

## **StatsShapiroWilkTest**

	the critical value, and a result field which is set to 1 if $H_0$ should be accepted or 0 if it should be rejected. $W$ is the total number of waves, $n_i$ and $\bar{X}_i$ are respectively the number of data points and the average of wave $i$ .
/Q	No results printed in the history area.
/SWN	Creates a text wave, T_ScheffeDescriptors, containing wave names corresponding to each row of the comparison table (Save Wave Names). Use /T to append the text wave to the last column.
/T=k	Displays results in a table. $k$ specifies the table behavior when it is closed. $k=0$ : Normal with dialog (default). $k=1$ : Kills with no dialog. $k=2$ : Disables killing.
	The table is associated with the test, not the data. If you repeat the test, it will update any existing table with the new results.
/WSTR= <i>waveListString</i>	Specifies a string containing a semicolon-separated list of waves that contain sample data. Use <i>waveListString</i> instead of listing each wave after the flags.
/Z	Ignores errors. V_flag will be set to -1 for any error and to zero otherwise.

### **Details**

The default of StatsScheffeTest (also known as the S test) tests the hypotheses of equality of means for each possible pair of samples. It is not as powerful as Tukey's test (**StatsTukeyTest**) and is more useful for hypotheses formulated as multiple contrasts (see /CONT).

### **References**

See, in particular, Chapter 11 of:

Zar, J.H., *Biostatistical Analysis*, 4th ed., 929 pp., Prentice Hall, Englewood Cliffs, New Jersey, 1999.

### **See Also**

Chapter III-12, **Statistics** for a function and operation overview; **StatsANOVA1Test**, **StatsDunnettTest** and **StatsTukeyTest**.

## **StatsShapiroWilkTest**

**StatsShapiroWilkTest [flags] srcWave**

The StatsShapiroWilkTest computes Shapiro-Wilk statistic  $W$  and its associated P-value and stores them in V\_statistic and V\_prob respectively.

### **Flags**

/Q	No results printed in the history area.
/Z	Ignores errors.

### **Details**

The Shapiro-Wilk tests the null hypothesis that the population is normally distributed. If the P-value is less than the selected alpha then the null hypothesis, normality, is rejected.

The test is valid only for waves containing 3 to 5000 data points. The operation ignores any NaNs or INFs in *srcWave*.

### **Example**

```
// Test normally distributed data
Make/O/N=(200) ggg=gnoise(5)
StatsShapiroWilkTest ggg
W=0.995697 p=0.846139 // p>alpha so accept normality
```