

Exploratory Data Analysis On Fat Percentage Data

You must use MS-WORD to prepare this project paper. Use SPSS to produce charts for the following questions, and **paste the charts into MSWORD document**. Each chart needs to have proper label as shown in the example in page 2 of this project description. Below each chart, you need to briefly describe what you see in these charts.

Check the SPSS for Exploratory Data Analysis notes.

The web address for the **SPSS instructions on Exploratory Data Analysis** is:

http://www.cc.ysu.edu/~ghchang/SPSSE/SPSS_EDA.pdf

To get charts and statistics for Quantitative or Continuous data:

Analyze ⇒ Descriptive Statistics ⇒ Explore

(See page 1 and 2 of the SPSS instructions on Exploratory Data Analysis.)

To get frequency distribution table for Categorical or Discrete data:

Analyze ⇒ Descriptive Statistics ⇒ Frequencies

(See page 3 and 4 of the SPSS instructions on Exploratory Data Analysis.)

Part I: Explore Quantitative Variable

1. Report a **histogram** for the **Fat % variable** and perform a normality test to examine the distribution of Fat % variable using 0.05 as a test criteria.
2. Report the **mean, median and standard deviation** of **Fat % variable** by making a table with **MS-WORD** (see item 3 in the example in next page) using SPSS output.

Part II: Explore Categorical Variable

1. Report a **bar chart** to display the distribution of **Smoke** variable.
2. Report the **frequency distribution** with a table using **MS-WORD*** for the **Smoke** variable to report the **frequency distribution** of smokers and nonsmokers.

Submit the WORD document through WebCT Assignment page. (Will explain how to do it in class for the first assignment.) Be sure to have the project title and your name at the beginning of your paper as the format suggested in the following page. **Make your name as part of the file name for this paper**. If I were to submit this file, I would name it as **achang_proj1.doc**.

* To create a table in MS-WORD, first, in MS-WORD, click **Table** option in the menu bar and select **Insert** option and click on **Table**. In the Table dialog box, enter the **number of rows** and **number of columns** for table that you wish to create and click **OK**. You can then click and drag the mouse to adjust the row and column size.

Remark: Your paper should have the project title, your name and your major. See example below which will be the **format** of your all other future SPSS project reports. Charts and tables should always be properly numbered and labeled. Do not attach the data sheet.

Project: Pulse Rates Analysis

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Major in Statistics

1. The graphs, charts and tables in your report need to be all properly numbered and labeled with proper title. The example in the Figure 1 is for showing a histogram created with SPSS and that you wish to use it to explain or answer a question. Your graph should be large enough so that the information in the chart is readable. But, don't let a chart take up more than half a page.

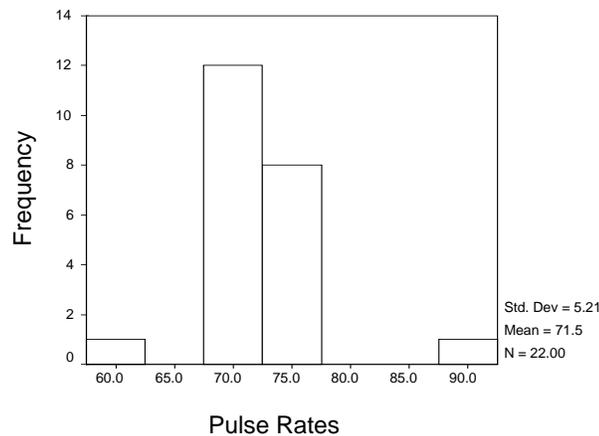


Figure 1: Histogram for Pulse Rates

2. The Figure 2 is a stem-and-leave display of the pulse rate variable. It should also be properly labeled as shown below. It is always recommended that you describe the information that you present in your paper.

