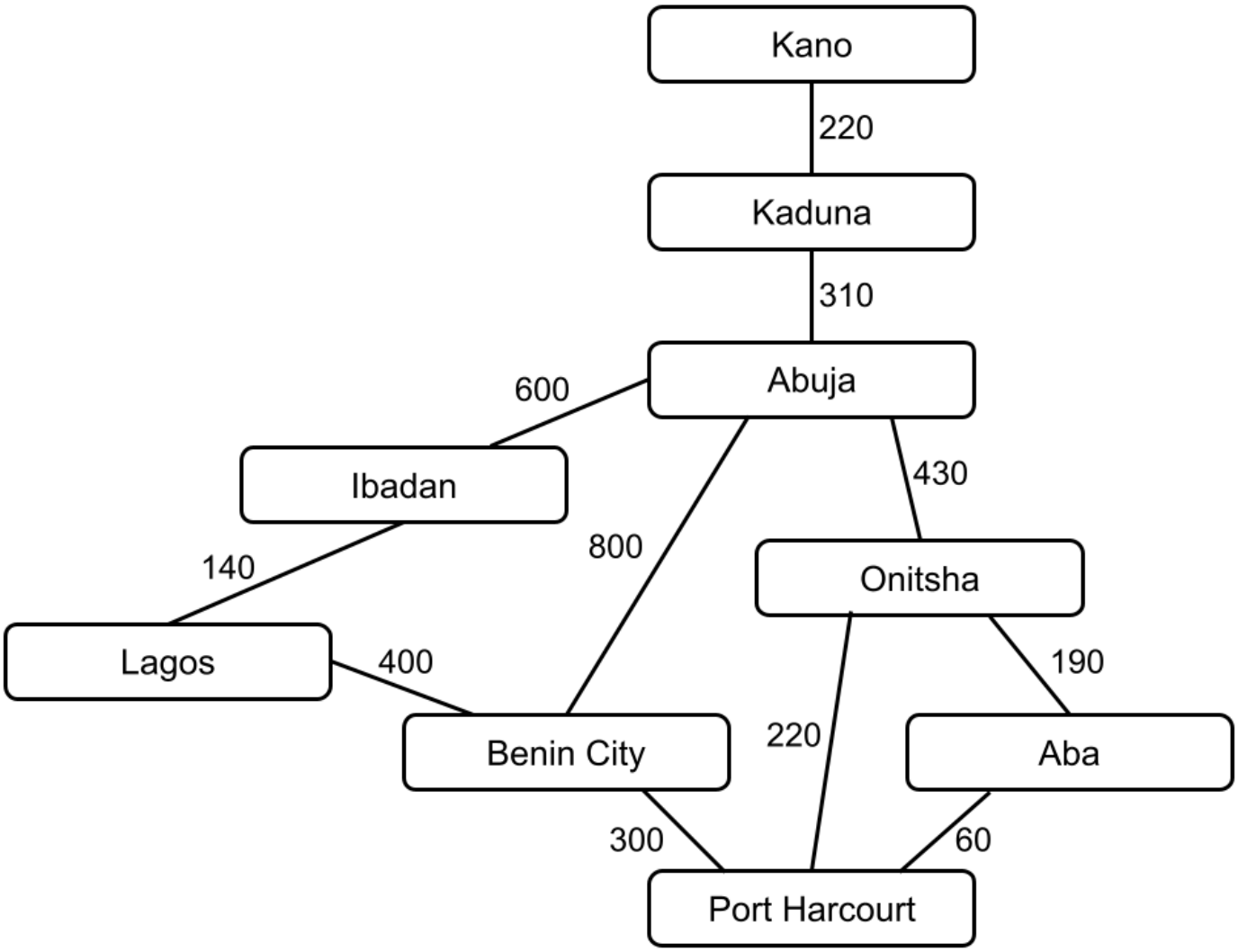
Week 7 Quiz

Q1.

Consider the following graph:



Which of the following problems could Dijkstra's algorithm solve?

A. The spanning tree found by traversing the graph in a depth-first manner starting from Benin City

B. The shortest path that visits all of the cities starting from Aba

C. The shortest path from Kano to Abuja

D. The longest path from Lagos to Onitsha

Q2.

Which of the following is true about the Bellman-Ford algorithm?

A. It improves upon Dijkstra's algorithm by computing the shortest path between *all* pairs of vertices

B. It improves upon Dijkstra's algorithm by computing the shortest paths more efficiently

C. It improves upon Dijkstra's algorithm by working on more types of graphs

D. It improves upon Dijkstra's algorithm by computing a more optimal result

Q3.

Which of the following is not a technique for finding the shortest paths between *all* pairs of vertices in a graph with no negative edge weights?

A. Run the Floyd-Warshall algorithm

B. Run the Bellman-Ford algorithm repeatedly, starting from every vertex in the graph

C. Run Dijkstra's algorithm repeatedly, starting from every vertex in the graph

D. Run Prim's algorithm repeatedly, starting from every vertex in the graph