Approximation Algorithms

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1. The Dual Fitting approach.

   (a) Reintroducing the set cover problem.
   (b) Greedy algorithm for cardinality version and analysis.
   (c) Greedy algorithm for weighted version and analysis.
   (d) Formulating the integer program for set cover.
   (e) Relaxing the integer program into a linear program.
   (f) Studying the dual of the linear program.
   (g) Obtaining a feasible dual solution.
   (h) Establishing the approximation guarantee.
   (i) Tightness analysis.