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:

\[ s = \sqrt{\frac{\sum_{i=1}^{N} (x_i - \bar{x})^2}{N - 1}} \]  

(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