Belmann-ford Algorithm

1.What is Bellman-ford shortest path?

The Bellman-ford Algorithm works by repeatedly relaxing each edge in the graph ,updating the estimated shortest path between the source vertex and all other vertices. The algorithm starts by setting the distance to the source vertex to zero and the distance to all other vertices to infinity.

2.What is basic principle for Belmann-ford

Ans. if there are negative weight cycles, the search for shortest path will go on forever.

3.What type of problem is the Bellman-ford Algorithm suitable for?

Ans. To find the single source shortest path

4.What is the runtime of Bellman-ford?

Ans. O(VE)

5.Which is faster Dijkstra or Bellman-ford?

Ans. Dijkstra algorithm is much faster than the algorithm of Bellman-ford.

6.Why Bellman is better than Dijkstra?

Ans. Bellman-ford can handle negative cycles but Dijkstra can’t handle.

7.Is Bellman-ford greedy Algorithm?

Ans. Bellman-ford algorithm is based on Dynamic Programming, remaining are based on Greedy approach.

8.The Bellman-ford algorithm returns \_\_\_ value

Ans. Boolean value whether there is negative weight cycle that is reachable from the source

9.How many solutions are available for a graph having negative weight cycle?

Ans. If the graph has any negative weight cycle then the algorithm indicates that no solution exists for that graph.

10. Bellmann Ford Algorithm can be applied for \_\_\_\_\_\_\_\_\_\_\_\_\_

Ans. Bellmann Ford Algorithm can be applied for all directed and weighted graphs. The weight function in the graph may either be positive or negative.