


# TI-83 & TI-84: Displaying Distributions with Histograms

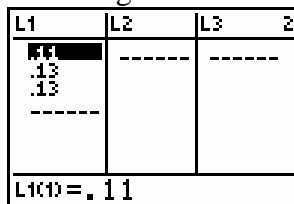
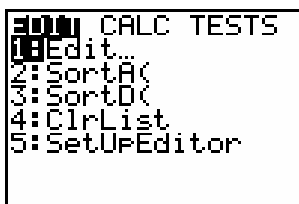
The following pages contain some instructions on the usage of the TI-83/84 graphing calculators.



The example used below is taken out of David Moore's text titled "The Basic Practice of Statistics, 2<sup>nd</sup> Edition".


Example 1.2 How to make a histogram p. 8: The table below represents the percents of population 65 years old and over by state (1996).

State	Percent	State	Percent	State	Percent
Alabama	13.0	Louisiana	11.4	Ohio	13.4
Alaska	5.2	Maine	13.9	Oklahoma	13.5
Arizona	13.2	Maryland	11.4	Oregon	13.4
Arkansas	14.4	Massachusetts	14.1	Pennsylvania	15.9
California	10.5	Michigan	12.4	Rhode Island	15.8
Colorado	11.0	Minnesota	12.4	South Carolina	12.1
Connecticut	14.3	Mississippi	12.3	South Dakota	14.4
Delaware	12.8	Missouri	13.8	Tennessee	12.5
Florida	18.5	Montana	13.2	Texas	10.2
Georgia	9.9	Nebraska	13.8	Utah	8.8
Hawaii	12.9	Nevada	11.4	Vermont	12.1
Idaho	11.4	New Hampshire	12.0	Virginia	11.2
Illinois	12.5	New Jersey	13.8	Washington	11.6
Indiana	12.6	New Mexico	11.0	West Virginia	15.2
Iowa	15.2	New York	13.4	Wisconsin	13.3
Kansas	13.7	North Carolina	12.5	Wyoming	11.2
Kentucky	12.6	North Dakota	14.5		

The percents of population 65 years old and over from the above data set are entered into the TI-83 or 83 Plus by using the STAT menu which is accessed by pressing . At this point, your screen should look like the screen on the left given below.






Press  to select **1:Edit** from the STAT EDIT menu. At this point, your screen will display all the list names and their contents stored in memory. Depending on what has been stored on your calculator, your screen may look like the screen on the right given above. Press  to move the cursor to the top line where the list names are located and

then press  until you reach the unnamed column. At this point, your screen should look like the screen on the left given below.

L5	L6	PERP	A
----	----		
Name=			

L5	L6	PERP	B
----	----	----	
PERP =			




The cursor is in alpha mode as it is indicated by the highlighted capital A in the upper right hand corner of your display. Type in the name PERP for the data set. Press  to store the list name. Your screen should look like the screen on the right above.

Press  to begin entering the data set. Start typing in the percents from the data set, pressing  after each data point. When you have finished entering the last percent value, your screen should look like the screen on the left below.

L5	L6	PERP	B
		12.1	
		11.2	
		11.6	
		15.2	
		13.3	
		11.2	
PERP(5)=			

```

STAT PLOTS
1:Plot1...Off
  L1  L2
2:Plot2...Off
  L3  L4
3:Plot3...Off
  L1  L2
4:PlotsOff
  
```










After entering the data into a list, the STAT PLOTS settings must be adjusted. Press  and  to go into the STAT PLOTS menu. Your screen should look like the screen on the right above. Press  to get to the settings screen for **Plot1**. Your screen should look like the screen on the left below.


```

Plot1 Plot2 Plot3
On Off
Type: [Bar] [Line] [Normal]
Xlist:L1
Ylist:L2
Mark: [ ] + .
  
```

```

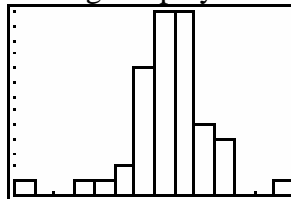
Plot1 Plot2 Plot3
On Off
Type: [Bar] [Line] [Normal]
Xlist:PERP
Freq:1
  
```

While the cursor blinking over the **On** option press  to turn on **Plot1**. Press  to scroll down to **Type:**, then press  twice to move the blinking cursor over the third type (histogram), and press  to make the selection. Press  to scroll down to **Xlist:** The list name PERP, which had been already stored, must be assigned to **Xlist:** Press  and  to access the LIST menu. Press  till you move the cursor by the name PERP and press  to paste the name by **Xlist:** Your screen should look like the screen on the right above. **Freq:** is left as it is set to 1, since each data point is counted only once.

Now, the appropriate WINDOW settings for the histogram must be chosen. Press  to go into WINDOW menu. Use the following window settings displayed on the left below.

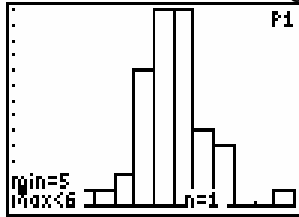
```

WINDOW
Xmin=5
Xmax=19
Xscl=1
Ymin=0
Ymax=13
Yscl=1
Xres=1
  
```



Note that **Ymin** should always be 0 for a histogram, but **Ymax** may need to be adjusted in order to see the top of each rectangle bar without being cut off. Since **Xscl** is set at 1, each rectangle bar will have a width of 1 unit. Press **GRAPH** to see the histogram displayed on the right above. Before graphing, be sure to turn off **Plot2** and **Plot3**. Also make sure that there are no functions in the function editor **Y=**.

Press **TRACE**. Your screen should look like the screen given below.



Press **→** to move the trace cursor along the histogram to see the class bounds for each rectangle bar and the number of observations, which is denoted by  $n$ , fall into that particular class.