

See Also

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

StatsEValueCDF

StatsEValueCDF(x, μ, σ)

The StatsEValueCDF function returns the extreme-value (type I, Gumbel) cumulative distribution function

$$F(x; \mu, \sigma) = 1 - \exp\left(-\exp\left(\frac{x - \mu}{\sigma}\right)\right),$$

where $\sigma > 0$. This is also known as the “minimum” form or distribution of the smallest extreme. To obtain the distribution of the largest extreme reverse the sign of σ .

See Also

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

StatsEValuePDF, **StatsInvEValueCDF**, **StatsGEVCDF**, **StatsGEVPDF**

StatsEValuePDF

StatsEValuePDF(x, μ, σ)

The StatsEValuePDF function returns the extreme-value (type I, Gumbel) probability distribution function

$$F(x; \mu, \sigma) = 1 - \exp\left(-\exp\left(\frac{x - \mu}{\sigma}\right)\right),$$

where $\sigma > 0$. This is also known as the “minimum” form or the distribution of the smallest extreme. To obtain the distribution of the largest extreme reverse the sign of σ .

See Also

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

StatsEValueCDF, **StatsInvEValueCDF**, **StatsGEVCDF**, **StatsGEVPDF**

StatsExpCDF

StatsExpCDF(x, μ, σ)

The StatsExpCDF function returns the exponential cumulative distribution function

$$F(x; \mu, \sigma) = 1 - \exp\left(-\frac{x - \mu}{\sigma}\right),$$

where $x \geq \mu$ and $\sigma > 0$. It returns NaN for $\sigma = 0$.

See Also

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

StatsExpPDF

StatsExpPDF(x, μ, σ)

The StatsExpPDF function returns the exponential probability distribution function

$$f(x; \mu, \sigma) = \frac{1}{\sigma} \exp\left(-\frac{x - \mu}{\sigma}\right),$$

where μ is the location parameter and $\sigma > 0$ is the scale parameter. Use $\mu=0$ and $\sigma=1$ for the standard form of the exponential distribution. It returns NaN for $\sigma=0$.