



Why

We can generalize the notion of real monotone functions to functions between any two sets with total partial orders.

Definition

Let (A, \geq_A) and (B, \geq_B) be two partially ordered sets. $f : A \rightarrow B$ is *isotonic* if it is order preserving and *antitonic* if it is order reversing. A function is *monotonic* if it is either antitonic or isotonic.¹

Examples

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¹Future editions may modify this terminology.

²Future editions will include. A nice example is monotonic matrix functions.

