# Statistical Functions

**Project Description:**

*In the following project, you will use excel to perform statistical analysis of a cross section sample of an employee satisfaction survey.*

**Instructions:**

For the purpose of grading the project you are required to perform the following tasks:

| Step | Instructions | Points Possible |
|:---:|---|:---:|
| 1 | Download and open the file named *exploring_e08_grader_h1*, and then save the file as **exploring_e08_grader_h1_LastFirst**, replacing "LastFirst" with your name. | 0 |
| 2 | Enter a conditional function in cell I5 to calculate average satisfaction for support staff (H5). Format the results with Number format and two decimal positions.<br>**=AVERAGEIF(C$4:C$53,H5,E$4:E$53)** | 6 |
| 3 | Use the fill handle in cell I5 to copy the function down through the range I6:I9. Be sure to use the appropriate mixed or absolute referencing before copying the functions. | 3 |
| 4 | Enter a function in cell J5 to calculate the average salary of all support staff (H5) in the survey.<br>**=AVERAGEIF(C$4:C$53,H5,D$4:D$53)** | 6 |
| 5 | Use the fill handle in cell J5 to copy the function down through the range J6:J9. Be sure to use the appropriate mixed or absolute referencing before copying the functions. | 3 |
| 6 | Enter a function in cell I12 to calculate the number of Directors in the survey that have a job satisfaction level of **4** or higher.<br>**=COUNTIFS(C4:C53,H9,E4:E53,">=4")** | 6 |
| 7 | Enter a function in cell I13 to calculate the average salary of Directors in the survey that have a job satisfaction level of **4** or higher.<br>**=AVERAGEIFS(D4:D53,C4:C53,H9,E4:E53,">=4")** | 6 |
| 8 | Adapt the process used in the previous two steps to calculate the total number and average salary of managers that have a job satisfaction of **4** or higher in cells I16 and I17.<br>**I16=COUNTIFS(C4:C53,H8,E4:E53,">=4")**<br>**I17=AVERAGEIFS(D4:D53,C4:C53,H8,E4:E53,">=4")** | 6 |
| 9 | Enter a function in cell F4 that calculates the rank of the salary in cell D4 against the range of salaries in the data set.<br>**=RANK.AVG(D4,D$4:D$53)** | 6 |

| Step | Instructions | Points Possible |
|------|-------------|-----------------|
| **10** | Use the fill handle to copy the function down column F. Be sure to include the appropriate absolute or mixed cell references before copying the functions. | 5 |
| **11** | Enter a function in cell I20 to calculate the minimum Quartile value in the list of salaries. <br> **=QUARTILE.INC(D$4:D$53,H20)** | 6 |
| **12** | Use the fill handle to complete the remaining quartile values in cell range I21:I24. Be sure to include the appropriate absolute or mixed cell references before copying the functions. | 5 |
| **13** | Enter a function in cell H27 to calculate the correlation of column D and E. <br> **=CORREL(D4:D53,E4:E53)** | 12 |
| **14** | Format the results as Number Format with two decimal positions. | 5 |
| **15** | Click the DATA tab and select Data Analysis. Select Descriptive Statistics and click OK. Complete the input criteria using the salary data in **column D**. Set the Output functions to display on a new worksheet. (*Hint:* be sure to output Summary Statistics). <br><br> **FILE->OPTIONS->Add-Ins** <br> **Manage Excel Add-ins [G̲o…]** <br> **Check Analysis ToolPak** | 12 |
| **16** | Name the newly created worksheet **Descriptive Statistics**. | 3 |
| **17** | Click the DATA tab and select Data Analysis. Select Histogram and click OK. Use the salaries in **column D** as the input range. Use the quartiles in the range **I20:I24** as the bin range. Output the data in cell **H29**. Be sure to include a chart with the output. | 10 |
| **18** | Move the Employee Satisfaction worksheet to display first in the workbook. Ensure that the worksheets are correctly named and placed in the following order in the workbook: Employee Satisfaction; Descriptive Statistics. Save the workbook. Close the workbook and then exit Excel. Submit the workbook as directed. | 0 |
| | **Total Points** | **100** |