Assignment 1 (MINITAB #1)

[Xr4.87 and Xr4.88] These exercises are located on page 137 in the text. The data to be analyzed can be accessed from the disc that accompanies the text book (see the syllabus for instructions), or from the publisher’s web site (see 1.4 WORLD WIDE WEB AND LEARNING CENTER on pages 7 and 8 of the text).

**Objective:** Review basic ideas of data exploration/summarization.

Before any statistical analysis is performed, the analyst should have at least a basic understanding of the nature of the data being analyzed. This includes identification of the variable(s) involved and the appropriate units of measurement for the variable(s), as well as recognition of whether the available data constitutes a population or a sample. For each variable it includes knowledge of the shape, center and spread of the distribution of the data.

Data that is reasonably symmetric should be described using the average (mean) and standard deviation. Data that is skewed or has outliers should generally be described using the five-number summary: Min, Q₁, Median, Q₃, Max. Linear relationship between two variables is best described by correlation. Of course, the best method for initial identification of shape or pattern is to create a graph of the data. Appropriate graphs include, but are not limited to, histograms, box-plots, and scatterplots. Read chapter 4 before beginning this assignment if necessary. You should certainly read 4.7 GENERAL GUIDELINES FOR EXPLORING DATA.

We do not include data exploration/summarization as a topic for discussion in Business Management 330. However, the procedures and tools that we do discuss apply only to data with certain characteristics, so we will regularly require some form of data exploration as a preliminary step.

**Requirements:**
1. Use the statistical software package MINITAB to create graphical and numerical summary information that will allow you to answer all questions listed in the text with 4.87 and 4.88. The complete, annotated MINITAB results must be included in the document you submit.

2. TYPE responses to all of the questions in the form of complete sentences or paragraphs. Effective communication is an important skill. Your use of language and grammar will comprise a portion of your grade.

3. Compile and staple together your cover page, the MINITAB results, and your responses to the questions.

**Note:** Don’t forget that a detailed explanation of protocol for the MINITAB assignments is posted on the course web page. Read it carefully and follow the instructions.