MIND MAP FOR ALGORITHM DESIGN

local optimum

future consequences

overlapping subproblem & optimal substructure property.

Greedy Algorithm

random choices

Dynamic-programming solutions

Randomized Algorithm

Example: Knapsack, subset-sum problem.

Algorithm Design

faster solutions

Divide & conquer algorithm

Approximate Algorithm

problem, recursively solving & recombining

Merge sort, Quicksort

minimum vertex cover problem

smallest set of vertices