Math 160/263 Minitab Assignment # 11 - Windows Version

Chapter 6 - Inference for Distributions

Worksheet Name - data11.MTW

1. The monthly fees (in dollars) paid by a random sample of 50 users of commercial Internet service providers in August 2000 are given in data11.MTW.

   (a) State the appropriate H_o and H_a for a statistical test of the claim that the mean cost for all Internet users differs from \$20 per month. Be sure to identify the parameter appearing in the hypotheses.

   (b) Make a graphical check for outliers or strong skewness in the data that you will use in your statistical test, and report your conclusions on the validity of the test.

   (c) Use the **Stat** > **Basic Statistics** > **1-Sample t** menu command to carry out the test. Can you reject H_o at the 5% significance level? At the 1% significance level?

   (d) Give a 90% confidence interval for the mean monthly cost for all Internet users.

2. A study compared various characteristics of 68 healthy and 33 failed firms. One of the variables was the ratio of current assets to current liabilities. Roughly speaking, this is the amount that the firm is worth divided by what it owes. The data are given in data11.MTW.

   (a) Describe the data graphically. Are there outliers or strong skewness that might prevent the use of t procedures?

   (b) State the hypotheses for a statistical test of the claim that failed firms have a lower ratio of current assets to current liabilities.

   (c) Carry out the test using the **Stat** > **Basic Statistics** > **2-Sample t** menu command. Is the result significant at the 10% level. At the 5% level? At the 1% level?

   (d) Give a 95% confidence interval for the difference between the mean ratio of current assets to current liabilities for healthy firms and the mean ratio of current assets to current liabilities for failed firms.