Basic Instructions for the TI-85 Graphing Calculators

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

Age (months)	36	48	51	54	57	60
Height (cm)	86	90	91	93	94	95

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

Entering Data

To enter data starting on the home screen, hit the $\boxed{\text{STAT}}$ function key and chose the EDIT option.

The screen allow you to change the name of your statistics variables, hitting enter twice will accept the defaults (you should do this).

To clear these lists of unwanted data

Press the CLRxy menu option

To enter data

Enter the corresponding data points into the *x* and *y* values as needed. When you are done the screen should look like

Press $\boxed{\text{EXIT}}$ to return to the home screen.

Scatterplot

Starting from the home screen, press the $\boxed{\text{GRAPH}}$ key. Use the RANGE option to set Xmin to a value that is smaller than your smallest *x* values Xmax to a value that is slightly larger than your largest *x* value. Do the same for Ymin and Ymax and your *y* values.

For *this* example you should have the RANGE looking something like:

```
RANGE
 xMin=30
 xMax=70
 xScl=1
 yMin=80
 yMax=100
 yScl=1
[y(x)=|RANGE|ZOOM|TRACE|GRAPH▶
```

Press the y(x)= menu item and if you have any equations selected to plot (equal sign with a black box around it), move the cursor down to them and press the SELCT key to deselect the equation.

Press the MORE key and select the DRAW menu item. Then select the SCAT menu item to produce a scatter plot.
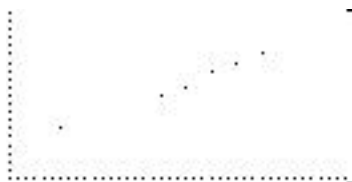
Press the CLEAR key to remove the menu.

Press EXIT to return to the home screen.

Basic Descriptive Statistics, Linear Regression, and Correlation Coefficient

Starting from the home screen, hit the STAT function key. Press enter twice to accept the default stat variable names.

Select CALC from the STAT menu. Then you can select (not all at the same time)

1-VAR to get basic descriptors for the variables in *x*Stat, or

LinR to get the coefficients of the regression equation as well as the *correlation* coefficient.

Note: To get the descriptors for the *y* variables, press EXIT to return to the home screen. Then go to the VARS function key, 2nd 3. Press the MORE key until you see the STAT menu item. Press the STAT menu item and you will be presented with a list of statistics variables. Scroll down the list until you find the one you are interested in, say $\bar{y}$. Press enter. $\bar{y}$ is displayed on the home screen. When you press ENTER, the mean of the *y* variables will then be displayed. You need to do the LINR before the values of these variables will display.

Plotting the Regression Line on the Scatterplot

Starting from the home screen, hit the ⌈STAT⌉ function key. Press enter twice to accept the default stat variable names.

Select CALC from the STAT menu. Select LINR.

Press ⌈ENTER⌉ and the regression coefficients will display.

Press the ⌈GRAPH⌉ key and select the $y(x)=$ menu item. Select an equation line to enter the regression equation in. Then go to the VARS function key, ⌈2nd⌉ 3. Press the ⌈MORE⌉ key until you see the STAT menu item. Press the STAT menu item and you will be presented with a list of statistics variables. Select the RegEq variable and press ⌈ENTER⌉.

This will return you to the equation editor and you should have a line like

y1=RegEq

Use the RANGE option to set Xmin to a value that is smaller than your smallest x values Xmax to a value that is slightly larger than your largest x value. Do the same for Ymin and Ymax and your y values.

Press the ⌈GRAPH⌉ function key and you should have a graph that looks like:

Note: Your calculator can do many of the plots that we've done class, you will need to read your manual to do these plots.