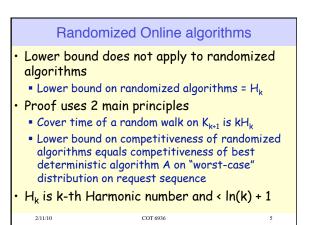
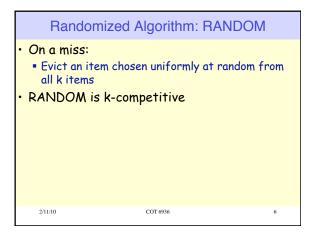
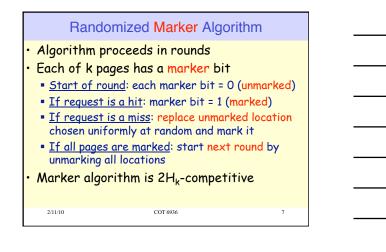


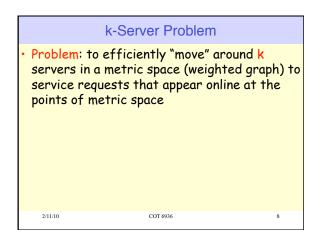


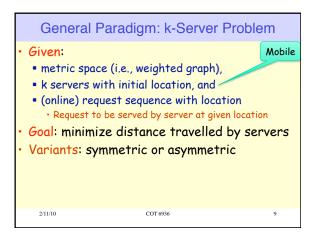
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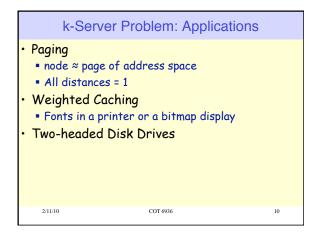


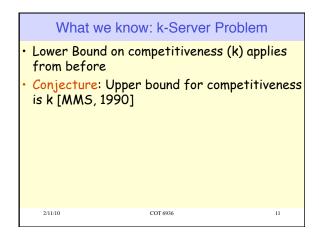


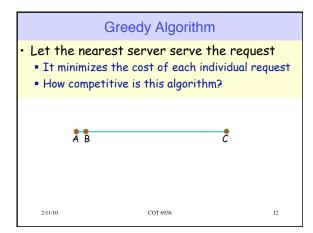








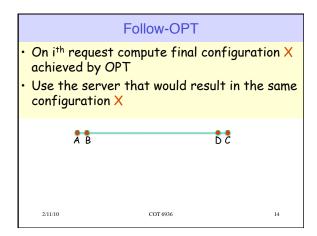


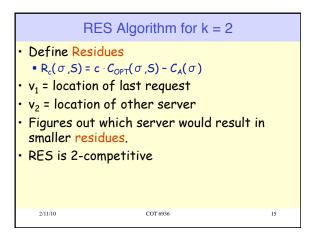


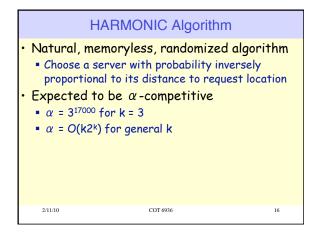
Balance Algorithm

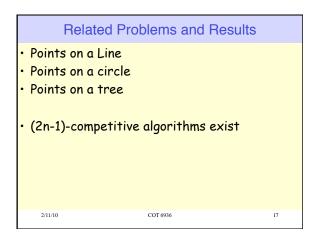
- Choose a server that would have moved the minimum total distance of any server
- Takes care of previous bad example since eventually the second server would be employed
- Can be shown to be k-competitive if k = n-1
- Can do poorly in other situations

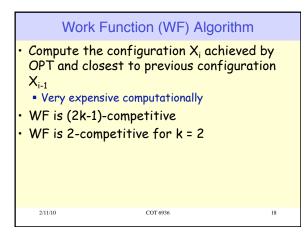
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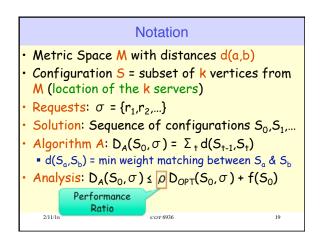




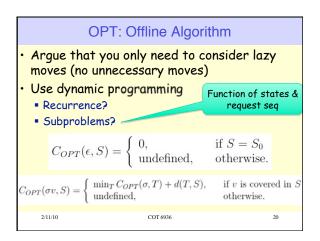














Important Open Problems

• Minimize ρ , where

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• $D_A(S_0, \sigma) \leq \rho D_{OPT}(S_0, \sigma) + f(S_0)$

- Competitive ratio of Algorithm/Problem
- k-Server Conjecture: For every metric space, the competitive ratio of the k-server problem is exactly k
- Randomized k-Server Conjecture: For every metric space, there exists a randomized algorithm with competitive ratio O(log k)

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