Complete semilattices edit

Abbreviation: CSlat

Definition 1. A *complete semilattice* is a directed complete partial orders $\mathbf{P} = \langle P, \leq \rangle$ such that every nonempty subset of P has a greatest lower bound: $\forall S \subseteq P\ (S \neq \emptyset \implies \exists z \in P(z = \bigwedge S))$.

Morphisms. Let $\mathbf{P}$ and $\mathbf{Q}$ be complete semilattices. A morphism from $\mathbf{P}$ to $\mathbf{Q}$ is a function $f : P \to Q$ that preserves all nonempty meets and all directed joins:

$z = \bigwedge S \implies f(z) = \bigwedge f[S]$ for all nonempty $S \subseteq P$ and $z = \bigvee D \implies f(z) = \bigvee f[D]$

Basic Results.

Examples.

1.

Properties. (description)

Classtype	second-order
Amalgamation property	
Strong amalgamation property	
Epimorphisms are surjective	

Finite Members. $f(n) =$ number of members of size n.

$f(1) =$ 1
$f(2) =$
$f(3) =$
$f(4) =$
$f(5) =$
$f(6) =$

Subclasses.
Complete lattices

Superclasses.
Directed complete partial orders

References

[1]