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Keywords: Combinatorial optimization, modeling, transportation systems, logistics systems, health care systems, sequential testing problem.

Applications of combinatorial optimization

Operations Planning and Optimization

- Modeling and optimization for;
Transportation systems (vehicle routing, network design),
Logistics systems (port operations),
Communications systems (resource allocation and routing),
Health care systems (home health care, scheduling, facility location),
at operational, tactical and strategic levels.

- Development of exact and approximate solution algorithms and heuristic algorithms to solve combinatorial optimization problems.



Sequential Testing Problem

- Determine the value of a discrete function with the minimum expected cost.
- Different application areas including fault diagnosis, efficient querying in databases, project management, search problem, network connectivity, etc.
- Extensions of the problem depending on the application area.
- Exact, approximate and heuristic algorithms to find “good” decision trees for different type of functions with different constraints.

