CHAPTER 2 Statistics LET Subcommands

The calculation of individual statistics is done via subcommands under the LET command, as in

```
LET A = MEAN X
LET B = STANDARD DEVIATION Y
LET C = CORRELATION X Y
```

Most of these statistics are computed on a variable and the computed statistic is stored in a parameter. A few operate on a variable and generate a variable. Arithmetic expressions are not allowed. That is,

```
LET A = MEAN X+Y
```

results in an error and must be coded as:

```
LET Z = X+Y
LET A = MEAN Z
```

Sample size:

SIZE or (NUMBER)	Compute the sample size (number of observations).

Measures of location:

MEAN	Compute the sample mean.
MEDIAN	Compute the sample median.
MIDMEAN	Compute the sample midmean.
MIDRANGE	Compute the sample midrange.
TRIMMED MEAN	Compute the trimmed mean.
WEIGHTED MEAN	Compute the weighted sample mean.
WINSORIZED MEAN	Compute the Winsorized mean.

Measures of spread and shape:

AVERAGE ABSOLUTE DEVIATION	Compute the average absolute deviation.
KURTOSIS	Compute the sample kurtosis.
RANGE	Compute the sample range.
STANDARD DEVIATION	Compute the sample standard deviation.
RELATIVE STANDARD DEVIATION	Compute the sample relative standard deviation.
RELATIVE VARIANCE	Compute the sample relative variance.
RELATIVE VARIANCE OF THE MEAN	Compute the sample relative variance of the mean.
SKEWNESS	Compute the sample skewness.
STANDARD DEVIATION OF THE MEAN	Compute the standard deviation of the mean.
VARIANCE	Compute the sample variance.
WEIGHTED STANDARD DEVIATION	Compute the weighted standard deviation.
WEIGHTED VARIANCE	Compute the weighted variance.

Extremes and percentiles:

EXTREME	Compute the most extreme value.
LOWER HINGE	Compute the sample lower hinge.

LOWER QUARTILE	Compute the sample lower quartile.
MINIMUM	Compute the sample minimum.
MAXIMUM	Compute the sample maximum.
UPPER HINGE	Compute the sample upper hinge.
UPPER QUARTILE	Compute the sample upper quartile.
... DECILE	Compute the sample (first through ninth) decile.
Covariance and correlation:	
AUTOCOVARIANCE	Compute the sample autocovariance.
AUTOCORRELATION	Compute the sample autocorrelation.
COMOVEMENT	Compute the comovement statistic.
CORRELATION	Compute the sample correlation.
COVARIANCE	Compute the sample covariance.
RANK COMOVEMENT	Compute the rank comovement statistic.
RANK CORRELATION	Compute the sample rank correlation.
RANK COVARIANCE	Compute the sample rank covariance.
Quality control:	
CP	Compute the process capability index.
CPK	Compute the non-symmetric process capability index.
EXPECTED LOSS	Compute the expected loss.
PERCENT DEFECTIVE	Compute the percentage of defectives.
TAGUCHI SN-	Compute the sample Taguchi signal to noise ratio for the smaller is better case.
TAGUCHI SN+	Compute the sample Taguchi signal to noise ratio for the larger is better case.
TAGUCHI SN0	Compute the sample Taguchi signal to noise ratio for the target is better case and the variance is dependent on the mean.
TAGUCHI SN00	Compute the sample Taguchi signal to noise ratio for the target is better case and the variance is independent of the mean.
Bootstrap, jacknife, and random samples:	
BOOTSTRAP INDEX	Compute an index variable for a subsequent BOOTSTRAP SAMPLE command.
BOOTSTRAP SAMPLE	Compute a bootstrap sample.
JACKNIFE INDEX	Compute a jacknife index.
RANDOM PERMUTATION	Compute a random permutation.
SUBSAMPLE	Compute a random subsample.
Robustness Transformations:	
BIWEIGHT	Compute the bi-weight.
TRICUBE	Compute the tri-cube.
Distributional measures:	
ORDER STATISTIC MEDIANS	Compute the order statistic medians for several distributions.
NORMAL PPCC	Compute the sample normal probability plot correlation coefficient.