Syntax for this document

When I want to denote a key on your calculator I will write in **bold** letters. If I want to denote a yellow command above a key, I will write it in **bold underlined**. For example, **2nd** , **STAT** refers to the **2nd** key and the + key.

Calculator Basics

If you look at the calculator’s keys you will notice that above each key there is a word, or symbol in yellow. These are called second commands. In order to activate these commands, you need to press the yellow key labeled **2nd** first, then the key underneath the yellow writing. Sometimes, when you press a button, instead of a command what you are accessing is a link to another menu with links to other menus or commands. These menus are displayed at the bottom of the screen. For example if you press the button **GRAPH** the following will be displayed at the bottom of the screen.

```
 y(x)= RANGE ZOOM TRACE GRAPH
```

This is called a menu. To activate any of these choices (some are commands, and some lead to more menus) press the buttons (**F1, F2, F3, F4, F5**) directly underneath the word or symbol.

Notice that you can also enter letters by pressing the blue key called **ALPHA** first, followed by the key underneath the letter you want to appear in the screen. All the letters appear in blue on your calculator.

One menu you will be dealing with a majority of the time is the **STAT** menu.

Entering Data

To enter data press **STAT**. Choose **EDIT** (**F2**). It will ask you next for the names, of the files that will store the data. The default is xStat, yStat. If you are happy with these names, accept the names by pressing **ENTER** for each file.

If you want to clear the data already there press **CLRxy** (**F5**). If you are entering one set of data only, then enter it on the “x =” line only leaving the y lines with the default number it shows, which is 1.

Suppose you need to enter the data {2, 4, 8, 9}. Move the cursor to x1 = and type 2, **ENTER**, ENTER, to get to the next x value, x2. Type 4 on x2, **ENTER**, ENTER, and so on. What the y1, y2, y3, ... values are representing is the frequency of the value you typed for x.

If you have two sets of data like explanatory variable data = {2, 5, 6, 9}, response variable data = {4, 8, 11, 16}, then enter the explanatory variable in the x’s, and the response variable in the y’s.

Once the data is entered press **EXIT**, EXIT.

Standard deviation, mean, median, quartiles

Enter the data as explained above. Exit the table. Know press **STAT**, **CALC** (**F1**). Again, it will ask you the name of the files that contain the data. The default is xStat, yStat. If those contain your data then press **ENTER**, **ENTER**. Press **1-VAR** (**F1**).
The calculator will give you the mean (\( \bar{X} \)), standard deviation (Sx), and the number of data points (n).

**Histogram**

Enter the data as explained above. Press **GRAPH**, and select **RANGE** to set the calculator's window.

- **xMin** = smaller than the smallest data point.
- **xMax** = should be bigger than the biggest data point.
- **xScl** = the width of the rectangle, which starts at xMin. Must be at least 2.
- **yMin** = 0
- **yMax** = larger than the highest frequency.

Next press **STAT**, select **DRAW** (F3), and select **HIST** (F1).

**Scatterplots**

Enter the data as explained above. Press **GRAPH**, and select **RANGE** to set the calculator’s window.

- **xMin** = smaller than the smallest explanatory data point.
- **xMax** = should be bigger than the biggest explanatory data point.
- **xScl** = scale for the horizontal axis.
- **yMin** = smaller than the smallest response data point.
- **yScl** = scale for the vertical axis.
- **yMax** = larger than the highest response data point.

Next press **STAT**, select **DRAW** (F3), and select **SCAT** (F2).

**Regression**

Regression analysis finds the best fit line that approximates a set of linear data. What the calculator will return is the slope of the line, the vertical intercept of the line, and the correlation, r.

Enter the data as usual. After entering the data, and exiting the table, press **STAT**, and choose **CALC** (F1) from the menu choices. Press **ENTER**, **ENTER** to accept the file names. Lastly, choose **LINR** (F2).

The screen will then show the following. The corr shown on your screen is the correlation, r, mentioned in the book. The a is the vertical intercept of the line, and the b is the slope of the line.