Statistics

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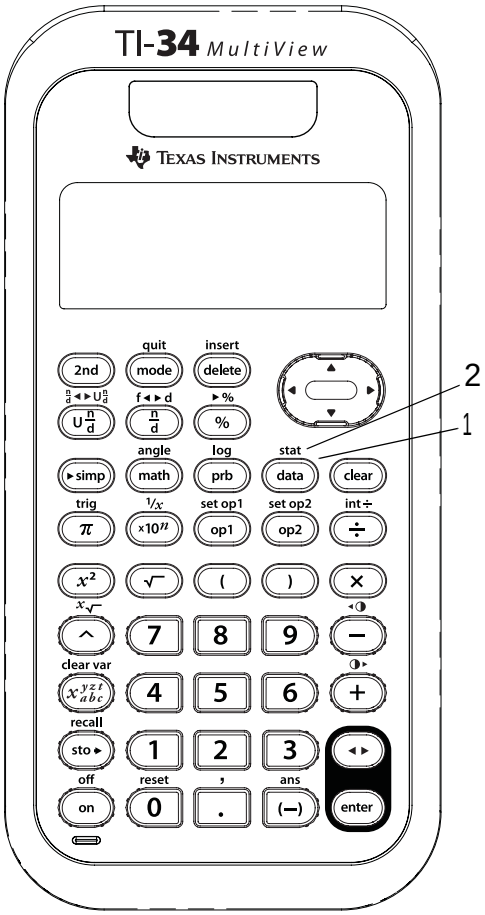
Keys

1. [data] lets you enter data points (x for 1-Var stats; x and y for 2-Var stats). (See Chapter 12, Data editor and list conversions, for more details on [data].)
2. [2nd][stat] displays a menu from which you can select 1-Var, 2-Var or StatVars.

1-Var	Analyzes data from 1 set of data with 1 measured variable—x.
2-Var	Analyzes paired data from 2 sets of data with 2 measured variables—x, the independent variable, and y, the dependent variable.
StatVars	This option appears only after you have calculated 1-var or 2-var stats. Displays the menu of variables with their current values.



StatVars menu:

n	Number of x (or x,y) data points.
$\bar{x}$ or $\bar{y}$	Mean of all x or y values.
Sx or Sy	Sample standard deviation of x or y.
σx or σy	Population standard deviation of x or y.
Σx or Σy	Sum of all x values or y values.
Σx^2 or Σy^2	Sum of all x^2 values or y^2 values.
Σxy	Sum of the product of x and y for all x-y pairs in the 2 lists.
a	Linear regression slope.
b	Linear regression y-intercept.
r	Correlation coefficient.
x' (2-var)	Uses a and b to calculate predicted x value when you input a y value.
y' (2-var)	Uses a and b to calculate predicted y value when you input an x value.

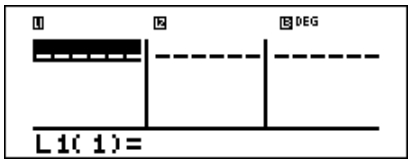
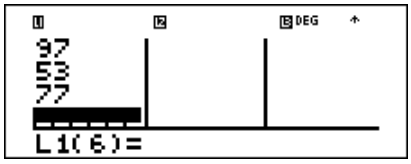
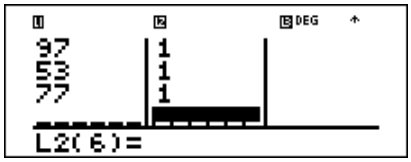
Notes

- The examples on the transparency masters assume all default settings.
- You can change data points by going to the Data editor, navigating to the data element, and changing the value entered.
  Note: You must then recalculate 1-Var or 2-Var stats to display the StatVars option.
- Non-integer frequency elements are valid. This is useful when entering frequencies expressed as percentages or parts that add up to 1. However, the sample standard deviation, Sx, is undefined for non-integer frequencies, and Sx = Error is displayed for that value. All other statistics are displayed.

