$$x = a + b\log\left(\frac{cdf}{1-cdf}\right).$$

where the scale parameter $b>0$ and the shape parameter is a.

See Also

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

StatsInvLogNormalCDF

StatsInvLogNormalCDF(*cdf*, *sigma*, *theta*, *mu*)

The StatsInvLogNormalCDF function returns the numerically evaluated inverse of the lognormal cumulative distribution function.

See Also

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

StatsInvMaxwellCDF

StatsInvMaxwellCDF(*cdf*, *k*)

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

See Also

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

StatsInvMooreCDF

StatsInvMooreCDF(*cdf*, *N*)

The StatsInvMooreCDF function returns the inverse cumulative distribution function for Moore's R*, which is used as a critical value in nonparametric version of the Rayleigh test for uniform distribution around the circle. It supports the range $3 \le N \le 120$ and does not change appreciably for $N > 120$.

The inverse distribution is computed from polynomial approximations derived from simulations and should be accurate to approximately three significant digits.

References

Moore, B.R., A modification of the Rayleigh test for vector data, *Biometrica*, *67*, 175-180, 1980.

See Also

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

StatsInvNBinomialCDF

StatsInvNBinomialCDF(*cdf*, *k*, *p*)

The StatsInvNBinomialCDF function returns the numerically evaluated inverse of the negative binomial cumulative distribution function. There is no closed form expression.

See Also

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

StatsInvNCChiCDF

StatsInvNCChiCDF(*cdf*, *n*, *d*)

The StatsInvNCChiCDF function returns the inverse of the noncenteral chi-squared cumulative distribution function. It is computationally intensive because the inverse is computed numerically and involves multiple evaluations of the noncentral distribution, which is evaluated from a series expansion.