

Final Review

Topics

Convex Hulls

- Jarvis March, Graham Scan
- Chan's Alg - Output sensitive $O(n \log h)$

(Linear) Algebraic Decision Tree Model

- Element Uniqueness $\Omega(n \log n)$

Linear Programming

Network Flow

- $O(|V||E|)$ Orlin
- Bipartite matching
- Pennant Race
- Open pit mining

Linear Programming Duality

- Zero sum games

Dynamic programming

- Longest common subsequence
- Longest increasing subsequence
- Edit distance $O(nm)$

NP-completeness

- NP, NP-hard, NP-complete
- Clique, Vertex Cover, 3SAT
- Independent Set
- Partition
- Hamiltonian Cycle
- TSP
- Knapsack