Why

Sometimes a function's range is more important than the function itself.

Definition

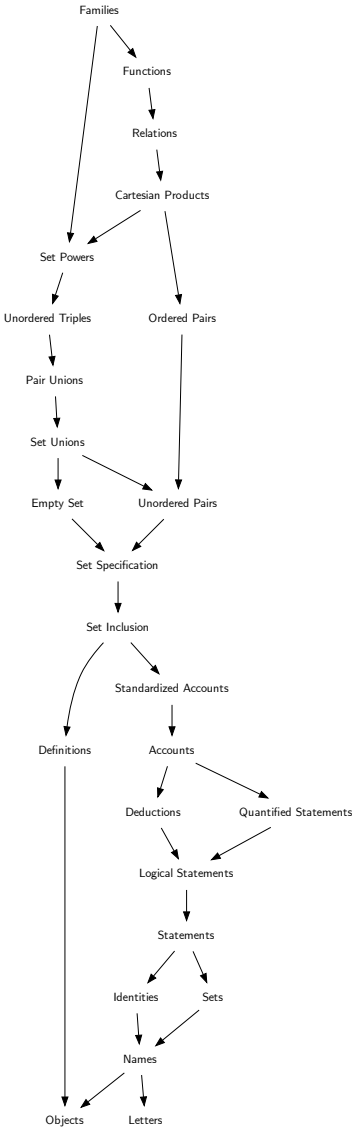
Let I and X denote sets A *family* is a function $x : I \to X$. We call an element of I an *index*, I the *index set*, the range of x the *indexed set*, and the value of x at an index i a *term*.

Experience shows that it is useful to discuss sets using indices, especially when discussing a set of sets.

Notation

Let A and I be be a non-empty sets. We use I as a mnemonic for "index" set. Let $a : I \to A^*$ be a family. For $i \in I$, we follow the function notation and denote the result of applying a to i by a_i.

We denote the range of the family by family of a_α indexed with I by $\{a_\alpha\}_{\alpha \in I}$, which is short-hand for set-builder notation. We read this notation "a sub-alpha, alpha in I."


Families
Functions
Relations
Cartesian Products
Set Powers
Unordered Triples
Ordered Pairs
Pair Unions
Set Unions
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Definitions
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Objects
Letters