# CS 270 Exam 1 True/False Repository Answers

## Neel Gupta

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*Answer:*

1. False. Takes $O(n)$ time.

2. False. Greedy algorithms consider smaller search spaces.

3. True. The larger weights will get removed by creating the MST.

4. False. The paths can change after the edge weights are squared.

5. True. By cut property, you can use BFS on an undirected graph to get cycles.

6. False. BFS is not a divide and conquer algorithm.

7. True. The cheapest edge must be part of the MST.

8. False. DFS finds the shortest paths.

9. False. You cannot run BFS on a weighted graph which runs in linear time.

10. True. Each minimum takes $O(\log n)$ and it does this $k$ times.

11. False. Similar to merge sort, merging two sorted lists into a sorted list takes $O(\log n)$.

12. False. Same as 9

13. True. Prim's algorithm values faster runtimes to get the minimum edge weight that connects $S$ to $V - S$.

14.