This assignment introduces you to applications of simple and multiple regression. You will apply these models for predicting and forecasting and, determining the strength of the relationship between a variable *y* and a number of variables *X1*, ..., *Xp.*

* Chapter 6 – **Skill-Building Exercises** (page 227)#1, 2, 3, 4
* Chapter 6 – Problems and Applications #12

Skill- Building Exercises:

 1. For the *Home Market Value* data, use formulas ([6.2](http://digitalbookshelf.argosy.edu/books/9780558689766/content/id/ch06tbl02)) and ([6.3](http://digitalbookshelf.argosy.edu/books/9780558689766/content/id/ch06tbl03)) on a spreadsheet to calculate the least-squares regression coefficients.

6.2: 

6.3: 

 2. For the *Colleges and Universities* data, plot scatter charts for each variable individually against the graduation rate and add linear trendlines, finding both the equation and *R*2 values.

 3. Use the regression tools to find simple linear regression models for each independent variable for the *Colleges and Universities* data.

 4. Use the INTERCEPT and SLOPE functions in Excel to develop regression models for each of the independent variables in the *Colleges and Universities* example.

Number and identify each part of the answer concerning the college and university: ie, 2, 3 or 4

Problems and Applications:

12. The Excel file *Concert Sales* provides data on sales dollars and the number of radio and TV and newspaper ads promoting the concerts for a group of cities. Develop simple linear regression models for predicting sales as a function of the number of each type of ad. Compare these results to a multiple linear regression model using both independent variables. Examine the residuals of the best model for regression assumptions and possible outliers.