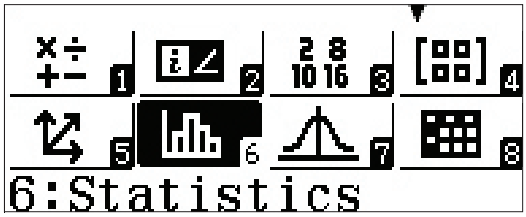
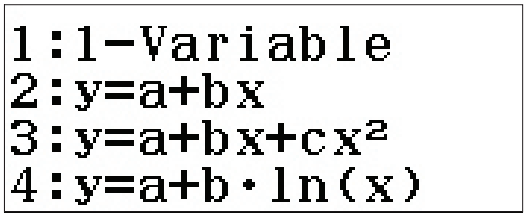
# STATISTICS

The **fx-991EX** can calculate several one-variable statistics, and also analyze relationships between two data sets using various regression models.

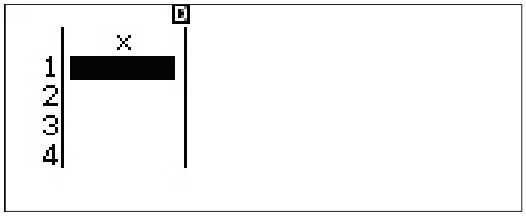
From the Main Menu, use the arrow keys to highlight the Statistics icon, then press [=] or press [6].




On the resulting menu, select [1] for "1-Variable" statistics.

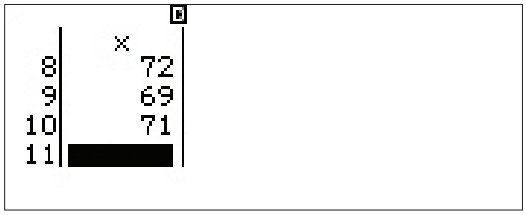



A data entry screen appears.

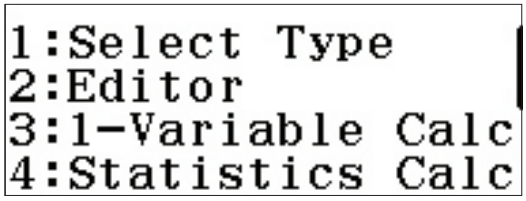



This example uses the following list of some students' heights, given in inches: 70.5, 74, 67, 71, 71, 72, 73.5, 72, 69, 71.

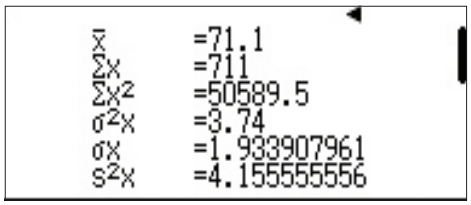
Enter data by typing in each value one at a time, with each followed by the [=] key.
[7] [0] [•] [5] [=], [7] [4] [=], etc.

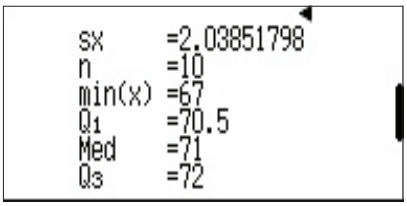


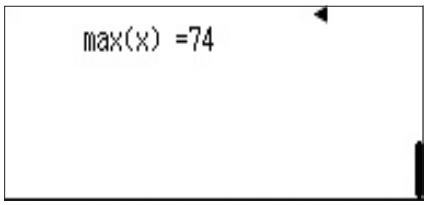

To calculate the 1-Variable statistics for this data set, press [OPTN] [3] (1-Variable Calc).



13 different 1-variable statistics have been calculated, 6 of which appear on the first screen. Press ▼ one or more times to reveal additional statistics:

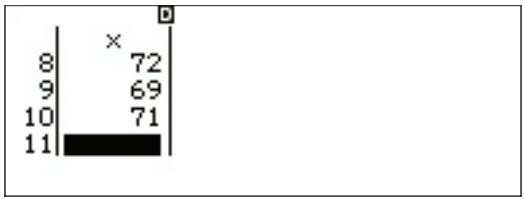


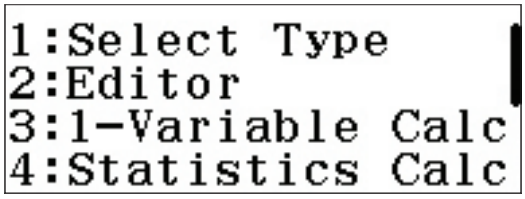




These statistics have each been stored inside the **fx-991EX** as variables, in case you should wish to use them in further calculations.

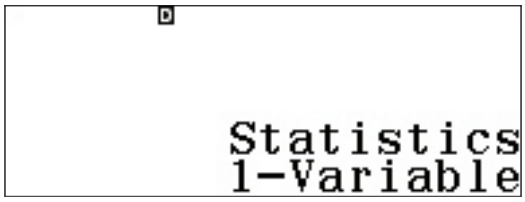
Press AC to return to the data entry screen.




