BUS 735: Business Decision Making and Research
Instructor: Dr. James Murray
In-class Exercise: Regression Analysis

The dataset *house.sav* data on 239 recently sold houses including the selling price (in thousands of dollars), the size of the house (in square feet), the number of bedrooms, whether or not the house is on a corner lot (1=corner lot, 0=otherwise) and the age of the house in years. Develop a regression model that can help potential home sellers figure out how much they might get for their house based on the other variables in the dataset.

1. Estimate the regression equation and write down the estimated equation.

2. What is your prediction for the average selling price of a house that is on a corner lot, has 3 bedrooms, is 2412 square feet, and is 18 years old?

3. What percentage of the variability in selling price is explained by your explanatory variables?

4. Suppose your real estate agent said the age of the house has no bearing on the selling price of a house, it is only the other factors that are important along with preparing your house so that is looks visually attractive to buyers. Test the real estate agent's claim. What is your conclusion?

5. Test the hypothesis that at least one of your explanatory variables in your regression model helps explain housing prices.

6. Think about this example. Is there any reason why any of the explanatory variables might be correlated? Which ones? For these variables, compute the Pearson Correlation Coefficient and test whether the correlation is different from zero.