Creating Histograms on the TI-83

Step 1: Enter the Data
Press “STAT” then select “1: Edit...” from the menu to enter the List function in the calculator. To clear any previous entries, move your cursor up to the list name (e.g. L1) and press “CLEAR”. Don’t press “DEL” or it will remove the entire list…name and all! Enter your data.

Step 2: Create a Histogram
After the data is in your calculators, each group member will create a histogram of the data. This is done using “STAT PLOT”. Select “STAT PLOT” you will see the following screen. This is a summary of the three available plots, which should all be “Off” at this point. Begin by using “Plot 1”. If all the plots are not “Off”, choose “4” press “ENTER” then press “STAT PLOT” again. When all plots are off, press “1” and you will see the second screen.

![Plot Setting Screen]

Use your cursor to turn Plot 1 “On” by highlighting it and pressing enter. Then select the histogram icon (When you are finished your screen should look like the screen below.) If you need to change the “Xlist” to specify the list with the data in it, do so by moving your cursor arrow to “Xlist” and pressing “2nd” and “1” to input L1 on the screen.

![Histogram Setting Screen]

Now you have turned on the plot, but you won’t be able to view it properly until you set the window. The TI-83 is made to graph ANY number, so we have to tell it what range of numbers to look at which is precisely what the window setting does. Every time you create a histogram, you will need to adjust the window settings to display on the correct range on each axis. Remember, in math the X-axis is traditionally the horizontal axis and the Y-axis is the vertical axis.
Step 3: Viewing the Histogram

Below is an example of a window and a histogram displayed using that window. Xmin and Xmax where the histogram begins (the first class cut point) and where it ends (the last class). Xscl determines the class size or bin width. In this example, the classes begin at 120 and move up by 20, therefore the first bar represents data from 120-140.

```
WINDOW
Xmin=120
Xmax=300
Xscl=20
Ymin=0
Ymax=20
Yscl=1
Xres=1
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The Ymin and Ymax should be set based upon the frequency of the data in each class size. Therefore if the large class has 20 observations in it, Ymax should be set at 20. Yscl determines the number of ticks on the vertical axis.

Once you have set the window, press “Graph” to view the histogram. To explore it further, press the “TRACE” button and scroll left and right and read the display. It will trace each bar proving the width of each class and the frequency in each class.