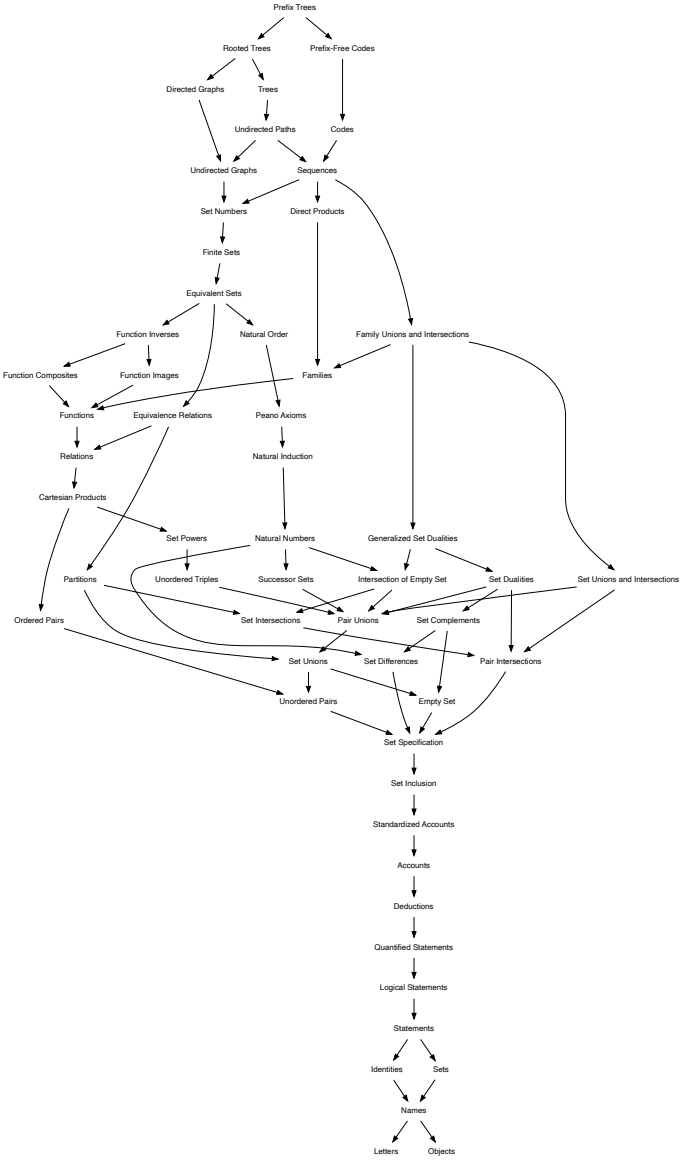
Why

Definition

Let X and A be finite sets and $c : X \to \mathcal{S}(A)$. The *maximum length* of a code is the length of the longest codeword. We denote by $\mathcal{S}^{\ell}(A)$ the strings of length smaller than ℓ in A.

The *prefix-tree* of depth k corresponding to c is the tree $(\mathcal{S}^{k}(A), T)$ where $\{s, t\} \in E$ if s is a prefix of t and their lengths differ by one.

Proposition 1. *If the code $c : X \to \mathcal{S}(A)$ is prefix free, then no vertex in $c(X)$ is the ancestor of another vertex in $c(X)$.*


Prefix Trees
Rooted Trees
Prefix-Free Codes
Directed Graphs
Trees
Undirected Paths
Codes
Undirected Graphs
Sequences
Set Numbers
Direct Products
Finite Sets
Equivalent Sets
Function Inverses
Natural Order
Family Unions and Intersections
Function Composites
Function Images
Families
Functions
Equivalence Relations
Peano Axioms
Relations
Natural Induction
Cartesian Products
Set Powers
Natural Numbers
Generalized Set Dualities
Partitions
Unordered Triples
Successor Sets
Intersection of Empty Set
Set Dualities
Set Unions and Intersections
Ordered Pairs
Set Intersections
Pair Unions
Set Complements
Set Unions
Set Differences
Pair Intersections
Unordered Pairs
Empty Set
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects