

Minitab Project: Assignment 1
22s:039
Fall 2009

TOPIC: Descriptive Statistics and Graphics

Assigned: Monday October 26, 2009
Due: Wednesday November 11, 2009

- This is 1 of 2 short Minitab projects that will be assigned. Minitab projects are 5% of your total points in the class. Assignment 1 will be 2% and Assignment 2 will be 3%.

Minitab is statistical analysis software. There are many choices for statistical software, but Minitab seems to be commonly used by engineers. The things we do by hand in class will (most likely) be done by software once you are on the job.

- Plotting (histograms, boxplots, normal probability plots, scatterplots, etc.)
- Point estimation
- Creation of confidence intervals
- Hypothesis testing

This assignment is meant to give you some experience using Minitab. You will use the data available at our website:

<http://www.stat.uiowa.edu/~rdecook/s39/minitab.html>

to get descriptive statistics (mean, variance, etc.) and to create commonly used plots. I have also included a few links at the above website that lead to Minitab tutorials (there are many on the web) that you may find useful.

1) *Save the data file to a local directory:*

You need to save the data file at the above link to a local directory in order to be able to bring it into Minitab. I'll save mine in "C://Temp".

2) *Starting Minitab on Windows:*

Launch Minitab by using the Start Button at the bottom left of your screen. Use the mouse to click on...

Start → All Programs → Minitab Solutions → Minitab 15 Statistical software

3) *Bringing the data into Minitab:*

This data set is a .csv file, so we need to let Minitab know that as we load it. Use the pull-down menu... File → Open worksheet... Then under 'File of type' choose 'Text(.csv)' and then click on your data file. Your data should appear in the Worksheet Window in Minitab.

4) *Getting Descriptive Statistics:*

This data includes one variable that is numerical. Use Minitab to compute the sample mean, sample standard deviation, and some other statistics by using the pull-down menu ...

Stat → Basic Statistics → Display Descriptive Statistics... Highlight the variable name in the left box and press 'Select' (it should then appear in the 'variables' box on the right), then press OK.

Copy and paste the results appearing in the 'Session Window' into a Word document to be turned-in.

5) *Getting Summary Plots:*

a) Get a histogram and copy and paste into your Word document. Graph → Histogram → Simple → OK, then ... highlight the variable name in the left box and press 'Select' and then OK.

Under the plot, provide a brief description of the histogram, give a few characteristics.

b) Get a normal probability plot of the data, copy and paste into your Word document. Graph → Probability Plot... → Single → OK, then ... highlight the variable name in the left box and press 'Select' and then OK.

Under the plot, provide a few words on whether you think this data came from a normal distribution.