

$$f(x, \mu, \sigma, \xi) = \frac{1}{\sigma} \left[ 1 + \xi \left( \frac{x - \mu}{\sigma} \right) \right]^{(-1/\xi) - 1} \exp \left\{ - \left[ 1 + \xi \left( \frac{x - \mu}{\sigma} \right)^{-1/\xi} \right] \right\},$$

where

$$1 + \xi \left( \frac{x - \mu}{\sigma} \right) > 0,$$

and  $\sigma > 0$ .

#### See Also

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

**StatsGEVCDF**, **StatsEValuePDF**, **StatsEValueCDF**, **StatsInvEValueCDF**

## StatsHyperGCDF

**StatsHyperGCDF**(*x*, *m*, *n*, *k*)

The StatsHyperGCDF function returns the hypergeometric cumulative distribution function, which is the probability of getting *x* marked items when drawing (without replacement) *k* items out of a population of *m* items when *n* out of the *m* are marked.

#### Details

The hypergeometric distribution is

$$F(x; m, n, k) = \sum_{L=0}^x \frac{\binom{n}{L} \binom{m-L}{k-L}}{\binom{m}{k}},$$

where  $\binom{a}{b}$  is the **binomial** function. All parameters must be positive integers and must have  $m > n$  and  $x < k$ ; otherwise it returns NaN.

#### References

Klotz, J.H., *Computational Approach to Statistics*.

#### See Also

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

## StatsHyperGPDF

**StatsHyperGPDF**(*x*, *m*, *n*, *k*)

The StatsHyperGPDF function returns the hypergeometric probability distribution function, which is the probability of getting *x* marked items when drawing without replacement *k* items out of a population of *m* items where *n* out of the *m* are marked.

#### Details

The hypergeometric distribution is