Orientation Assignment for MINITAB (14 or 12) Statistics Software
(nothing to hand in)
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When you do computer work in this class, never spend more than 5 or 10 minutes being "stuck".
Write down a question and ask it. Of course, don't wait until the last minute or you won't have time for that!

Part I. Use MINITAB. (pages 1-2)
Part II. Find the data files for the problems in our text. (pages 2-3)
Part III. Where to get help / how to prepare your work. (page 4)
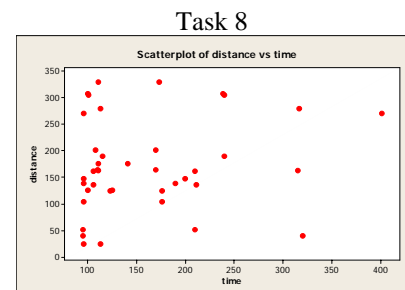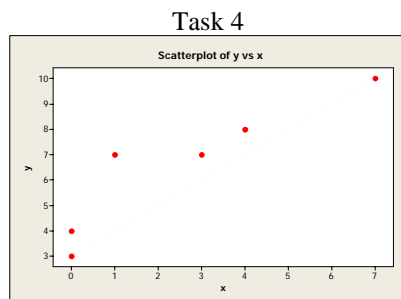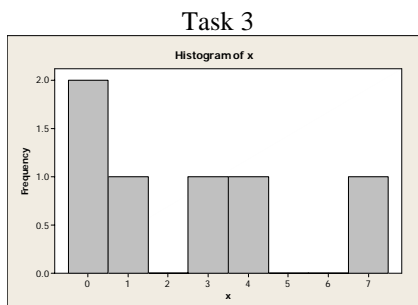
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Part I. Use MINITAB.

Here is a very small dataset of quiz grades for students in an algebra class. Each pair is an individual student's first quiz grade and his eighth quiz grade.   Type the dataset into the worksheet and then use MINITAB to summarize and analyze it in various ways.

x	y
0	3
0	4
1	7
3	7
4	8
7	10

1. Open MINITAB. Type all this data in the worksheet, with the x's in Column 1 and the y's in Column 2. Make sure to put the labels x and y are at the top of each column – BEFORE row 1.

2. Use MINITAB to find various numerical summaries of the data in Column 1. **Stat > Basic Statistics > Display Descriptive Statistics.**   (The mean is a name for the usual average – add all the scores up and divide by the number of scores. Here it is 2.50. Did you get that?

3. Use MINITAB to make a histogram of the data in Column 1. **Graph > Histogram**. (For more explanation, see *MINITAB Manual*, Chapter 1.) Choose "Simple."   Then put either the C1 or the name *x* in the box as the variable you want to graph. Or put your cursor over the correct variable and double-click to enter it into the box. Make sure it's there. Then click on OK. Your graph should look like the histogram on the left of the three graphs after number 7.

4. Use MINITAB to make a scatterplot of the two columns of data. **Graph > Scatterplot** and then choose "Simple." (For more explanation, see *MINITAB Manual*, Chapter 4.) Put the variables in the appropriate places and then click on OK.   Your graph should look like the one in the middle after number 7.

5. Use MINITAB to find the correlation coefficient of the two variables. (You'll learn what that means in Chapter 4.) Use **Stat > Basic Statistics > Correlation.** It doesn't matter what order you enter them. (For more explanation, see *MINITAB Manual*, Chapter 4)   The answer is 0.917.

6. Use MINITAB to find the cube root of the *y* variable here and put it in Column 4. Use **Calc > Calculator**. The exponent key on that calculator is labeled **. To take a number to an exponent, use **. Obtain the cube root by using the power (1/3) **with the parentheses**.) (For additional help, see the MINITAB Manual, Chapter 0. That's not on StatsPortal. Find it from http://www.austincc.edu/mparker/1342/tf/mm/)   (Answers: The first two numbers in column 4 should be 1.442249, which is the cube root of 3, and 1.58740, which is the cube root of 4.)

7. Your instructor will tell you which method you'll use in class to open data files. Read that from Part II here. Then open the data file for Chapter 5, exercise 5.42. Note that the file name is ta05-03. Make a scatterplot with distance on the *y*-axis and time on the *x*-axis. Your graph should look like the one on the right below.

Task 3

Task 4

Task 8

General Comments:

1. **Which window is active?** Various windows include a Session window, a Data window, maybe a graph, etc. To see which is active, go to the menu item "Window" and see which one at the bottom is checked. Select a different one to be active if you wish. Or, without going to the menu, look to see which has the darker title bar. To make a different window active, move the cursor into it and click. Then it will have the darker title bar.

2. **Print a graph.** Make the Graph window active, then go to the "File" menu and choose "Print Window".

3. **Print all your Session Window.** Make the Session window active, then go to the "File" menu and choose "Print Window".

4. **Print a selection of your Session Window.** In the Session window, select (highlight) the part you want to print (which will also make the Session window active) and then go to the "File" menu and choose "Print Window".

5. **Copy a graph, all your Session Window, or a selection of your Session Window so that you can paste them into a word-processing document**. Follow the same instructions as above for printing, except use **Edit > Copy** to copy them to your computer's clipboard. Then open your word-processing program and choose **Edit > Paste** to put them into the document.

Part II. Using the data files for the data in our textbook.

If the dataset has more than about a dozen numbers, you probably don't need to type it in. Instead you should use the data files provided. There are several ways to use these, depending on whether you are using a school computer or your home computer and whether you are using MINITAB or Crunch-It. Please learn how to use the first method below, called the "best and most flexible method." After that, learn whichever shortcut works best for you.

Find and identify the textbook datasets.

