PROJECT INSTRUCTIONS

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1. Real Estate Data Project

1.1. Overview. The “Realestate” data set contains information on 103 home sales in Colorado in 2003 with 8 variables. Variables include selling price of the home, size of the home and other features, as well as distance from the center of the city and township. You will be creating a full executive summary over the semester with two (2) check points throughout. The variables are defined as follows: **Price**: continuous, Selling price of the home in thousands of dollars; **Bedrooms**: discrete, number of bedrooms; **Size**: continuous, Size of house in square feet; **Pool**: nominal, pool (1 = yes, 0 = no); **Distance**: continuous, distance from the center of the city; **Township**: nominal, township (1 - 5); **Garage**: nominal, garage (1 = yes, 0 = no); **Baths**: continuous, number of bathrooms.

1.2. Excel Phase I:. Note: You will be attaching your graded projects I and II to your final, keep these in a safe spot. Using Excel, create charts, tables, and graphs to describe what can be seen in the data. Some questions that may be useful to consider while creating your output are:

- What type of variables is each of those in the data set?
- What tables can I make for categorical variables? Numerical variables?
- What graphs can I make for categorical variables? Numerical variables?
- What summary statistics have we dealt with in class, e.g., cross-tabulation, mean, median, standard deviation, range, etc?

You will need to look at all possible charts, tables, and graphs. You will not include all in your project, but will need to explain why you included those you did. Why are they interesting? Also, your charts, tables, and graphs will need appropriate descriptions. Keep in mind we want to analyze price later; which of these graphics will help you do that?

1.3. Excel Phase II:. Note: You will be attaching your graded projects I and II to your final, keep these in a safe spot. Your client may be interested in the following research questions:

1. What is the average price for all such homes?
2. What is the average difference in price between homes with and without pools?
3. Is the price higher for those homes with a garage than those without a garage?
4. Does the number of bathroom determine the price of a home?
5. Does the distance from the city center affect the price of a home?

*Date: December 21, 2011.*
Please do not feel limited by these questions. You may or may not use them. They are only there to start the thinking process. Some questions that may be useful to consider while creating your output are:

- Which of the research questions hint at hypothesis testing? Confidence intervals (state your confidence level chosen)?
- What is the parameter of interest in each case?
- What would the appropriate hypotheses be?

You will need to get the appropriate output for each question and write an effective summary.

1.4. Excel Final Project: Note: Attach your graded projects I and II to the back of project III. You are to combine Excel Projects I and II with any additional information to make a complete executive summary. Some questions to keep in mind while working on your project are:

- Have you introduced your project in an interesting way? What about a methods section? What are you asking that should be done because of this preliminary research project, i.e., what is your conclusion?
- Are there any additional interesting analyses you might be able to do now that you were not able to look at during your first two projects (chi-square or correlation/regression)?
- Have you made suggested changes, or re-edited your previous projects, to make them more effective?
- Have you made an appendix?

2. Appendix

2.1. Directions for your unique dataset. You should go to this web-site: http://www.stat.wmich.edu/s216/resample/index.html and follow these instructions:

1. Scroll down to Realestate and click it.
2. Under Select variables, put check marks next to all the variables
3. Enter 30 for sample size
4. Enter your four digit homework PIN
5. Click the submit button
6. In a few seconds, the data will appear on your screen. From your browser Edit menu choose Select All and Copy. Now start the Excel 2010 program and Paste the data into cell A1.
7. Choose Data tab and choose Text to columns
8. Follow the dialog, choose Delimited and click Next, choose Comma and deselect Tab, and Click Next, and finally Click Finish.

2.2. Rubric.
## Phase 1 and 2 of the Project – 5 percent of grade for each phase

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<th>Proficient – 1.5%</th>
<th>Acceptable – 1%</th>
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<td>* Missing 2 graphs and/or several mistakes</td>
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## Phase 3 of the Project – 20 percent of grade for each phase

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