

Quiz 8

Q1

What is the runtime of Dijkstra's algorithm if the priority queue is implemented using a binary min heap?

Answer: $O(|E|\log|V|)$

Q2

What is the runtime of Dijkstra's algorithm if the priority queue is implemented using an array?

Answer: $O(|V|^2)$

Q3

What is runtime of Bellman-Ford algorithm?

Answer: $O(|V||E|)$

Q4

Which algorithm we should use to find the shortest paths when the graph (1) is weighted; and (2) contains negative-weight cycles?

Answer: Bellman-Ford

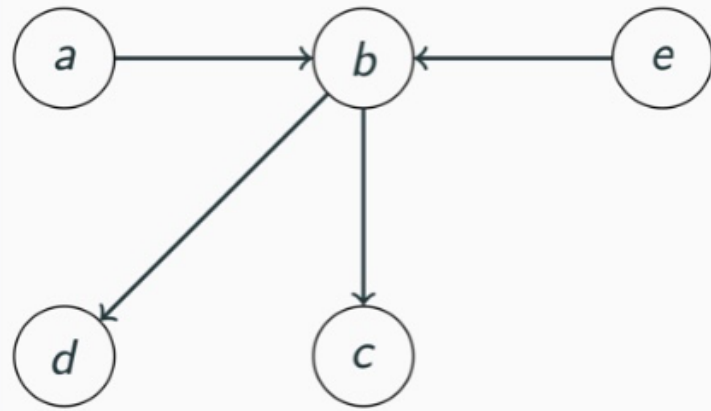
Q5

Which algorithm we should use to find the shortest paths when the graph (1) is weighted and sparse; (2) contains cycles; and (3) does not contain negative-weight edges?

Answer: Dijkstra's

Q6

After performing DFS on the following graph, which of the edges are tree edges?



Answer: (a, b), (b, c), (b, d)