

2.1 Introducing Minitab and Microsoft Word

Purpose: To get acquainted with Minitab and Microsoft Word on the Macintosh. To use Minitab to generate descriptive statistics and graphs of some data sets.

Reading Assignment: Read through Section 2.2.

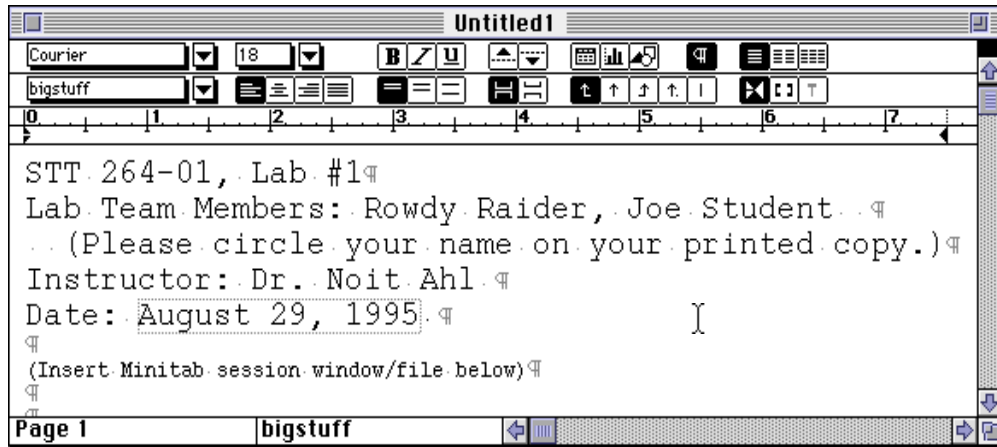
Problem Description: Set up your Novell account for all labs. This includes copying files to your Novell account and setting up a stationery (Microsoft) Word document. We will learn some Minitab and Microsoft Word basics such as how to copy Minitab output into a Word document, how to paginate, save and print Word documents.

Welcome to the STT 264 Computer Lab!

Step 1: Getting Started - Copying files to your Novell account

1. Turn on your computer (push the button on the front of the computer).
2. Double-click with the mouse the **Access servers & coursework** icon on your computer screen (the "desktop").
3. In the window that opens up, double-click on the folder labeled **Novell servers**.
4. Double click on the **STUDENT1.USERS**. Fill out the context, username, and password. If you are having difficulty logging in, be sure you are using your correct context. For example, if your name is Joe Cool, your context is C.STUDENTS.WRIGHT. Note: If the context doesn't appear, click on "more options". If you do not know your Novell password, you need to go to the CATS help desk at 025 LX and get it.
5. Go back to the **Access servers & coursework** folder on the desktop.
6. Double-click on the **Software for All Users** icon.
7. *If* a window appears entitled "**Connect to the file server Proxima as**", then type the number on the front of your computer (e.g. 170_20) in the NAME box and then hit the return key (or click on Connect). You do not need to put in a password here! A window will appear, - click **OK** in this window and continue.
8. Double-Click on the **Stats Data folder**.
9. Point and click your mouse on the **STT 264** folder and drag it into the window for your Novell account which you opened in step 5 (you may need to find this window on your screen if it is hidden under other windows). This point-click-drag will copy the STT 264 folder onto your Novell account which you will be using for the labs throughout the quarter.
10. From your Novell account window, open the "**STT 264 Data**" folder (double-click on it). Then drag the files "STT 264 Template" and "Start Minitab.MTB" out of the folder, onto your Novell account window. Close all of the windows and folders **except** your Novell account window.

Step 2: Set up a stationery Word document: Open the Microsoft Word document file "STT 264 template". A document like the following will open.



Edit the information in the document as appropriate. Specifically, correct the class section number, the names of the members of your lab team, and the name of your instructor. (The current date is used automatically.) Then select "File -> Save As." In the dialog box that appears, type "STT 264 template" as the document name, and select "Stationery" in the "Save File as Type" box. Before you click the "Save" button, make sure you are saving the file to your Novell account and **not** the Public Folder.

Finally, close the document (**File -> Close**). Look in the window for your Novell account, to observe that the Word document "STT 264 template" is saved on your Novell account. Remember "STT 264 template" is for you to write the lab report while Minitab is for you to obtain any probabilistic and statistical results. Typically you need to copy and paste these Minitab results to "STT 264 template".

Step 3: Starting Minitab. For each lab you will generally start Minitab from your Novell account. For some labs all you will need to do is double-click the "Start Minitab.MTB" icon in your Novell account. For other labs, we will work with a particular Minitab worksheet found in the "STT 264 Data" folder. For this lab, we will use the Lab2_1.MTW worksheet. Start Minitab now by double clicking the **Lab2_1.MTW** icon in the STT 264 Data folder.

Note: If the computer will not allow this, then you need to "connect" your computer first by double-clicking on "Access Servers and Courseware", then "Software for All Users", and then enter the number of your computer (found on the front of the computer, e.g. 170_20). Leave the password blank, then click on CONNECT. Now you can open the data file from your Novell account.

Step 4: Graphical and Numerical Methods for Describing Quantitative Data. The Lab2_1.MTW worksheet you just opened in Minitab contains 4 columns of numbers labeled "homes", "babywts", "heights," and "test". Each column is a set of data as described in the following steps.

Step 5: Examine housing prices in the Dayton area. Column 1 of the worksheet lists the selling price of homes in the Dayton area as reported in the Sunday Dayton Daily News in August 1997. First, have Minitab construct a histogram of the housing prices. Point and click your mouse at the **Window** menu at the top of your screen and then drag and click on **Session**. Type the following command in the session window that opens on your screen:

```
MTB> ghistogram 'homes'
```

The session window is where we type commands in Minitab. Also, statistical results computed by Minitab are printed in the session window. The worksheet which contains the data can be found under **Data** under the Window menu.

