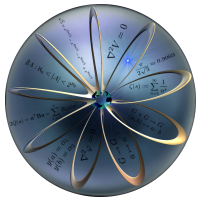

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order-preserving map

Canonical name	OrderpreservingMap
Date of creation	2013-03-22 17:44:43
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Owner	porton (9363)
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Numerical id	10
Author	porton (9363)
Entry type	Definition
Classification	msc 06A06
Synonym	monotone function
Synonym	monotonic function
Synonym	order homomorphism
Synonym	isotone function
Synonym	isotonic function
Synonym	order-preserving
Synonym	isotone
Synonym	isotonic
Synonym	order-reversing
Synonym	antitonic
Synonym	antitone
Related topic	Poset
Related topic	LatticeHomomorphism
Defines	monotonicity

Order-preserving map from a poset L to a poset M is a function f such that

$$\forall x, y \in L : (x \geq y \implies f(x) \geq f(y)).$$

Order-preserving maps are also called *monotone functions* or *monotonic functions* or *order homomorphisms* or *isotone functions* or *isotonic functions*.

Order-reversing map from a poset L to a poset M is a function f such that

$$\forall x, y \in L : (x \geq y \implies f(x) \leq f(y)).$$

Order-reversing maps are also called *antitone functions*.