Why

We want notation for the Cartesian (direct) product of a sequence of sets

Definition

A *natural direct product* is the cartesian product of a sequence.

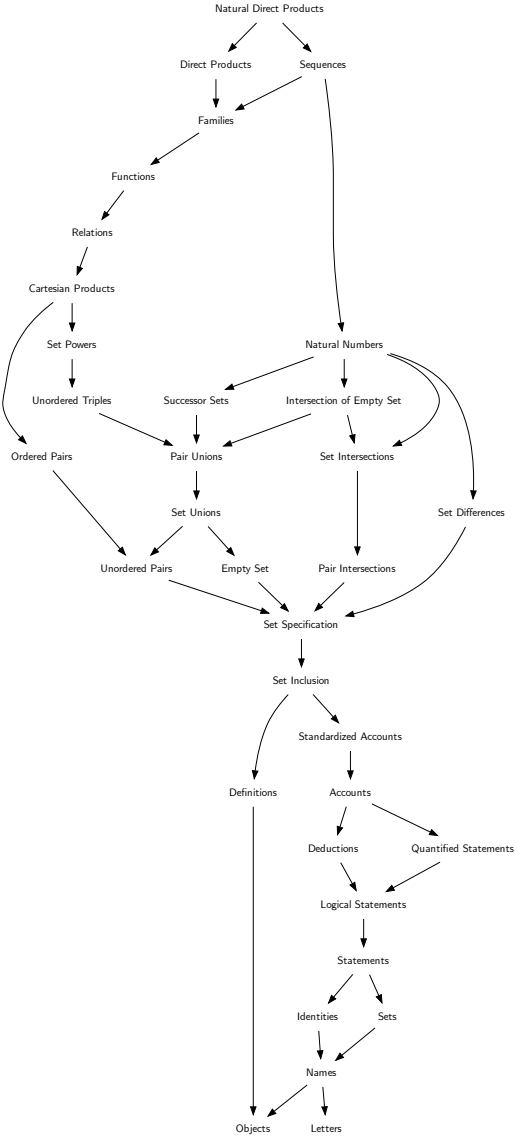
ßNotation

Let $\{A_i\}$ be a sequence of sets. If $\{A_i\}$ is finite and indexed by $n - \{\varnothing 0\}$ we denote the product of the sequence by

$$\prod_{i=1}^{n} A_i$$

and if infinite, then by

$$\prod_{i=1}^{\infty} A_i.$$


Natural Direct Products
Direct Products
Sequences
Families
Functions
Relations
Cartesian Products
Set Powers
Natural Numbers
Unordered Triples
Successor Sets
Intersection of Empty Set
Ordered Pairs
Pair Unions
Set Intersections
Set Unions
Set Differences
Unordered Pairs
Empty Set
Pair Intersections
Set Specification
Set Inclusion
Standardized Accounts
Definitions
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Objects
Letters