and how they performed on the computer skills test. They also want you to identify if there is a correlation between employees' ages and their computer scores.

**Step 1:** Download the spreadsheet of data. Yes, again. Because you deleted some of the data when you completed the 9.02 project, you will need to resave the spreadsheet (with all the data) one final time.

#### **Question 1:**

**Step 2:** Use the same process from the 9.02 project to reveal the data from the computer training program.

**Step 3:** Using a random number generator, select 60 of the 177 employees in the company. This large sample group will be used to make all the scatterplots, lines of best fit and predictions for this part of the project. You may delete the rows with data for the remaining 117 employees.

**Step 4:** Create (by hand) a scatterplot using the data from the spreadsheet. Using the data for age as the variable for the independent axis, and salary as the variable for the dependent axis, plot the 60 points from your sample. Please use the graph paper included with this rubric to make your graph.

**Graph = 4 points**

**Step 5:** Analyze your scatterplot. **Write an analysis to the owner of the company identifying if there is a correlation between employees' ages and salaries. Include the type of correlation and its strength. Provide additional impressions the data presents. Considering that age is the independent variable and salary is the dependent variable, what does this mean with relation to your analysis?** Use professional grammar, correct punctuation, spelling and capitalization. Consider your "audience". The owner hired you to do this analysis. He or she is your boss, and this should be a professional presentation.

**This analysis is worth 6 points.**

**Content = 4 points.**

**Grammar, spelling, punctuation, capitalization, professionalism and "voice" = 2 points.**

#### **Question 2:**

You are encouraged to use spreadsheet software to complete question 2. Alternately, you may choose to complete part 2 by hand (although I think this would be unwise).

##### **Part a.**

**Step 6:** Between **salaries** and **computer skills scores**, decide which variable should be considered the independent variable and which should be the dependent variable. List the salaries and computer skills scores of your sample group individuals as an xy-table in your spreadsheet (with the appropriate category assigned to the correct variable).

**Step 7:** Using the spreadsheet software, create a scatterplot with the data. Have the software graph the trend line and display the equation for the line. You may need to adjust the location of the equation so it is legible and not overlapping the data on the graph.

Graph = 5 points total

Axis Labeled, Points graphed, Trend Line graphed, Trend Line Equation

**Step 8:** Analyze the scatterplot. **Write an analysis to the owner of the company identifying if there is a correlation between employees' computer scores and salaries. Include the type of correlation and its strength. Provide additional impressions the data presents. Considering which variable is the independent variable and which is the dependent variable, what does this mean with relation to your analysis?**

**Using the Trend Line equation, make a prediction about an employee's salary-score relationship, for someone not included in your sample. Describe why the Trend Line equation should make a good estimation for the predicted employee's salary and computer skills score.**

Use professional grammar, correct punctuation, spelling and capitalization. Consider your "audience". The owner hired you to do this analysis. He or she is your boss, and this should be a professional presentation.

This analysis is worth 15 points.

Content = 13 points (Correlation = 8 points, Trend Line Example = 5 points).

Grammar, spelling, punctuation, capitalization, professionalism and "voice" = 2 points.

#### **Part b.**

**Step 9:** Between **ages** and **computer skills scores**, decide which variable should be considered the independent variable and which should be the dependent variable. List the ages and computer skills scores of your sample group individuals as an *xy*-table in your spreadsheet (with the appropriate category assigned to the correct variable).

**Step 10:** Using the spreadsheet software, create a scatterplot with the data. Have the software graph the trend line and display the equation for the line. You may need to adjust the location of the equation so it is legible and not overlapping the data on the graph.

Graph = 5 points total

Axis Labeled, Points graphed, Trend Line graphed, Trend Line Equation

**Step 11:** Analyze the scatterplot. **Write an analysis to the owner of the company identifying if there is a correlation between employees' computer scores and ages. Include the type of correlation and its strength. Provide additional impressions the data presents. Considering which variable is the independent variable and which is the dependent variable, what does this mean with relation to your analysis?**

**Using the Trend Line equation, make a prediction about an employee's age-score relationship, for someone not included in your sample. Describe why the Trend Line equation should make a good estimation for the predicted employee's age and computer skills score.**

Use professional grammar, correct punctuation, spelling and capitalization. Consider your "audience". The owner hired you to do this analysis. He or she is your boss, and this should be a professional presentation.

This analysis is worth 15 points.

Content = 13 points (Correlation = 8 points, Trend Line Example = 5 points).

Grammar, spelling, punctuation, capitalization, professionalism and "voice" = 2 points.