

TI Technology Guide for Growing bigger by the decade

TI-83 Plus and TI-84 Plus Families

Creating Lists of Data, Using the List Editor to find Percent Change and People per Square Kilometer

Creating Lists of Data

- To enter the data from the Snapshot in the activity, press **[STAT]** and select **1:Edit** to access the **List Editor** window. Be sure to clear any existing data in the lists by highlighting the list name and pressing **[CLEAR]** **[ENTER]**. If you see a list other than L1 through L6, press **5:SetUpEditor** **[ENTER]** and then follow the above instructions. This will reset the default lists of L1, L2, L3, L4, L5, and L6 in the List Editor.

L1	L2	L3	1
████████	-----	-----	
L1(1)=			

- Move the cursor to the first data position in L1. Enter data from the table that represent the population for each country in millions for 2002. Move the cursor to the first data position in L2 and enter the corresponding population for 2050.

L1	L2	L3	3
1300	1400	████████	
1000	1600		
288	420		
231	336		
180	228		
131	307		
-----	-----		
L3(1)=			

Using the List Editor

- Move the cursor to the list heading in L3.

L1	L2	L3	3
1300	1400	████████	
1000	1600		
288	420		
231	336		
180	228		
131	307		
-----	-----		
L3 =			

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4. To calculate the change in the population from 2002 to 2050 enter $\boxed{2\text{nd}} \boxed{[L2]} \boxed{-} \boxed{2\text{nd}} \boxed{[L1]}$ and press $\boxed{\text{ENTER}}$.

L1	L2	$\frac{\square}{\square}$	3
1300	1400	-----	
1000	1600		
288	420		
231	336		
180	228		
131	307		
-----	-----		
L3 = L2 - L1			

L1	L2	L3	3
1300	1400	100	
1000	1600	600	
288	420	132	
231	336	105	
180	228	48	
131	307	176	
-----	-----	-----	
L3(1) = 100			

5. Next, you will calculate the projected percent change in population for each country. Move the cursor to the list heading in L4 and enter the following formula:

$\boxed{2\text{nd}} \boxed{[L3]} \boxed{\div} \boxed{[L1]} \boxed{\times} \boxed{100}$.

L2	L3	$\frac{\square}{\square}$	4
1400	100	-----	
1600	600		
420	132		
336	105		
228	48		
307	176		
-----	-----		
L4 = L3 / L1 * 100			

6. Press $\boxed{\text{ENTER}}$.

L2	L3	L4	4
1400	100	7.142857	
1600	600	60	
420	132	45.833	
336	105	45.455	
228	48	26.667	
307	176	134.35	
-----	-----	-----	
L4(1) = 7.692307692...			

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7. Enter the land area in L5 in millions for each country in 2002.

L4	L5	L6	7
7.6923	9.597	-----	
60	3.2876		
45.833	9.6314		
45.455	1.9194		
26.667	8.512		
134.35	.92377		
-----	-----		
L5(7) =			

8. Move the cursor to the list heading in L6 and enter the following formula: $\boxed{2nd} \boxed{L1} \boxed{\div} \boxed{L5}$.

L4	L5	L6	8
7.6923	9.597	-----	
60	3.2876		
45.833	9.6314		
45.455	1.9194		
26.667	8.512		
134.35	.92377		
-----	-----		
L6 = L1 / L5			

9. Press \boxed{ENTER} . The values in L6 represent people per square kilometer for each country.

L4	L5	L6	8
7.6923	9.597	135.46	
60	3.2876	304.17	
45.833	9.6314	29.902	
45.455	1.9194	120.35	
26.667	8.512	21.147	
134.35	.92377	141.81	
-----	-----	-----	
L6(1)=135.4595621...			

Creating List Name

10. We have used all the default lists, L1 through L6, so now we need to create new lists and names. Display the **Name=** prompt by pressing $\boxed{\blacktriangle}$ until the cursor is on the top line, and then press $\boxed{\blacktriangleright}$ until you reach the unnamed column. The **Name=** prompt is displayed and alpha-lock is on.

L5	L6	-----	9
9.597	135.46		
3.2876	304.17		
9.6314	29.902		
1.9194	120.35		
8.512	21.147		
.92377	141.81		
-----	-----		
Name=			

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11. Enter P2050 for the list name by pressing $\boxed{\text{ALPHA}}\boxed{\text{P}}\boxed{2}\boxed{0}\boxed{5}\boxed{0}$. This list will represent the projected population for each country in 2050. Press $\boxed{\text{ENTER}}$ or $\boxed{\downarrow}$ to store the list name in the current column. List names can be one to five characters long and the first character cannot be a number.

L5	L6	P2050 ?
9.597	135.46	-----
3.2876	304.17	
9.6314	29.902	
1.9194	120.35	
8.512	21.147	
.92377	141.81	
-----	-----	
P2050 =		

12. Now to calculate the people per square kilometer move the cursor to the top of P2050. The population for 2050 is stored in L2 and the land area is in L6. Enter L2/L5 and press $\boxed{\text{ENTER}}$.

L5	L6	P2050 ?
9.597	135.46	-----
3.2876	304.17	
9.6314	29.902	
1.9194	120.35	
8.512	21.147	
.92377	141.81	
-----	-----	
P2050 = L2 / L5		

13. The values in the list P2050 represent the projected people per square km in 2050.

L5	L6	P2050 ?
9.597	135.46	486.68
3.2876	304.17	43.607
9.6314	29.902	175.05
1.9194	120.35	26.786
8.512	21.147	332.33
.92377	141.81	
-----	-----	-----
P2050(1)=145.87952...		