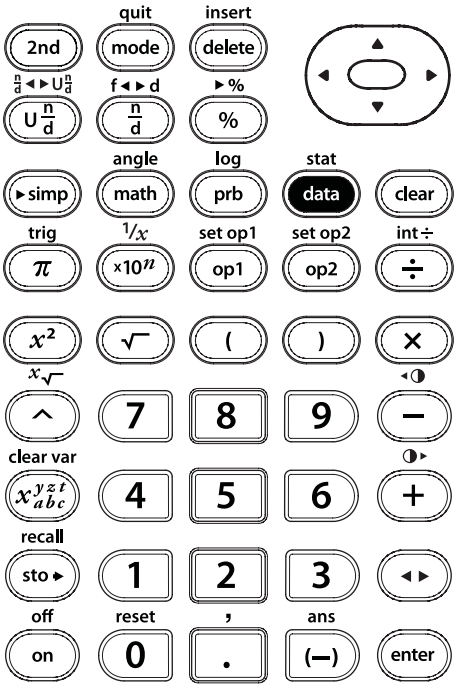
Entering 1-var stat data

Five students took a math test. Using their scores, enter the data points: 85, 85, 97, 53, 77.

Use L1 for the scores and L2 for the frequency of the scores.

Press	Display
data	
85 ▼ 97 ▼ 53 ▼ 77 ▼	
▶ 2 ▼ 1 ▼ 1 ▼ 1 ▼	

data



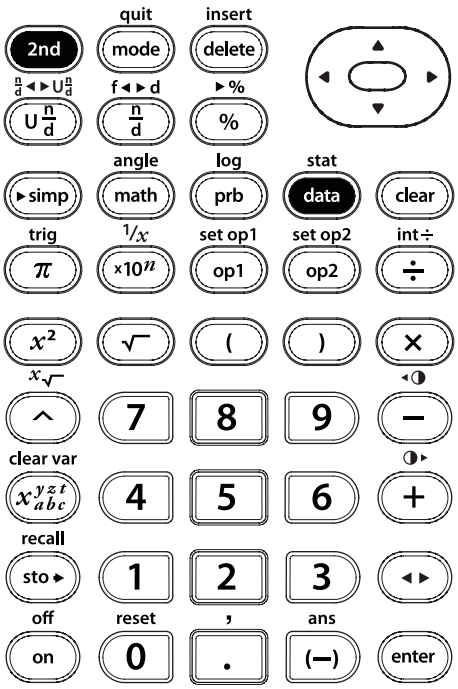
Viewing the statistics

Find the number of data points (n), the mean ($\bar{x}$), the sample standard deviation (Sx), the population standard deviation (σx), the sum of the scores (Σx), and the sum of the squares (Σx^2).

2nd [stat]

data

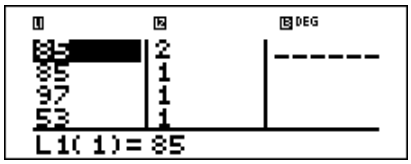
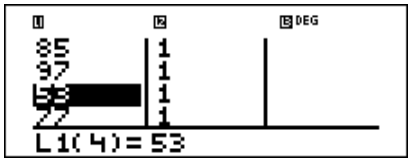
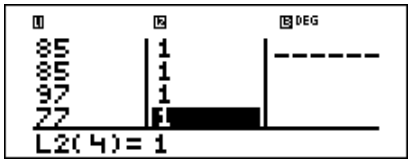
Press	Display
2nd [stat]	DEG STAT 1:1-Var Stats 2:2-Var Stats
1 ▼ ▶ ▶ **enter**	DEG 1-VAR STATS DATA: L1 L2 L3 FRQ: ONE L1 L2 L3 CALC
enter	DEG 1-Var:L1,L2 1:n=5 2:x̄=79.4 3↓Sx=16.39512123
▼ ▼ ▼ ▼ ▼	DEG 1-Var:L1,L2 4↑σx=14.66424222 5:Σx=397 6↓Σx²=32597



Removing data points

Drop the lowest test score by editing the data in L1 in the data editor. Make sure you update the frequency list, L2, if needed. Find the new mean ($\bar{x}$). Finally, clear the data from all of the lists.

2nd [stat]
data

Press	Display
data	
⏷ ⏷	
delete ⏵ **delete**	
2nd [stat] 1 ⏷ ⏷ **enter**	
data **data** 4