See Also

Chapter III-12, **Statistics** for a function and operation overview; **StatsChiCDF** and **StatsChiPDF**.

StatsInvCMSSDCDF

StatsInvCMSSDCDF(*cdf*, *n*)

The StatsInvCMSSDCDF function returns the critical values of the C distribution (mean square successive difference distribution), which is given by

$$f(C,n) = \frac{\Gamma(2m+2)}{a2^{2m+1}\left[\Gamma(m+1)\right]^2}\left(1-\frac{C^2}{a^2}\right)^m,$$

where

$$a^2 = \frac{\left(n^2+2n-12\right)(n-2)}{\left(n^3-13n+24\right)},$$

$$m = \frac{\left(n^4-n^3-13n^2+37n-60\right)}{2\left(n^3-13n+24\right)}.$$

Critical values are computed from the integral of the probability distribution function.

References

Young, L.C., On randomness in ordered sequences, *Annals of Mathematical Statistics*, *12*, 153-162, 1941.

See Also

Chapter III-12, **Statistics** for a function and operation overview; **StatsCMSSDCDF** and **StatsSRTest**.

StatsInvDExpCDF

StatsInvDExpCDF(*cdf*, μ, σ)

The StatsInvDExpCDF function returns the inverse of the double-exponential cumulative distribution function

$$x = \begin{cases} \mu + \sigma\ln(2cdf) & \text{when } cdf < 0.5 \\ \mu - \sigma\ln\left[2\left(1-cdf\right)\right] & \text{when } cdf \ge 0.5 \end{cases}$$

It returns NaN for *cdf* <0 or *cdf* > 1.

See Also

Chapter III-12, **Statistics** for a function and operation overview; **StatsDExpCDF** and **StatsDExpPDF**.

StatsInvEValueCDF

StatsInvEValueCDF(*cdf*, μ, σ)

The StatsInvEValueCDF function returns the inverse of the extreme-value (type I, Gumbel) cumulative distribution function

$$x = \mu - \sigma\ln\left(1-cdf\right)$$

where σ>0. It returns NaN for *cdf*<0 or *cdf*>1. This inverse applies to the "minimum" form of the distribution. Reverse the sign of σ to obtain the inverse distribution of the maximum form.

See Also

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