**AVERAGE ABSOLUTE DEVIATION**

**PURPOSE**
Compute the average absolute deviation for a variable.

**DESCRIPTION**
The average absolute deviation is:

\[
\text{AAD} = \frac{1}{N} \sum_{i=1}^{N} |x_i - \bar{x}|
\]

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
- VARIANCE
- RANGE
  - Compute the standard deviation of a variable.
  - Compute the variance of a variable.
  - 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