Approximation Algorithms

K. Subramani, LCSEE, West Virginia University

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1. The Primal-Dual Schema

    (a) The primal dual approach for problems in **P**.

    (b) Primal and dual forms and complementary slackness.

    (c) Relaxed complementary slackness and approximation algorithms.

    (d) The primal dual algorithmic overview for **NP-hard** problems.

    (e) Preliminaries of the Set Cover Problem.

    (f) Formulating the integer program for set cover.

    (g) Relaxing the integer program into a linear program.

    (h) Relaxed complementary slackness conditions for the set cover linear program.

    (i) The primal-dual algorithm for set cover and its analysis.

    (j) Tightness analysis.