Why

TODO

Definition

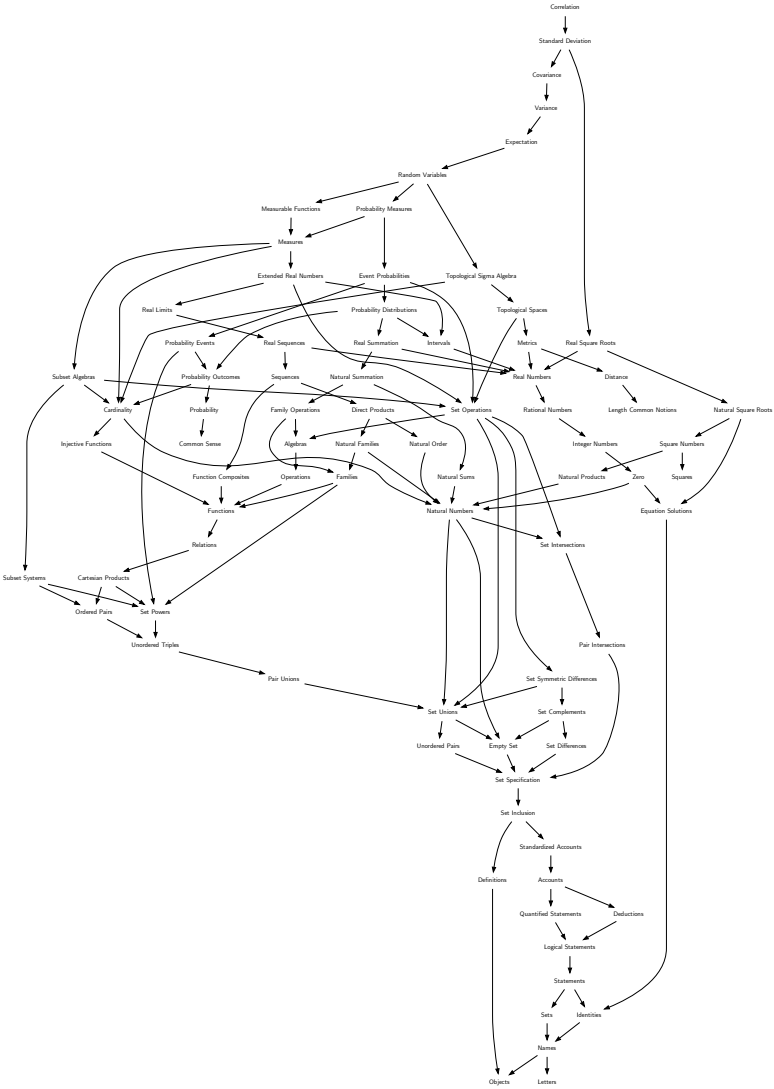
The *correlation* between two integrable real-valued random variables with non-zero variance is the quotient of their covariance with the product of their standard deviations.

Two integrable real-valued random variables are *uncorrelated* if their covariance is zero. We can speak of uncorrelated random variables who have zero variance, although in this case their correlation is undefined.

Notation

Let f and g be two integrable real-valued random variables with fg integrable. Denote the correlation of f with g by $\mathsf{cor}(f, g)$. We defined it:

$$\mathsf{cor}(f, g) = \frac{\mathsf{cov}(f, g)}{\mathsf{std}\, f\, \mathsf{std}\, g}.$$


Correlation
Standard Deviation
Covariance
Variance
Expectation
Random Variables
Measurable Functions
Probability Measures
Measures
Extended Real Numbers
Event Probabilities
Topological Sigma Algebra
Real Limits
Probability Distributions
Topological Spaces
Probability Events
Real Sequences
Real Summation
Intervals
Metrics
Real Square Roots
Subset Algebras
Probability Outcomes
Sequences
Natural Summation
Real Numbers
Distance
Cardinality
Probability
Family Operations
Direct Products
Set Operations
Rational Numbers
Length Common Notions
Natural Square Roots
Injective Functions
Common Sense
Algebras
Natural Families
Natural Order
Integer Numbers
Square Numbers
Function Composites
Operations
Families
Natural Sums
Natural Products
Zero
Squares
Functions
Natural Numbers
Equation Solutions
Relations
Set Intersections
Subset Systems
Cartesian Products
Ordered Pairs
Set Powers
Unordered Triples
Pair Intersections
Pair Unions
Set Symmetric Differences
Set Unions
Set Complements
Unordered Pairs
Empty Set
Set Differences
Set Specification
Set Inclusion
Standardized Accounts
Definitions
Accounts
Quantified Statements
Deductions
Logical Statements
Statements
Sets
Identities
Names
Objects
Letters