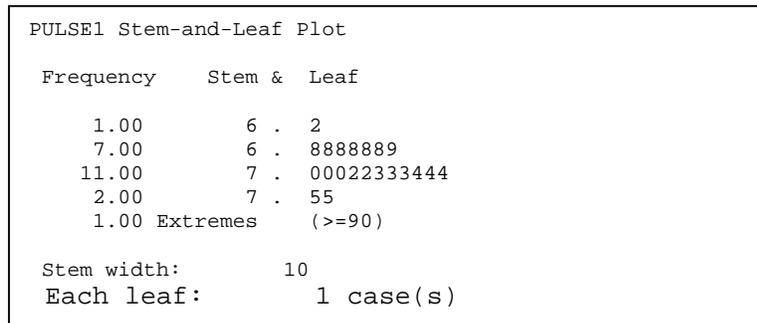


Figure 2: Stemplot for Pulse Rate Variable

3. If a table is presented in your paper, you should also label it with proper numbering and title as in Table 1 shown below. Don't copy the whole table that SPSS produced in the output window into your report. Retrieve only the necessary information that you wish to describe in your paper.

Statistics	<i>Pulse Rate</i>
Mean	71.5
Standard Deviation	5.11

Table 1: Descriptive Statistics for Pulse Rate Variable

Use page number when your report is more than one page. Always use MS-WORD or other word processor to prepare SPSS related project assignment.

Few tips on MS-WORD

1) Use  +  +  (press them at the same) to type superscript, and do the same to go back to normal text. Example: X^2

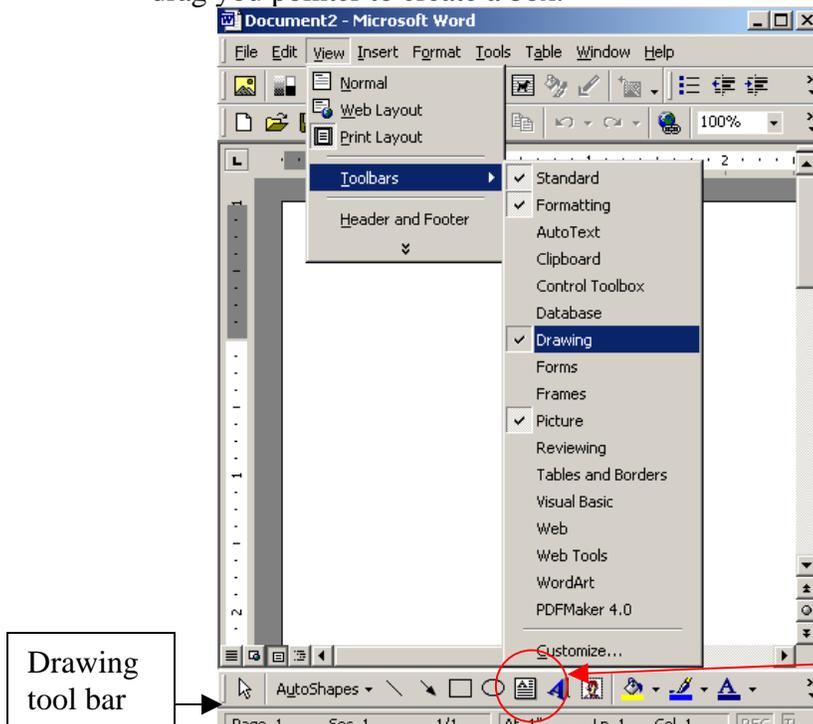
2) Use  +  to type subscript, and do the same to go back to normal text.

Example: X_2

3) For Greek letters and math symbols, from the MS-WORD menu bar, click and select through the following sequence: **Insert / Symbol**. You can insert symbols like: μ σ Φ Ω \neq \approx \otimes \subseteq \supset \pm \leq and more ...

4) Click and select through the following sequence for inserting page number:
Insert / Page Number ...

5) Use Text Box for charts and tables. Creating text box and pasting charts into the text box will help you to have better control in arranging charts in your report. To view drawing box that contains the text box button, click and select through View / Toolbar / Drawing. Drawing tool bar is the bar near the bottom of the picture show below. To create a text box, simply click on the text box button, and then click anywhere in your WORD document and drag you pointer to create a box.



To format the text box:
Right click on the edge of the text box and select **Format Text Box** to format the box. My prefer settings are: for **Colors and Lines: no color fill and no line fill**
Layout: In front of text.
After the text box is made, one can drag and move the box in any where of the document.

Click this button in the drawing tool bar for text box.

6) Click and select through the following sequence to produce a mathematical equation with mathematical symbols: **Insert / Object / Microsoft Equation 3.0**

Example:
$$\sum_{i=1}^n \sqrt{x_i}$$

There are more to explore in MS-WORD. You should start getting use to using a word processor to write your projects and papers.