Using the stat function of the TI-83+ graphing calculator to analyze data by making a scatter plot diagram.

I. Inputting the data into the TI-83
    1. Press the **STAT** key
    2. Press **1**(Edit)
    3. Place the cursor at the top of any list(preferably L_1) and press **CLEAR** followed by **ENTER**. Repeat for another list (preferably L_2)
    4. Enter the first set of data into the L_1 column (use the **down arrow** key or **ENTER** to move down the column)
    5. Use the **right arrow** key to move into the L_2 column and enter the second set of data
       NOTE: Do not be concerned about any data in any other list.
    6. Press **2nd QUIT**

II. Preparing the calculator to plot your data
    1. Press **2nd STAT PLOT**
       NOTE: There are three plots possible for plotting data. We will use Plot 1
    2. Press **1** or **ENTER**
    3. Place the blinking cursor on "On" and press **ENTER**
    4. Use the down arrow to move to the next row (Type) and place blinking cursor on the first type and press **ENTER**
    5. Move down to Xlist and press **2nd L_1** (or whatever list you created that you would like to represent values for the *independent* variable) followed by **ENTER**
    6. Move down to Ylist and press **2nd L_2** (or whatever list you created that you would like to represent values for the *dependent* variable) followed by **ENTER**
    7. Move down to Mark and place the blinking cursor on the first type(or your choice) then press **ENTER**
    8. Press **2nd QUIT**
    9. Press **2nd STAT PLOT** to see if Plot 1 is on and all other plots are off. If other plots are on choose that number and place blinking cursor on "Off"
       OR
      Press **y=** and see if Plot 1 is shaded and all others are not.

To turn plots on/off from this screen, simply place the blinking cursor over the plot and press **ENTER**

What was done? Plot 1 was turned on to graph the data in L_1 as the *x*-coordinates and the data in L_2 as the *y*-coordinates.

III. <u>To graph the data</u>
    1. Press **WINDOW** and adjust the min\max values appropriate for your data.
    2. Press **GRAPH**

OR

    1. Press **ZOOM** followed by **9**(ZoomStat)

IV. Analyze the graph of the data and decide what type of equation is being modeled (linear, quadratic, cubic, exponential, power, etc.)

V. <u>Calculating a regression equation.</u>
    1. Press **STAT**
    2. Press the **right arrow** key
    3. Choose which regression equation would be the best and move cursor on the number/letter preceding it then press **ENTER**
    4. After the name of the equation is on the screen press **2ⁿᵈ** L_1(or list used to represent the independent variable), followed by a **comma**, followed by **2ⁿᵈ** L_2(or list used to represent the dependent variable) followed by **ENTER**

Graphing a regression equation and Storing/Recalling a graph.

I. <u>Graphing your regression equation.</u>
    1. Press **y=**
    2. Press **VARS**
    3. Press **5**(Statistics)
    4. Press the **right arrow** key <u>twice</u> to darken "EQ"
    5. Press **1**(RegEQ)
    6. Press **GRAPH**

II. Storing/Recalling a graph.

Storing
1. Press **2nd DRAW**
2. Press **right arrow** key twice (STO should be highlighted)
3. Press **1** (StorePic)
4. Press **VARS**
5. Press **4**
6. Choose any number you wish to assign to your graph.
7. Press **ENTER** (your graph should appear)

Recalling
1. Press **2nd DRAW**
2. Press **right arrow** key twice (STO should be highlighted)
3. Press **2** (RecallPic)
4. Press **VARS**
5. Press **4**
6. Choose the number of the picture you wish to see.
7. Press **ENTER**

Note: Press **2nd DRAW**, **1**(ClrDraw) to clear any drawings created using the DRAW function.

Linking the graphing calculators to send programs, lists, pictures, etc.

1) Link the calculators using a unit-to-unit link cable.
2) Press **2nd LINK** on both calculators.
3) Choose **Prgm**(3) to send a program, **List**(4) to send a list or **Y-Vars** (A) to send an equation.
4) Choose which program, list or equation you want to send by marking it with the arrow followed by **ENTER**(a little square should appear next to the program/list/equation you are sending.
5) Use **right arrow** to choose TRANSMIT on the sending calculator.
6) Use **right arrow** to choose RECEIVE on the receiving calculator.
7) Press **ENTER** on both calculators.

8) Choose **Overwrite**(2) on the receiving calculator to replace old lists/programs with the new ones.