Use the data set bus580_ps1 to answer the following questions. Note that you need to break down the data by varietal. Your typed answers are due at the beginning of the next class. Answers must be presented in a professional manner for full credit.

1. Trend Analysis
   a. Show graphically total cases sold by period for the duration of the data set.
   b. Calculate the annual percentage growth rate of total sales using regression analysis. Calculate the approximate and exact growth rates as well as the non-compounded and compounded rates. Hint, you may want to “outreg” your regression results.
   c. Show graphically total cases sold of chardonnay by period for the duration of the data set.
   d. Calculate the annual percentage growth rate of total chardonnay sales using regression analysis. Calculate the approximate and exact growth rates as well as the non-compounded and compounded rates.
   e. Has the growth rate of chardonnay sales been above or below total sales?
   f. Show graphically total cases of merlot sold by period for the duration of the data set.
   g. Calculate the annual percentage growth rate of total merlot sales using regression analysis. Calculate the approximate and exact growth rates as well as the non-compounded and compounded rates.
   h. Has the growth rate of merlot sales been above or below total sales?
   i. Show graphically total cases sold of cabernet sauvignon by period for the duration of the data set.
   j. Calculate the annual percentage growth rate of total cabernet sauvignon sales using regression analysis. Calculate the approximate and exact growth rates as well as the non-compounded and compounded rates.
   k. Has the growth rate of cabernet sauvignon sales been above or below total sales?
   l. Show graphically total cases sold, chardonnay, merlot and cabernet sauvignon sales together. Describe your graph.

2. Indexing Trends
   a. Index total cases sold for the duration of the period and re-graph. Be sure that indexed cases sold are zero in the first period. Interpret your graph.
   b. Index total cases sold of chardonnay for the duration of the period and re-graph. Be sure that indexed cases sold are zero in the first period. Interpret your graph.
   c. Index total cases sold of merlot for the duration of the period and re-graph. Be sure that indexed cases sold are zero in the first period. Interpret your graph.
   d. Index total cases sold of cabernet sauvignon for the duration of the period and re-graph. Be sure that indexed cases sold are zero in the first period. Interpret your graph.
   e. Show graphically indexed total cases sold, indexed chardonnay, indexed merlot sales and indexed cabernet sauvignon sales together. Interpret your graph.