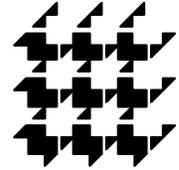


DIMACS

*Center for Discrete Mathematics &
Theoretical Computer Science*



DIMACS EDUCATIONAL MODULE SERIES

MODULE 08-3 Centrality and Anticentrality in Trees Date prepared: May 2008

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Module Description Information

- **Title:**

Centrality and Anticentrality in Trees

- **Authors:**

Atif Abueida, University of Dayton
Michael Ackerman, Bellarmine University
Sul-Young Choi, LeMoyne College

- **Abstract:**

The idea of the “middle” of graphs has been studied extensively in the literature. In this module, we discuss different measures of the middle of trees. We also discuss the notion of the “antimiddle” of a tree. As part of our discussion of the “antimiddle” of a tree, we introduce a new measure of the “anti-middle” of a tree called the set of antiplurality vertices.

- **Informal Description:**

The study of the middle of graphs has numerous real-life applications. The focus of this module deals with the application of locating a facility such as a fire station or distribution center. It also examines where to locate hazardous facilities, such as a nuclear waste site, where the facility needs to be as far away as possible.

- **Target Audience:**

College students with discrete mathematics background.

- **Prerequisites:**

The module assumes knowledge of basic graph theory.

- **Mathematical Field:**

Graph Theory

- **Applications Areas:**

Facility location problems

- **Mathematics Subject Classification:**

Primary: 05C05; Secondary: 05C90

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- **Other DIMACS modules related to this module:**

Module 03–2: Facility Location Problems