Next, have Minitab compute some basic statistics for the house price data. Point your mouse at the **Stat** menu, and click on **Basic Statistics** followed by **Descriptive Statistics**: Stat -> Basic Statistics -> Descriptive Statistics. In the window that opens up, double click on the variable name "Homes" and then click **OK**. You will see in your session window that Minitab has generated some basic statistics such as the mean (average), the median, and the standard deviation, as well as other statistics.

STOP AND THINK: From looking at the histogram of housing prices, describe the shape of the distribution (mound shaped, skewed right, skewed left, etc.). What is the average price of homes from this data set? What is the median? Why is the average higher than the median? Which measure of central tendency (mean or median) do you think is a better for describing the home prices?

Step 6: Baby Weights. Column 2 in the data set labeled "babywts" gives the weights of newborn babies in pounds from a large urban hospital. For this data set, we will have Minitab construct a dotplot and basic statistics for the baby weights by typing the following commands in the session window:

```
MTB> dotplot 'babywts'  
MTB> describe 'babywts'
```

Note that we can generate plots and statistical output either by pointing and clicking with the mouse at menus or by typing commands in the session window.

STOP AND THINK: Describe the shape of the baby weight distribution from the dotplot. What are the mean and median weights of the babies?

Step 7: Heights and Test Data. Columns 3 and 4 contain data on the heights (in inches) of STT 264/5 students and test scores on the first in-class exam from a section of STT 264 respectively. Make a stem-and-leaf plot of both of these data sets by pointing your mouse at the **Graph** menu and clicking on **Stem-and-Leaf**. Double click on the variables 'heights' and 'test' and then click **OK**. Also, obtain descriptive statistics for the heights and test scores by clicking on **Stats -> Basic Statistics -> Descriptive Statistics**. In the window that appears, double click the variables 'heights' and 'test'.

STOP AND THINK: From the stem-and-leaf plots, describe the shape of the heights and test distributions. The heights data was obtained from both males and females - do you see evidence of this in the stem-and-leaf plot? What is the average and median height? From the shape of the stem-and-leaf plot for the test scores, how would you describe the test (hard, easy, so-so?). What were the average and median scores on the test? Why is the median higher than the mean test score?

Lab Report: For your lab report, copy and paste your session window output and the high resolution histogram into your STT 264 Template by following Step 8 below. Write a report which addresses the STOP AND THINK questions. Be sure to annotate your plots and output so that you can refer to them in your lab report.

Step 8: Copy and Paste Minitab output into your STT 264 Word Template. From your Novell window, start Word by double clicking on the STT 264 Template. We will now switch back and forth between Word and Minitab and paste the Minitab output into your STT 264 Template.

To switch back and forth from Minitab to the Stt 264 Template (Microsoft Word), assuming both are open, click on the word in the far upper right-hand

corner of the screen (It might say "Minitab" or "MS Word" or "Finder".). Hold the mouse button down. Below the line is a list of the programs that are open. Just drag to Minitab. You are now back in Minitab. Open your session window.

1. Click on **EDIT** and drag to **SELECT ALL**. (The window will then be highlighted.)
2. Click on **EDIT** and drag to **COPY**. (Nothing seems to happen, but the window is now stored in a temporary memory space.)
3. Make your Stt 264 Template active. (Microsoft Word)
4. Click again in the upper top right corner of the screen and drag your mouse down to Word.
5. Get your cursor set up under the headings and click on **EDIT** and drag to **PASTE**.

Next, COPY AND PASTE THE HIGH RESOLUTION HISTOGRAM TO THE STT 264 TEMPLATE IN MICROSOFT WORD:

1. Make Minitab the active program again.
2. Click on the **WINDOW** menu at the top of the screen and drag to the graph that you want to copy (It is listed at the bottom of that menu, as Ghistogram).
3. Click on **EDIT** and drag to **COPY GRAPH**. (Nothing seems to happen.)
4. Make your Stt 264 Template active (Microsoft Word).
5. Get your cursor set up in the appropriate place and click on **EDIT** and drag to **PASTE**.

The procedures you just followed to copy and paste Minitab output into your STT 264 Template will be used for most labs throughout the quarter.

Step 9: Printing your Document

1. Scroll all the way to the top of the document.
2. Now, slowly scroll down until you see a page break.
3. If this page break is in an inappropriate place, like in the middle of a graph, for instance, we will need to move it. Place the cursor somewhere *ABOVE* the current break, where a page break would be more appropriate, and then click on **INSERT**, then drag to **BREAK**, then **PAGE BREAK**.
4. Continue scrolling down until you find the next page break, and repeat step 3 again, until you are at the bottom of the document.
5. Click on **FILE**, then **PRINT**.
6. Choose the appropriate number of copies.

SAVING THE DOCUMENT TO YOUR NOVELL ACCOUNT:

1. Your Microsoft Word document should be showing. Click on **FILE**, then **SAVE AS**.
2. Make sure your username is shown at the top of this "save" window. (If not, you will need to click on Public Folder, drag to "Desktop", then double-click on "Student1.Users", etc. until your username is shown at the top of this "save" window.)
3. Name the file appropriately, like "Lab 2.1", then click on **SAVE**.

LOGGING OUT:

1. Be sure that all programs are closed (by selecting **FILE**, and drag to **QUIT** for each) and your work is saved.
2. Click on the tree at the top of the screen, and choose "Log out completely".

SHUTTING DOWN:

Click on SPECIAL, then SHUTDOWN. Turn off the screen also.

Lab 2.1, 7/02