Enter the Option menu by pressing OPTN.

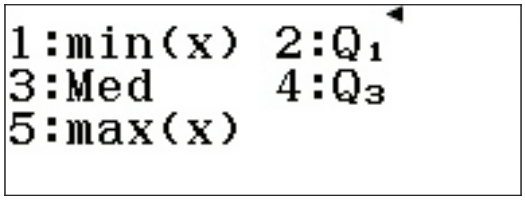


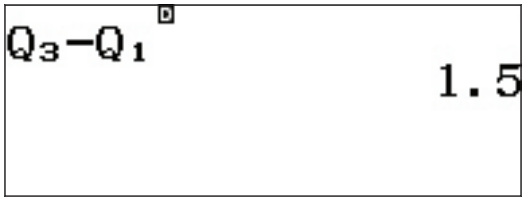

Select item 4 (Statistics Calc) to enter the Statistics calculation area.




Press OPTN, and then the down arrow (▼) once to reveal the different categories of statistical variables.


For instance, to calculate the interquartile range (IQR), press 3 (Min/Max) 4 ($Q_3$) − OPTN ▼ 3 (Min/Max) 2 ($Q_1$) =.



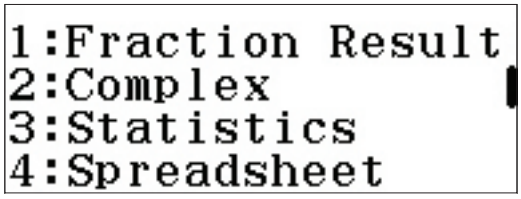



## FREQUENCY TABLES

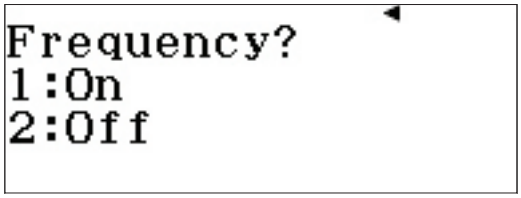
If the data comes from a frequency table, ClassWiz can be set up to input the data values in one column, and the frequencies in another.

To access the set-up menu, press [SHIFT] [MENU] (SET UP).

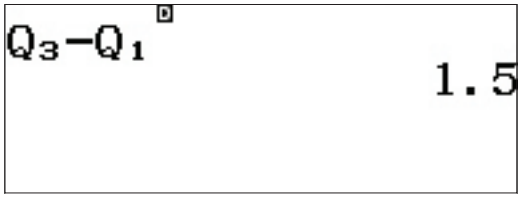

Press the down arrow (▼) to reach the second page and [3] to select the Statistics settings.



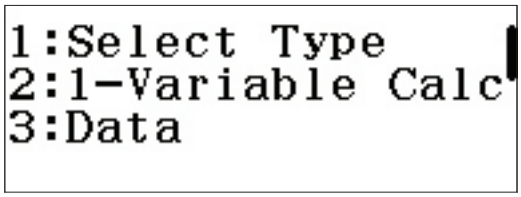

Press [1] to turn the Frequency option **On**.




The Statistics Calculation area appears again. Even though nothing appears to have happened, the setting has indeed changed.

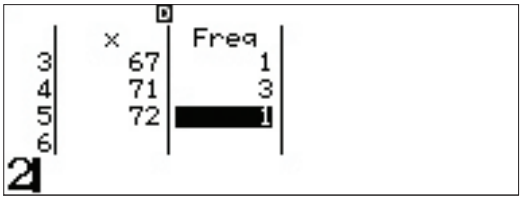



To access the Data entry area, press [OPTN] [3] (Data).

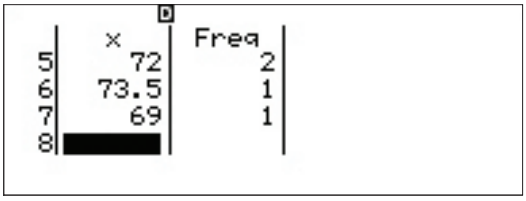



Notice a second column for frequencies now appears and the previous data set has been erased.

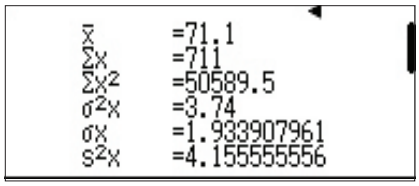
Enter the same 10 students' height used previously making use of the Frequency column. As each data point is inputted, ClassWiz automatically assigns a default Frequency of 1. Edit a Frequency by using the arrow keys to highlight it, then typing a new Frequency followed by [=].

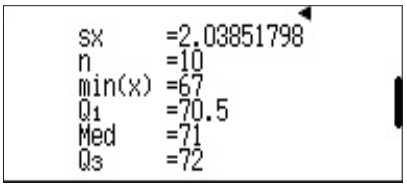


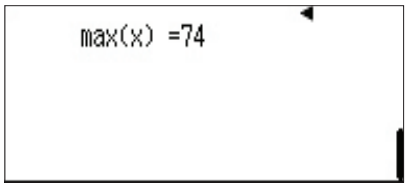

Once all of the data points (x) and frequencies (Freq) have been entered, press [OPTN] [3] (1-Variable Calc) again to display the 1-Variable statistics.




