

Broad Applications of Cluster Analysis

- ❑ Data summarization, compression, and reduction
 - ❑ Examples: Image processing or vector quantization
- ❑ Collaborative filtering, recommendation systems, or customer segmentation
 - ❑ Finding like-minded users or similar products
- ❑ Dynamic trend detection
 - ❑ Clustering stream data and detecting trends and patterns
- ❑ Multimedia data analysis, biological data analysis, and social network analysis
 - ❑ Example: Clustering images or video/audio clips, gene/protein sequences, etc.
- ❑ A key intermediate step for other data mining tasks
 - ❑ Generating a compact summary of data for classification, pattern discovery, and hypothesis generation and testing
 - ❑ Outlier detection: Outliers - those “far away” from any cluster