

4 Statistics and probability

4.3 Statistical measures on one variable data

4.3.1 Statistical measurement of data

Suppose you want to do statistical measures on the following sorted data:

4	4	5	5	5	6	6	6	6	6
7	7	8	8	8	8	8	8	9	9

- ① Create a new document and select Add List & Spreadsheet, and enter each values in the chosen list (here A):

The screenshot shows a TI-Nspire CX spreadsheet window titled '*Doc'. The spreadsheet has columns A, B, C, and D. In column A, the values 4., 4., 5., 5., and 5. are entered in rows 1 through 5 respectively. The status bar at the bottom indicates 'B21'.

- ② Press , select Statistics > Stat Calculations > One-Variable Statistics. Select the parameters as follows:

The 'One-Variable Statistics' dialog box is shown with the following settings:

- X1 List:
- Frequency List:
- Category List:
- Include Categories:
- 1st Result Column:

Buttons: OK, Cancel

Press  and these results are displayed:

Title	One-Va...
$\bar{x}$	5.3
Σx	53.
Σx^2	287.
$Sx := S_{n-1}X$	0.823

Here is the table of notations:

$\bar{x}$: mean

n: size of the sample

Σx : sum of all values

MinX: minimal value

Σx^2 : sum of all squares of values

Q_1X : lower quartile

Sx: standard deviation of the sample MedianX: median

σx : estimation of the the population's
standard deviation

Q_3X : upper quartile

MaxX maximal value

4.3.2 Statistical measurement with list of values and frequency list

Consider the following data

values	4	5	6	7	8	9
frequency	2	3	5	2	6	2

- ① Create a new document and select Add List & Spreadsheet. Enter the values in one list (here: A) and the frequency list in a second (here: B):

	A	B	C	D
1	4.	2.		
2	5.	3.		
3	6.	5.		
4	7.	2.		
5	8.	6.		

- ② Press , select Statistics > Stat Calculations > One-Variable Statistics. Fill the parameters as follows:

One-Variable Statistics

X1 List: 

Frequency List: 

Category List: 

Include Categories: 

1st Result Column:

OK Cancel

Press . These results should be displayed:

$\bar{x}$	6.65
$\sum x$	133.
$\sum x^2$	931.
$s_x := s_{n-1}x$	1.57
$\sigma_x := \sigma_n x$	1.53

(See the end of 4.3.1 at page 35 to have the table of notations)