

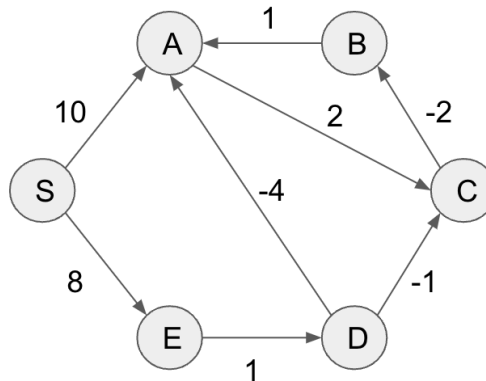
CSE221: Algorithms

Deadline: December 19, 2022, Total points: 5

Name:

Student ID:

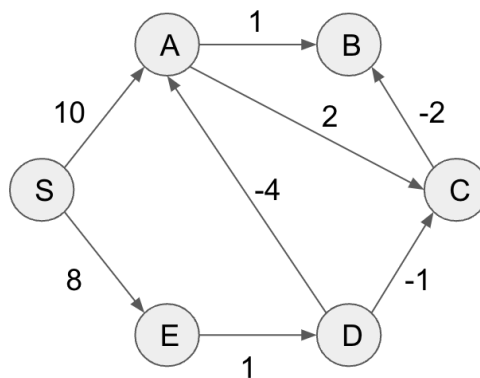
Take this graph:



Now, answer these questions:

1. Run Dijkstra's algorithm on it for the single source shortest path (SSSP) with source being S.
 - a. Show the steps
 - b. Did you find the shortest path for all the vertices? If no, why not?

Now, consider the same graph, only the direction of edge (A,B) is reversed:



Now answer the following:

1. Run Dijkstra's algorithm on it again for SSSP with source being S.
 - a. This time, did you find the shortest path for all the vertices? If no, why not?
2. Give me an algorithm that will find the shortest path for this graph.
 - a. Write the algorithm.
 - b. Show the steps.
 - c. Show the shortest paths.