On discrete properties of monotone mappings

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Let $h : A \to A$ and ε be a partial order on A. We deal with properties of oriented graphs which corresponds to the algebra (A, h) in the case that h is monotone with respect to ε. We derive that every mono-unary algebra except connected one with a cycle of odd length has the property that there exists a non-trivial partial order such that (A, h) is monotone with respect to it. All mono-unary algebras such that there exists a linear order such that h is monotone with respect to this order will be described; if the number of components of (A, h) is infinite, then the number of such orders is equal to the cardinality of the power set of A.

References

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