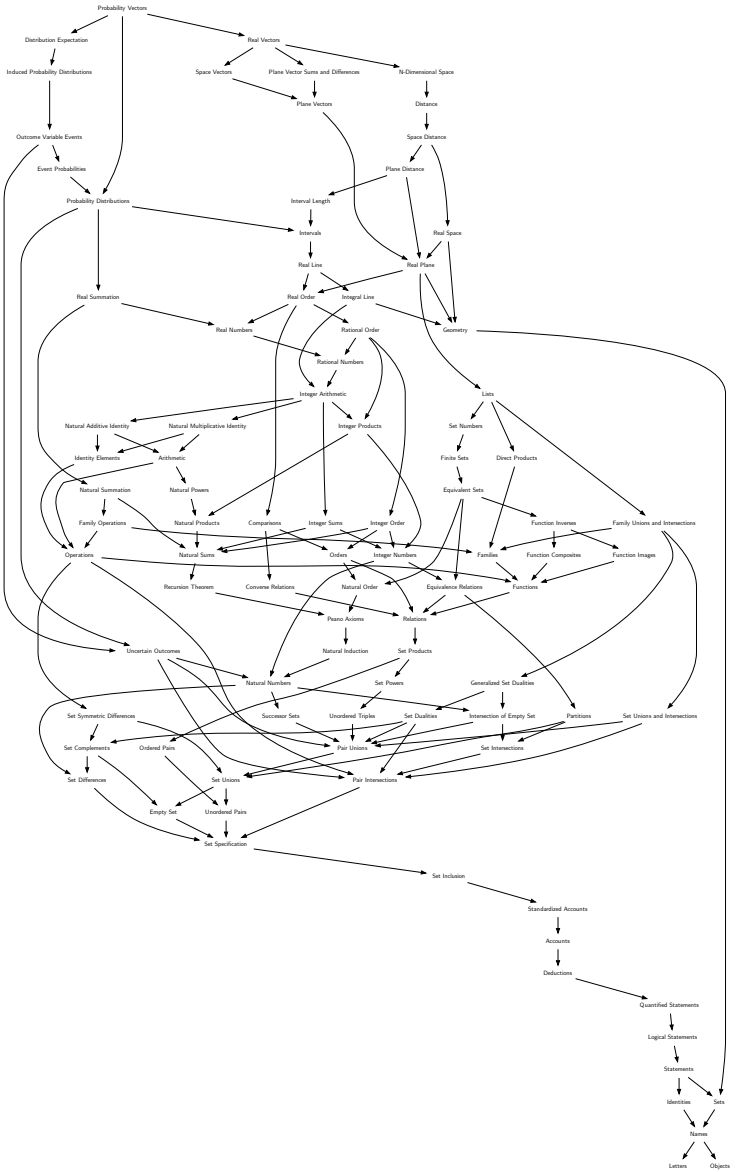
Why

We can identify probability distributions with vectors.

Definition

Let $p : \Omega \to \mathbf{R}$ be a probability distribution on a finite set $\Omega = \{\omega_1, \ldots, \omega_n\}$. Given a numbering $a : \{1, \ldots, n\} \to A$ of A, we can associate p with the vector $x \in \mathbf{R}^n$ defined by $x_i = p(\omega_i)$ for $i = 1, \ldots, n$. We call this vector z the *probability vector* associated with p.


Probability Vectors
Distribution Expectation
Induced Probability Distributions
Outcome Variable Events
Event Probabilities
Probability Distributions
Real Vectors
Space Vectors
Plane Vector Sums and Differences
N-Dimensional Space
Plane Vectors
Distance
Space Distance
Plane Distance
Interval Length
Intervals
Real Space
Real Line
Real Plane
Real Order
Integral Line
Real Summation
Real Numbers
Rational Order
Geometry
Rational Numbers
Integer Arithmetic
Lists
Natural Additive Identity
Natural Multiplicative Identity
Integer Products
Set Numbers
Identity Elements
Arithmetic
Finite Sets
Direct Products
Natural Summation
Natural Powers
Equivalent Sets
Family Operations
Natural Products
Comparisons
Integer Sums
Integer Order
Function Inverses
Family Unions and Intersections
Operations
Natural Sums
Orders
Integer Numbers
Families
Function Composites
Function Images
Recursion Theorem
Converse Relations
Natural Order
Equivalence Relations
Functions
Peano Axioms
Relations
Natural Induction
Set Products
Uncertain Outcomes
Natural Numbers
Set Powers
Generalized Set Dualities
Set Symmetric Differences
Successor Sets
Unordered Triples
Set Dualities
Intersection of Empty Set
Partitions
Set Unions and Intersections
Set Complements
Ordered Pairs
Pair Unions
Set Intersections
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects