**Business Analytics – Homework #1 – Feedback**

Description:

Submit a categorization, visualization, correlation, and regression analysis of house prices **before the live class in week 4**. Suggested length is five pages, but should not exceed ten pages, single-spaced, 12-point font.

This is a group assignment; each student should upload a copy of the assignment to the Learning Management System. The paper must be a Microsoft Word document. You should also submit the Excel spreadsheet with the visualization, correlation, and regression analysis. Name the file HW1\_Team# where # is your team number. Be sure to include the names of everyone on the team on the first page of the paper. Late assignments will not be accepted. Failure to follow directions will be penalized.

Justify your answers. Provide a snapshot of output from your analysis in your final paper.

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| **Content Requirements** | **Possible Points** | **Points Earned** | **Comments**   * **Correct, well done** * **Incorrect/improvement opportunity** |
| 1. Develop a categorization of your data using pivot tables. Develop two pivot tables of average price and average square feet by type of construction (brick) and neighborhood | 20 | **20** | * Two pivot tables are complete. * Definitions of the Row Labels provided. * Discussion/justification included. |
| 2. Using the two pivot tables above, generate pivot charts for average price and average square feet by type of construction (brick) and neighborhood. | 10 | **10** | * Pivot charts are technically correct. * Discussion/justification included. * May be more helpful to see as a 3D bar chart for clearer visualization. |
| 3. Perform a correlation analysis of all quantitative variables except ID. Which two variables have the largest magnitude correlation? Which two variables have the smallest magnitude correlation? What does the largest magnitude imply if we perform a regression analysis next? Are there any negative correlations? Are these correlations intuitive? If not, why not? | 20 | **20** | * Complete, accurate summary. |
| 4. Perform an initial regression analysis of the quantitative variables excluding the ID. Which variables are statistically significant? What does each coefficient mean in a real world sense? Are these coefficients intuitive? If not, why not? What does the R-squared mean? | 25 | **20** | * Summary was accurate. * Coefficients were discussed but not explained in the real world sense, for example, the coefficient for Square footage is the price per square foot. * Intercept was discussed. |
| 5. Create a spreadsheet prediction of the model. Perform a two-way sensitivity analysis and use conditional formatting to highlight the results. | 15 | **13** | * Prediction model was complete and reflected the coefficients identified in the regression model (in excel file) * Prediction model not included in the final paper * Two-way sensitivity analysis include input data was in the data range used to create model |
| 6. What would explain non-intuitive results in your regression using the data which you were provided? What additional data would assist you in explaining the non-intuitive results? | 10 | **10** | * Complete, accurate summary and recommendations |
| **Total possible 100 points** |  | **93** | Well done! |