15.3.12: Chapter 13 Lab

Analysis of Variance

Open MINITAB file lab12.mpj from the website.

1. You want to address the question: "Is there a difference in overall quality due to Division?" There are five divisions (some were combined): Certificate Programs/Other, Creative Arts/Physical Ed, Social Studies/Humanities/Business, Language/International/Multicultural, Physical and Health Science. Conduct the test at a significance level of 1%.
   a. What is response and what is the factor? How many levels?
   b. State the hypotheses in words and parameters.
   c. Run the appropriate one factor ANOVA test (use columns 1 and 2 from data). Make sure you select the Tukey Test under the Comparisons options. Paste the results here, including a graph comparing the means.
   d. State a detailed conclusion using the both ANOVA results and the Tukey Test results.
2. Columns 3 -5 of the Minitab file represent annual pay in $ thousands for randomly sampled workers in San Jose, California, Ann Arbor, Michigan and Dallas, Texas. Test for a difference in mean pay among the three cities. Choose a significance level of 5%.
   a. What is the response variable and what is the factor variable.? How many levels?
   b. State the hypotheses in words and parameters.
   c. Run the appropriate one factor ANOVA test. Make sure you select the Tukey Test under the Comparisons options. Paste the results here, including a graph comparing the means.
   d. State a detailed conclusion using the both the ANOVA results and the Tukey Test results.