

AVERAGE ABSOLUTE DEVIATION

PURPOSE

Compute the average absolute deviation for a variable.

DESCRIPTION

The average absolute deviation is:

$$AAD = \frac{\sum_{i=1}^N |X_i - \bar{X}|}{N} \tag{EQ 2-3}$$

This statistic is sometimes used as an alternative to the standard deviation.

SYNTAX

LET <par> = AVERAGE ABSOLUTE DEVIATION <y> <SUBSET/EXCEPT/FOR qualification>

where <y> is a response variable;

<par> is a parameter where the computed average absolute deviation is stored;

and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

LET A = AVERAGE ABSOLUTE DEVIATION Y1

LET A = AVERAGE ABSOLUTE DEVIATION Y1 SUBSET TAG > 2

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

STANDARD DEVIATION = Compute the standard deviation of a variable.

VARIANCE = Compute the variance of a variable.

RANGE = Compute the range of a variable.

APPLICATIONS

Exploratory Data Analysis

IMPLEMENTATION DATE

Pre-1987

PROGRAM

LET Y1 = NORMAL RANDOM NUMBERS FOR I = 1 1 100

LET A1 = AVERAGE ABSOLUTE DEVIATION Y1