1. On the CD in the back of the textbook, labeled *Basic Practice of Statistics*. Explore the CD on your computer, finding the folder called Datasets, and then choose the subfolder that has the type of format you need for your files.

2. Find the entire folder of datasets on the publisher's website, as a zipped file.

3. Use the e-book in StatsPortal to find the dataset for a particular exercise or example from an icon nearby.

4. On the computers in the math labs (math classrooms with computers), open MINITAB and choose File > Open Worksheet.   Then look around for the folder that is labeled for the Moore textbook. Then change the "file types" to "All" in order to see the data files.

How are the data files for the textbook named?

1. TABLE: If the data is given in a table, as for Chapter 1, problem 35, where the data is in table 1.5, then the datafile name starts with ta.   Here it is ta01-05.   You may not have your computer set up to see file extensions, which is the part of the file name after this.   The data for our text is provided in lots of different formats, which are distinguished by the file name extensions. For instance, if you find this file in the PC-Minitab folder, it is named ta01-05.MTP which is a file specifically to be read in MINITAB. If you find this file in the PC-Ascii folder, it is named ta01-05.DAT. That file is in text form and can be opened and read by any word-processor or text editor. Once it is opened in the word-processing program, the text in this file can be copied and pasted into either MINITAB or Crunch-It.

2. EXERCISE: If the data is just given in the exercise, but not in a table, as for chapter 1, problem 36, then the filename starts with ex. Here it is ex01-36. All the file extension information is the same as described in the previous paragraph.

3. EXAMPLE: If the data is given in an example, such as Example 1.2 on page 7, then the filename starts with eg. So it is eg01-02 for this example. All the file extension information is the same as described for the data files from tables above.

Use the textbook datasets in MINITAB or Crunch-It.

1. **Best and most flexible method for both programs**: Open the file from the ASCII folder in a word-processor and copy and paste it into either MINITAB or Crunch-It. Pay attention to getting the labels for the columns in the right place – on top of the column, not in the first row of data.

    When you use Crunch-It, use the menu **Data > Load data > from paste** . Then paste the data (that you already copied) into the textbox. Pay attention to whether the labels for the columns are included or not and check or uncheck the box under where you pasted the data, as appropriate.

    When you use MINITAB, you just paste directly into the worksheet, starting with the label row in the worksheet or not, depending on whether labels are included. If you make a mistake and put labels on the first data row, this will cause major problems.   Delete that worksheet and start over.

2. **Very simple method to use at home when you're connected to the Internet, for both programs**: In StatsPortal, go to the e-book, click on the icon next to the problem. Use this for Crunch-It. If you have purchased and installed MINITAB on your computer already, and you use the MINITAB icon instead, it will also work with MINITAB. (This method won't work well on the school computers because MINITAB 14 is called from a network at school and so clicking on the MINITAB datafile doesn't open MINITAB 14.)

3. **One method to use at home with MINITAB only**. Insert the textbook CD, explore it to find the PC-Minitab folder of data.   Double click on the appropriate data file in that folder. If you have MINITAB installed on your computer, this should open the file in MINITAB.

4. **Usual method to use at school with MINITAB only**: Open MINITAB, go to **File > Open Worksheet** and then look for the directory that has the datasets for our text.   It will look empty.

Under "File Types" choose "All." This will be confusing if you forget to change the file types option or if you choose "Open Project" instead of "Open Worksheet" because there are no project files.

5. **Set up your home computer to use MINITAB data files as you do at school**.   Look on the textbook CD and find the PC-Minitab folder of data. Copy the entire contents of that folder. Then go to the MINITAB program file (probably under C:\Program Files\Minitab 14 Student\) and create a new folder under the Data folder. Call it Moore-data.   Then paste the datasets into it.

Part III. Where to get help / How to prepare your work.

Decide what analyses to do in MINITAB
As you learn the material in the chapters of the text, you'll learn how to choose analyses. For instance, in Chapter 1, you will look at whether the data are categorical or quantitative, and choose an appropriate type of graph. In Chapter 4, you will learn that the appropriate graph to present quantitative data on two variables is a scatterplot.

Find instructions for doing analyses in MINITAB
The *MINITAB Manual* provides instructions, screenshots **for MINITAB 14/15**, and statements of the same problems as those in the textbook, but with more information about what menu items to choose in MINITAB. You can either have this open in a separate window on your computer while you are using MINITAB, or you can print out each chapter as you need it and have a print copy with you. This will be available from "Resources" in StatsPortal **under Technology Manuals**.

Prepare homework/quizzes that require some MINITAB output
Most exercises that require some MINITAB output also require some interpretation. Those interpretations are very important. When you turn in your work on such problems, be sure that the interpretations are on the same page as the output and that the presentation of the total answer to the problem is clear. Generally speaking you can write your interpretations in pencil on the printed output page.   Alternatively, you can prepare your solution as a word-processing document, where you copy something (Edit > Copy) from MINITAB and paste it (Edit > Paste) into your word-processing document.

Recognize that you can use software on some problems even when there isn't a data file.

1. If you open your software program without having a data file, you can simply type data into the blank worksheet. Be sure to notice the difference between row 1, where you start the data, and the blank row above that, where you put labels, like "height" or any other appropriate name for the data. In this course you may be asked to type in small datasets. NEVER spend time typing in large datasets – you need your time available for other work in the course.

2. Some statistical analyses don't use raw data. In Chapter 8, some of the problems require you to just enter the ID numbers you assigned as the data. (Make patterned data.) In Chapters 20 and 21, for instance, all the data is given in summarized form and so you just type in the summary statistics in the appropriate boxes. The instructions in the *MINITAB Manual* explain this.

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