

Directed partial orders [edit](#)

Abbreviation: DPO

Definition 1. A *directed partial order* is a poset $\mathbf{P} = \langle P, \leq \rangle$ that is *directed*, i.e. every finite subset of P has an upper bound in P , or equivalently, $P \neq \emptyset, \forall xy \exists z(x \leq z \text{ and } y \leq z)$.

Morphisms. Let \mathbf{P} and \mathbf{Q} be directed partial orders. A morphism from \mathbf{P} to \mathbf{Q} is a function $f : P \rightarrow Q$ that is order preserving:

$$x \leq y \implies f(x) \leq f(y)$$

Basic Results.

Examples.

1.

Properties. (description)

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

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

$$f(1) = 1$$

$$f(2) = 1$$

$$f(3) = 2$$

$$f(4) =$$

$$f(5) =$$

$$f(6) =$$

Subclasses.

Directed complete partial orders

Superclasses.

Partially ordered sets

REFERENCES

[1]