Tools for graph partitioning and clustering

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Résumé :

Many methods for classifying and organizing data use some form of partitioning or clustering, and many basic problems in discrete optimization can be modeled as graph partitioning or clustering problems. In this tutorial, we give an overview of some algorithmic approaches for partitioning and clustering problems, where the techniques are based on tools from mathematical programming and approximation algorithms. Our focus is on discrete optimization problems in which the objective is to partition a graph into possibly many pieces such as max-k-cut and correlation clustering.