

Stat 100

MINITAB Project 1 (modified for version 15)

Purpose: To use MINITAB to calculate some basic statistical quantities (*eg.* mean, median, standard deviation, *etc.*) from sample data and to display the data in several types of graphs (*eg.* stem-leaf, boxplot, dotplot, frequency histogram, and density histogram).

Reading: Text, sections 2.4 and 2.5 for measures of center and variation and section 2.3 for graphical displays.

Submit: Turn in a print out of: 1) the session window with the basic descriptive statistics, 2) the stem-leaf display, 3) the boxplot, 4) the dotplot, 5) the frequency histogram, 6) the density histogram. Also turn in your answers to the questions at the end of this assignment. (You may type your answers directly in the session window, which you will be printing.)

Instructions: What follow are the MINITAB commands for making basic statistical calculations from sample data and displaying the data in various graphs. Words in capital letters followed by the symbol > indicate a sequence of menu items to be selected/clicked. Good luck!

Once logged in, go to START>ALL PROGRAMS>MINITAB SOLUTIONS
>MINITAB 15 If all goes successfully, you will now have the MINITAB session window on the screen. Select FILE>OPEN WORKSHEET. Navigate to the directory:
C:\Program Files\MINITAB 15\English\Sample Data\Student14. Find the file “Exam Scores” Click on EXAM SCORES>OPEN>OK. These commands load the data automatically in the first 5 columns of the worksheet.
Type in the session window your name and MINITAB Project 1.

To get MINITAB to calculate the mean, median, standard deviation, *etc.*, click STAT>BASIC STATISTICS>DISPLAY DESCRIPTIVE STATISTICS. Type C2 in the variables box, then OK.
(The session window should show the basic statistics for the Exam 1 scores from column 2)

To obtain a boxplot of the data: click on Graph>BoxPlot>Multiple Y’s, simple>OK
Double click on C2, C3 and C4. Click OK.

You may minimize, *ie*, make the graph disappear by clicking the little box with a dash in the upper right of the menu bar of the graph window. To recall graphs, click the “Project manager” icon at the lower left of the screen and click the desired graph from the list.

For the dotplot: GRAPH>DOTPLOT> Simple>OK. Type C2 in the graph variables box. Click Labels and type in a title “Exam 1 Scores by (write your name)” >OK>OK.
Minimize the dotplot.

For the stem-leaf display: GRAPH>STEM AND LEAF. Type C2 in the graph variables box >OK. Note that the display appears in the session window beneath the descriptive statistics.

For the frequency histogram: GRAPH>HISTOGRAM>Simple>OK. Type C2 in the graph variables box Click on Scale>Y-variable type>Frequency>OK Click on LABELS and give your graph a title Click OK>OK

Repeat the steps above for the density (relative) frequency histogram, except select DENSITY in the Y-variable type dialog box.

To print your results, click on a graph then click on EDITOR>Layout Tool. Use this tool to place four graphs on a single page. (You may have to make the window full-screen to see all of the graphs.) Click FINISH. Make sure that this window is highlighted (click in it) and click FILE>PRINT GRAPH. After you have answered the questions below in the session window, print them and the basic descriptive statistics in the session window, click on the session window and then FILE>PRINT SESSION WINDOW and follow the prompts.

Answer the following questions.

1. What are the mean, median, and standard deviation for the Exam 1 scores?
2. Briefly describe what these quantities measure.
3. From looking at the graphs, what is the general distribution of the data?