

Teachers Teaching with Technology

T³ Scotland



T³ EUROPE

Statistics

Lists and Data Entry

Higher Statistics Lists and Data Entry

Data is stored in the Ti-83 in LISTS. There are several ways to create a list. From the home screen curly brackets can be used to store a data set in a list, with a name from L1 to L6 (Fig 1). A better method however is to use the **STAT 1:Edit** to go to the list editor and enter the data directly into a column, this method is rather like using a spreadsheet on the computer (Fig2)

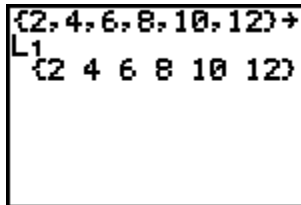


Fig 1

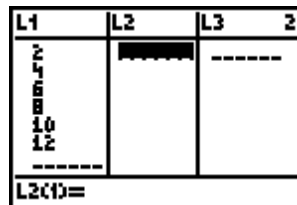


Fig 2

In the rest of this unit we will describe how to use the List Editor to define and manipulate lists. A list can be created from an existing list by placing the cursor on the list name at the top of a column and entering a formula eg L1 = 10.(Fig 3) If this formula is entered in quotes then the new list will be automatically recalculated when data items in the original list are altered. An auto-calculating list is marked by a dot along side the list name. In this example L2 is not auto calculating but L3 is, notice the change when the 1st data item is altered (Fig 4).

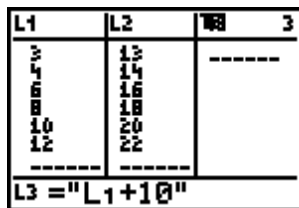


Fig 3

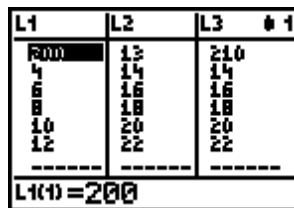


Fig 4

Example 1

Create a list for the following data set of average temperatures in New Zealand given in °Fahrenheit.

Jan 63	Feb 62	Mar 61	Apr 57
May 53	June 50	July 48	Aug 49
Sept 52	Oct 54	Nov 59	Dec 61

Convert these temperatures to °Centigrade, using the formulae $(F - 32) \times (5/9)$.

Solution:

To create a list use **STAT 1:Edit** and enter the data as L1.(Fig 5).

Now with the Name of L2 highlighted with the cursor enter the formulae, using L1 as the temperature in °Fahrenheit (Fig 6). You can choose to make L2 auto calculating by putting the formulae into quotes.

L1	L2	L3	1
63	-----	-----	
62			
61			
57			
53			
50			
48			
L1(1)=63			

Fig 5

L1	L2	L3	2
63	17.222	-----	
62	16.667		
61	16.111		
57	13.889		
53	11.667		
50	10		
48	8.8889		
L2="(L1-32)*(5/9)			

Fig 6

This calculation could have been done on the home screen as shown (Fig 7). Once again by putting the formulae into quotes the list would become auto-calculating. The result of this is shown in (Fig 8).

Notice in this example L2 is auto-calculating but L3 is not.

"(L1-32)*(5/9)+L3"
{17.22222222 16...

Fig 7

L1	L2	L3	1
63	17.222	17.222	
62	16.667	16.667	
61	16.111	16.111	
57	13.889	13.889	
53	11.667	11.667	
50	10	10	
48	8.8889	8.8889	
L1={63, 62, 61, 57...			

Fig 8

Exercises

1. Create a list L1 using {4,8,11,14,15,17,20}.
Create new lists $L1 - 7$, $3 _ L1$, $L1^2$,
2. Create a list showing the mean distance from the sun in millions of miles to each planet.
Create a new list showing the mean distance in millions of kilometres.

Planet	Millions of miles
Mercury	36.00
Venus	67.24
Earth	92.90
Mars	141.73
Jupiter	483.86
Saturn	887.15
Uranus	1783.97
Neptune	2796.46
Pluto	3666.05