**Homework 3**

1. Data obtained from a county auditor in the Excel file Home Market Value provide information about the age, square footage, and current market value of houses along one street in a particular subdivision. Considering these data as a population of homeowners on this street, compute the mean, variance, and standard deviation for each of these variables using a spreadsheet and formulas. Verify your calculations using the appropriate Excel function.
2. In the Excel file Facebook Survey, find the average and median hours online/week and number of friends in the sample using the appropriate Excel functions. Compute the midrange and compare all measures of location.
3. For the Excel file Tablet Computer Sales, find the average number, standard deviation, and inter-quartile range of units sold per week. Show that Chebyshev's theorem holds for the data and determine how accurate the empirical rules are.
4. The Excel file Atlanta Airline Data provides arrival and taxi-in time statistics for one day at Atlanta Hartsfield International airport. Find the average and standard deviation of the difference between the scheduled and actual arrival times and the taxi-in time to the gate. Compute the z-scores for each of these variables.
5. Compute descriptive statistics for liberal arts colleges and research universities in the Excel file Colleges and Universities. Compare the two types of colleges. What can you conclude?
6. The worksheet Data in the Excel file Airport Service Times lists a large sample of the times in seconds to process customers at a ticket counter. The second worksheet shows a frequency distribution and histogram of the data.
   1. Summarize the data using the Descriptive Statistics tool. What can you say about the shape of the distribution of times'?
   2. Find the 90th percentile.
   3. How might the airline use these results to it its ticketing counter operations?