

STANDARD DEVIATION

PURPOSE

Compute the standard deviation of a variable.

DESCRIPTION

The standard deviation is a common measure of the spread of a distribution or variable. The formula is:

$$s = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x})^2}{N - 1}} \tag{EQ 2-12}$$

SYNTAX

LET <par> = STANDARD DEVIATION <y> <SUBSET/EXCEPT/FOR qualification>
 where <y> is a response variable;
 <par> is a parameter where the computed standard deviation is stored;
 and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

LET SD = STANDARD DEVIATION Y1
 LET SD = STANDARD DEVIATION Y1 SUBSET TAG > 2

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

- MEAN = Compute the mean of a variable.
- RANGE = Compute the range of a variable.
- VARIANCE = Compute the variance of a variable.
- WEIGHTED STANDARD DEVI = Compute the weighted standard deviation of a variable.

APPLICATIONS

Data Analysis

IMPLEMENTATION DATE

Pre-1987

PROGRAM

LET Y1 = NORMAL RANDOM NUMBERS FOR I = 1 1 100
 LET SD = STANDARD DEVIATION Y1