

# Ordinal and Relational Clustering

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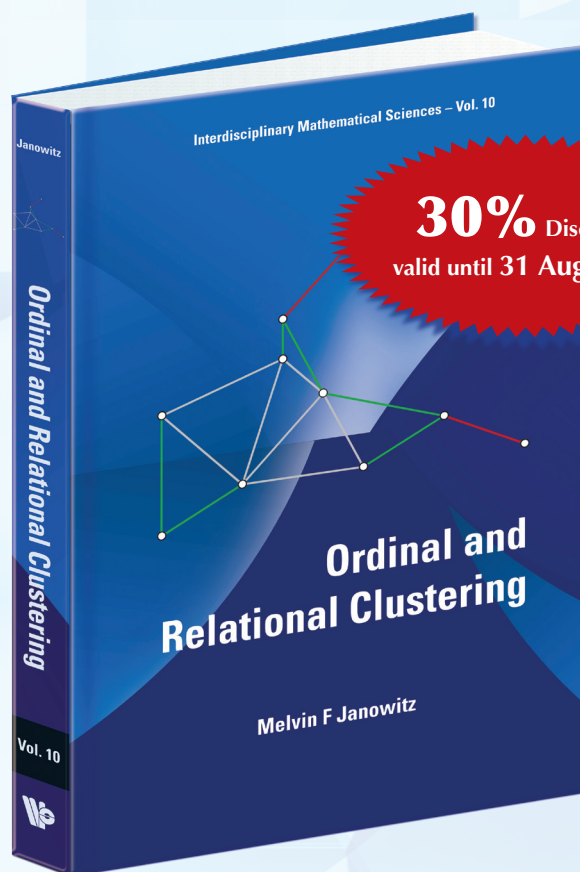
**M**ost modern textbooks on cluster analysis are written from the standpoint of computer science, which give the background, description and implementation of computer algorithms. This book proclaims several firsts — the first to present a broad mathematical treatment of the subject, the first that illustrates dissimilarities taking values in a poset, and the first to notice the connection with formal concept analysis which is a powerful tool for investigating hidden structures in large data sets.

This book presents the subject from a mathematical viewpoint with careful definitions. All clearly stated axioms are illustrated with concrete examples. New ideas are introduced informally first, and then in a careful, systematic manner. Much of the material has not previously appeared in the literature. It is to be hoped that the book holds promising directive to launch a new research area that is based on graph theory, as well as partially ordered sets. It also suggests the cluster algorithms that can be used for practical applications. The emphasis will be largely on ordinal data and ordinal cluster methods.

**Contents:** Informal Background; Dissimilarities and Clusters; Ordinal Data; Continuity and Ordinal Continuity; Classification of Monotone Equivariant Cluster Methods; Clustering Based on Posets.

**Readership:** Graduate students and researchers in mathematics, computer science, statistics, operations research, psychology and biology.

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