

# Approximation Algorithms

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## 1. The LP-Rounding Approach

- (a) Reintroducing the set cover problem.
- (b) Formulating the integer program for set cover.
- (c) Relaxing the integer program into a linear program.
- (d) A simple rounding algorithm.
- (e) A randomized rounding algorithm.
- (f) Half-integrality of vertex cover.