(Notice, the statistics are identical to those previously found.)

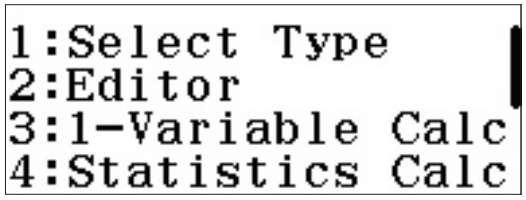


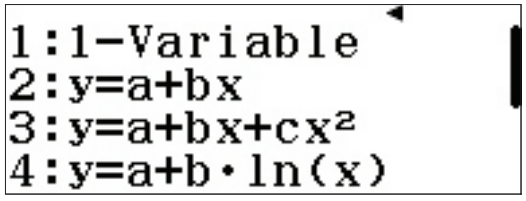




## REGRESSIONS

To calculate a linear regression, press [OPTN] [OPTN] [1] (Select Type).

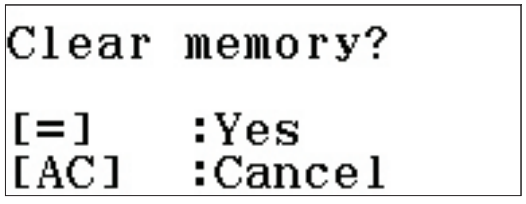



Select option [2] (y=a+bx).

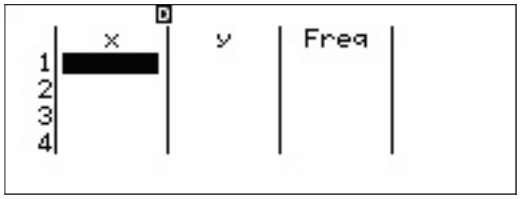



A reminder that changing the type of statistics will clear previous data appears.

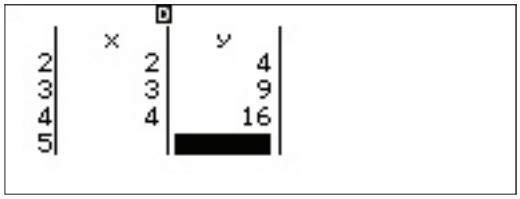
Press [=] to confirm and Clear memory.



Two columns for pairwise data (ordered pairs) now appears. Note, the Frequency (Freq) column still appears; press [SHIFT] [MENU] (SET UP) ▼ [3] (Statistics) [2] (Off) to remove it.

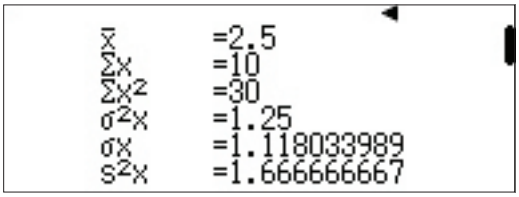


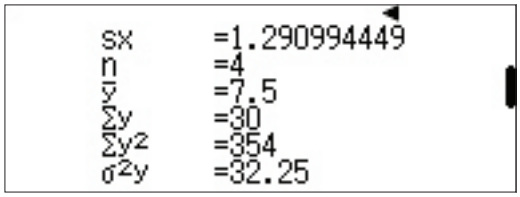

Input the ordered pairs (1, 1), (2, 4), (3, 9), and (4, 16). Use the arrow keys to navigate to the "y" column as necessary.

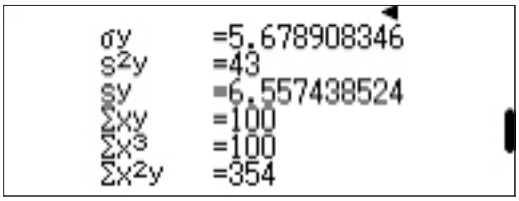


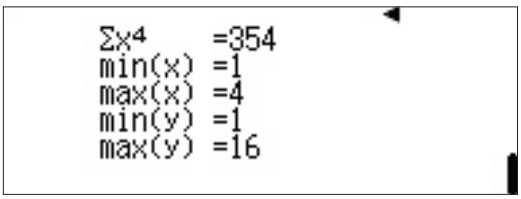

To view 2-Variable statistics or the linear regression results, press [OPTN] [3].


The 2-Variable statistics display calculation results for both x and y:

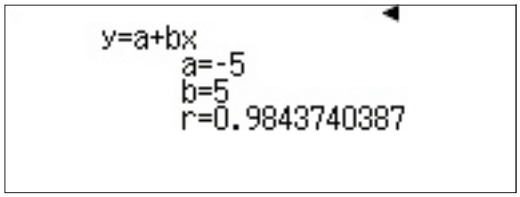



Press [AC] [OPTN] [4] (Regression Calc) to display the linear regression results.




Other regressions, including quadratic, logarithmic, exponential, and geometric, can be accessed via [OPTN] [1] (Select Type).