SoulShift

SoulShift – Educational Q&A Platform

General Questions

Practice Questions

Q1. If a graph has 5 vertices and 10 edges, what is the maximum time complexity of Dijkstra's algorithm using an adjacency matrix?

A. O(10)
B. O(5^2)
C. O(5 log 5)
D. O(10 + 5^2)

Solution: Using an adjacency matrix, the time complexity of Dijkstra's algorithm is O(V^2), which in this case is O(5^2) or O(25).

Q2. What is the space complexity of Dijkstra's algorithm when using a priority queue?

A. O(V)
B. O(E)
C. O(V + E)
D. O(V log V)

Solution: The space complexity of Dijkstra's algorithm when using a priority queue is O(V), as it needs to store the distance for each vertex.