Review Quiz #10

- Name only: _____
- Release date: Nov 14, 2022 (Monday)
- Total 5 pts

1. Fill the blank to complete the Dijkstra's shortest path algorithm.

[1 pt]

Dijkstra (G, s)
   for each vertex v in G
      dist[v] = ∞ // shortest distance from **s** to **v**
      previous[v] = Undefined   // previous vertex in shortest path to v
   dist[s] = 0
   Q = G.V   // set of vertices
   while Q is not empty
      u = node in Q with smallest dist[]
      remove u from Q
      for each neighbor v of u

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   return previous[]

2. Dijkstra's Algorithm cannot be applied on _____

[1 pt]

   a) Directed and weighted graphs
   b) Graphs having negative weight function
   c) Unweighted graphs
   d) Undirected and unweighted graphs

3. Suppose we define a different kind of graph where we have weights on the vertices and not the edges. Does the shortest-paths problem make sense for this kind of graph? If so, give a precise and formal description of the problem. If not, explain why not. Note this question is not asking for an algorithm, just what the problem is or that it makes no sense.

[1 pt]

4. Find the shortest path (cost and path) from vertex S to every other vertex.

[2 pts]