socrative

Module - 10 (copy) Score:

1. Which of the following algorithm can be used to efficiently to calculate single source shortest paths in a Directed Acyclic Graph?

A) Dijkstra

B) Bellman FOrd

C) Topological sort (AcyclicSp)

D) Strongly connected component

2. In a weighted graph, assume that the shortest path from a source 's' to a destination 't' is correctly calculated using a shortest path algorithm. Is the following statement true? If we increase weight of every edge by 1, the shortest path always remains same.

A) True

B) False

3. To implement Dijkstra's shortest path algorithm on graphs so that it runs in linear time, the data structure to be used is:

A) Stack

B) Queue

C) Trees

D) RB Trees

4. To implement Prim's algorithm on graphs so that it runs in linear time, the data structure to be used is:

A) Stack

B) List

C) Queue

D) RB Trees

5. Is the following statement valid?.

Given a weighted graph where weights of all edges are unique (no two edge have same weights), there is always a unique shortest path from a source to destination in such a graph.

A) True

B) False

6. Is the following statement valid?.

Given a graph where all edges have positive weights, the shortest paths produced by Dijsktra and Bellman Ford algorithm may be different but path weight would always be same.

A True

B False

7. Is following statement valid ?

Lazy Prim's Implementation uses Index-Min PQ.

A True

B False

8. Prim's algorithm computes the MST of any connected edge-weighted graph. The lazy version of Prim's algorithm uses space proportional to E and time proportional to E log E in the best case.

A True

B False

9. Kruskal's algorithm computes the MST of any connected edge-weighted graph with E edges and V vertices using extra space proportional to E and time proportional to E log E in the best case.

A True

B False

10. Is following statement valid?

if a graph's edges all have same weights, the MST is unique.

A True

B False