Why

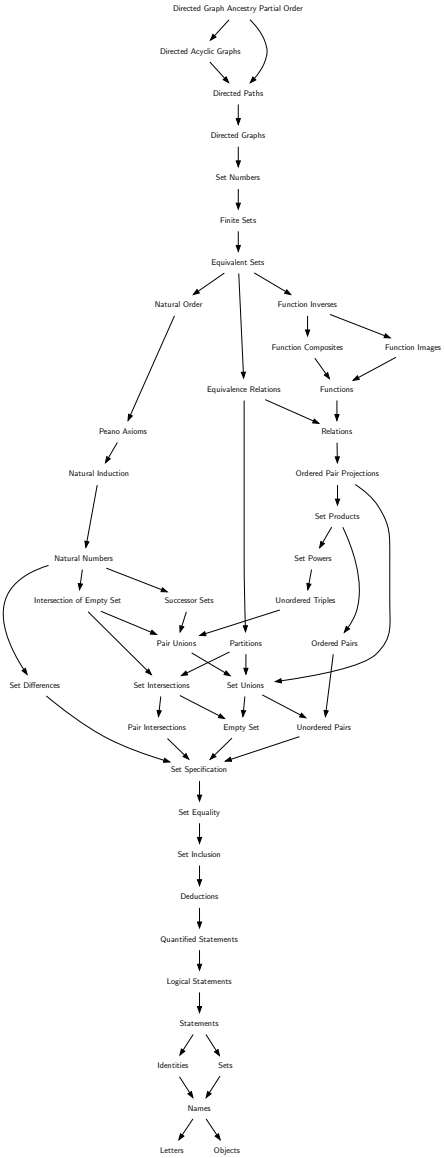
Ancestry in a directed acyclic graph gives a partial order over the vertices.

Definition

Suppose (V, E) is a directed acyclic graph. Define the relation $\preceq$ by

$$s \preceq t \text{ if } s \text{ is an ancestor of } t \quad \text{for all } s, t \in V$$

Then $\preceq$ is a partial order. We call it the *ancestry partial order*.


Directed Graph Ancestry Partial Order
Directed Acyclic Graphs
Directed Paths
Directed Graphs
Set Numbers
Finite Sets
Equivalent Sets
Natural Order
Function Inverses
Function Composites
Function Images
Equivalence Relations
Functions
Peano Axioms
Relations
Natural Induction
Ordered Pair Projections
Set Products
Natural Numbers
Set Powers
Intersection of Empty Set
Successor Sets
Unordered Triples
Pair Unions
Partitions
Ordered Pairs
Set Differences
Set Intersections
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects