Why

[1]

Definition

Let $X, Y : \Omega \to \mathbf{R}$ be random variables on probability space $(\Omega, \mathcal{F}, \mathbf{P})$. The *joint cumulative distribution function* denoted $F_{X,Y} : \mathbf{R}^2 \to [0,1]$ is defined by $F_{X,Y}(s,t) = \mathbf{P}[X \leq s, Y \leq t]$.

In general the *joint cdf* for a random vector $X : \Omega \to \mathbf{R}^n$ is $F_X : \mathbf{R}^d \to [0,1]$ defined by $F_X(t) = \mathbf{P}[X \leq t]$ where $x \leq t$ means $x_i \leq t_i$ for all i.

[1] Future editions will include.

Joint Cumulative Distribution Functions
Cumulative Distribution Functions
Random Variables
Measurable Functions
Probability Measures
Topological Sigma Algebra
Measures
Event Probabilities
Topological Spaces
Sigma Algebras
Metrics
Extended Real Numbers
Real Series
Distance
Real Limits
Space Distance
Absolute Value
Plane Distance
Probability Distributions
Interval Length
Intervals
Real Space
Real Line
Real Plane
Real Sequences
Real Summation
Real Order
Integral Line
Real Numbers
Geometry
Rational Order
Sequences
Rational Numbers
Subset Algebras
Lists
Integer Arithmetic
Cardinality
Set Numbers
Natural Multiplicative Identity
Natural Additive Identity
Finite Sets
Identity Elements
Arithmetic
Integer Products
Direct Products
Equivalent Sets
Natural Summation
Natural Powers
Family Unions and Intersections
Family Operations
Function Inverses
Comparisons
Integer Order
Integer Sums
Natural Products
Operations
Families
Function Images
Function Composites
Orders
Integer Numbers
Natural Sums
Functions
Converse Relations
Natural Order
Equivalence Relations
Recursion Theorem
Relations
Peano Axioms
Subset Systems
Set Products
Natural Induction
Uncertain Outcomes
Ordered Pairs
Set Powers
Generalized Set Dualities
Natural Numbers
Set Unions and Intersections
Unordered Triples
Set Dualities
Intersection of Empty Set
Successor Sets
Partitions
Set Symmetric Differences
Pair Unions
Set Intersections
Set Complements
Pair Intersections
Set Unions
Set Differences
Unordered Pairs
Empty Set
Set Specification
Set Equality
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Lattices
Objects