StatsInvRectangularCDF

StatsInvRectangularCDF(*cdf*, *a*, *b*)

The StatsInvRectangularCDF function returns the inverse of the rectangular (uniform) cumulative distribution function

$$x = a + cdf(b - a), \qquad a < b.$$

where $a < b$.

See Also

Chapter III-12, **Statistics** for a function and operation overview; the **StatsRectangularCDF** and **StatsRectangularPDF** functions.

StatsInvSpearmanCDF

StatsInvSpearmanCDF(*cdf*, *N*)

The StatsInvSpearmanCDF function returns the inverse cumulative distribution function for Spearman's *r*, which is used as a critical value in rank correlation tests.

The inverse distribution is computed by finding the value of *r* for which it attains the *cdf* value. The result is usually lower than in published tables, which are more conservative when the first derivative of the distribution is discontinuous.

See Also

Chapter III-12, **Statistics** for a function and operation overview; the **StatsRankCorrelationTest**, **StatsSpearmanRhoCDF**, and **StatsKendallTauTest** functions.

StatsInvStudentCDF

StatsInvStudentCDF(*cdf*, *n*)

The StatsInvStudentCDF function returns the numerically evaluated inverse of Student cumulative distribution function. There is no closed form expression.

See Also

Chapter III-12, **Statistics** for a function and operation overview; the **StatsStudentCDF** and **StatsStudentPDF** functions.

StatsInvTopDownCDF

StatsInvTopDownCDF(cdf, N)

The StatsInvTopDownCDF function returns the inverse cumulative distribution function for the top-down distribution. For $3 \le N \le 7$ it uses a lookup table CDF and returns the next higher value of *r* for which the distribution value is larger than *cdf*. For $8 \le N \le 50$ it returns the nearest value for which the built-in distribution returns *cdf*. For $N>50$ it returns the scaled normal approximation.

Tabulated values are from Iman and Conover who pick as the critical value the very first transition of the distribution following the specified *cdf* value. These tabulated values tend to be slightly higher than calculated values for $7<N<15$.

References

Iman, R.L., and W.J. Conover, A measure of top-down correlation, *Technometrics*, *29*, 351-357, 1987.

See Also

Chapter III-12, **Statistics** for a function and operation overview; the **StatsRankCorrelationTest** and **StatsTopDownCDF** functions.

StatsInvTriangularCDF

StatsInvTriangularCDF(*cdf*, *a*, *b*, *c*)

The StatsInvTriangularCDF function returns the inverse of the triangular cumulative distribution function