Use the data set bus580_ps1 and Microsoft Excel (or equivalent) to answer the following questions. Your typed answers are due at the beginning of the next class. Answers must be presented in a professional manner for full credit.

1. Examining the long term trend
   a. Show graphically total cases sold by period for the duration of the data set.
   b. When does the data set start?
   c. When does the data set end?
   d. Describe any long term trend in case volume?
   e. Calculate the compound annual growth rate (cagr) of case volume.
   f. Describe any seasonal variations in the data?
   g. Do these seasonal variations affect your calculation of the growth rate? Explain.
   h. Recalculate your cagr using the same months as the first period used in the data.
   i. Recalculate your cagr using the same months as the last period used in the data.

2. Consider the last full year of the data only, 2010.
   a. Show total cases sold graphically by period for 2010.
   b. In which periods in 2010 were total cases sold above or below average total cases sold for the entire (2004-2011) span of data?
      i. Show graphically using total cases sold compared to average total cases sold.
      ii. Show graphically using the difference from average total cases sold.
      iii. Show graphically using the percentage difference from total cases sold.
   c. Calculate a three period moving average (one period before, the current period and one period after) of total cases sold.
   d. In which periods in 2010 were total cases sold above or below the three period moving average for 2010?
      i. Show graphically using total cases sold compared to the moving average of total cases sold.
      ii. Show graphically using the difference from the moving average of total cases sold.
      iii. Show graphically using the percentage difference from the moving average of total cases sold.
   e. Calculate average total cases sold by month for the entire data set 2004-2011.
   f. In which periods in 2010 were total cases sold above or below average total cases sold for that month?
      i. Show graphically using total cases sold compared to the monthly average of total cases sold.
      ii. Show graphically using the difference from the monthly average of total cases sold.
      iii. Show graphically using the percentage difference from monthly average of total cases sold.
   g. What factor is being ignored in your analysis?