

Unit 14 - Week 12 : Summary

Course outline

How does an NPTEL online course work?

Week 0:Prerequisite

Week 1: Introduction to Randomized Algorithms

Week 2: Probability Review

Week3: Moments and Deviations

Week4: Probabilistic Method

Week 5: Markov Chains

Week 6 : Markov Chains-II

Week 7: Number Theoretic Algorithms

Week 8: Graph Theoretic Algorithms

Week 9 : Approximate Counting

Week 10 : Randomization and Data Structures

Week 11 : Computational Complexity

Week 12 : Summary

● Summary

○ Quiz : Assignment 12

○ Weekly feedback form for week 12

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Assignment 12

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-04-22, 23:59 IST.

1) What amongst the following keyword is most related to the randomized Quicksort Algorithm?

1 point

- ☐ Probabilistic method
- ☐ Tail Bounds
- ☐ Markov Chains
- ☐ Randomization over the choice of pivots

No, the answer is incorrect.
Score: 0

Accepted Answers:
Randomization over the choice of pivots

2) What amongst the following can be considered as a selling point of the randomized 3 SAT algorithm?

1 point

- ☐ Expected Polynomial Running Time
- ☐ Sub exponential worst case running time
- ☐ The expected runtime is exponential but significantly less than the naive brute force algorithm.
- ☐ The error probability is zero.

No, the answer is incorrect.
Score: 0

Accepted Answers:
The expected runtime is exponential but significantly less than the naive brute force algorithm.

3) Which of the following problems involved the use of probabilistic method?

1 point

- ☐ All Pair Shortest Path
- ☐ Primality Testing
- ☐ Dominating Set problem
- ☐ Median Find

No, the answer is incorrect.
Score: 0

Accepted Answers:
Dominating Set problem

4) Which of the following problems involved the use of Chernoff Bound?

1 point

- ☐ Median Find
- ☐ Primality Testing
- ☐ Permutation routing on a hypercube
- ☐ Minimal Spanning Tree

No, the answer is incorrect.
Score: 0

Accepted Answers:
Permutation routing on a hypercube

5) Which of the following problems did not involve the use of Markov Chains?

1 point

- ☐ 3 SAT
- ☐ Counting the number of perfect matchings in a bipartite graph
- ☐ Permutation routing on a hypercube
- ☐ Space bounded Graph Connectivity

No, the answer is incorrect.
Score: 0

Accepted Answers:
Permutation routing on a hypercube