**Basic Instructions for the TI –81 Graphing Calculators**

We want to get the basic descriptors, scatterplot, correlation coefficient, and linear regression equations for the following data.

<table>
<thead>
<tr>
<th>Age (months)</th>
<th>36</th>
<th>48</th>
<th>51</th>
<th>54</th>
<th>57</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (cm)</td>
<td>86</td>
<td>90</td>
<td>91</td>
<td>93</td>
<td>94</td>
<td>95</td>
</tr>
</tbody>
</table>

Note: these directions assume you haven’t substantially altered the calculators basis settings. If you have please see me.

**Entering Data**

To enter data hit the STAT function key, \( \text{2nd} \text{[MATRX]} \), and chose the data option.

**Clearing old data**

If you need to clear the data editor, choose option 2: ClrStat. This returns you to the home screen where you will need to hit enter.

**To enter data**

Move your cursor to the DATA menu item and select 1: Edit.

Then enter your ordered pairs of data for \( x \) and \( y \) one pair at a time until you are finished. When you are done, hit the STAT function key, \( \text{2nd} \text{[MATRX]} \)

Press the QUIT function key, \( \text{2nd} \text{[CLEAR]} \), to return to the home screen. or \( \text{STAT} \) to return to the Statistics menu.

**Scatterplot**

Before trying to plot the data, you will need to set the range for the \( x \) and \( y \) values in your plot. Use the RANGE function key and set the Xmin value to a value lower than your minimum \( x \) value, and Xmax to something larger than your largest \( x \) value. Do the same for your \( y \) values with Ymin and Ymax.

To plot the scatter plot, hit the STAT function key, \( \text{2nd} \text{[MATRX]} \), and chose the DRAW option. Select 2: Scatter. This will enter a command on your home screen. Press \text{[ENTER]} to execute the command.
Basic Descriptive Statistics, Linear Regression, and Correlation Coefficient

To get the basic statistics and linear regression, hit the STAT function key, 2nd MATRIX, and chose the CALC option. Then you can select (not all at the same time)

1-Var to get basic descriptors for the $x$ variables.
LinReg to get the coefficients of the regression equation and the correlation coefficient $r$.

Press ENTER to view the results.

Note: The statistics for the $y$ variable when you have entered two data points can be viewed by pressing the VARS function key, and under the XY menu option, selecting the statistic you want to view. For example, pressing 5 will get you the mean of the $y$ variable. $\bar{y}$ is pasted to the home screen and if you press ENTER, you will be able to view the results. These values are available only AFTER you have done a linear regression!!!

Plotting the Regression Line on the Scatterplot

Press the STAT function key, 2nd MATRIX, and chose the CALC option

Select LinReg.

Press ENTER the regression coefficients will display.

Press the $Y=$ key. Move your cursor to the point where you would like to put the regression equation, $Y_1$ for example. Press VARS to display the statistics entries. Move the cursor to LR, and select 4: RegEQ.

You should now have the regression equation in the equation editor in the $Y_1$ position.

Press the GRAPH function key and you should get a scatterplot along with the regression line.