Network Control Plane - Questions

Q1) Consider the network shown in Figure 1. Answer the following questions:

(a) Show the operation of Dijkstra's (Link State) algorithm for computing the least cost path from F (the rightmost node in the figure below) to all destinations. List all the shortest path routes from F to all destinations that are the result of the algorithm's computation.

(b) Show the distance table that would be computed by the distance vector algorithm in B. (Note: you do not have to run the distance vector algorithm; you should be able to compute the table by inspection.)

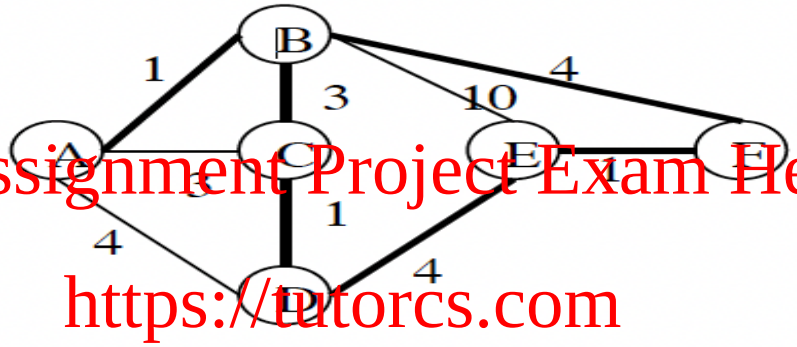

Figure 1 Network topology for Q1

Q2. Consider the network shown in Figure 2 and assume that each node initially knows the costs to each of its neighbours. Consider the distance vector algorithm and show the distance table entries at node z.

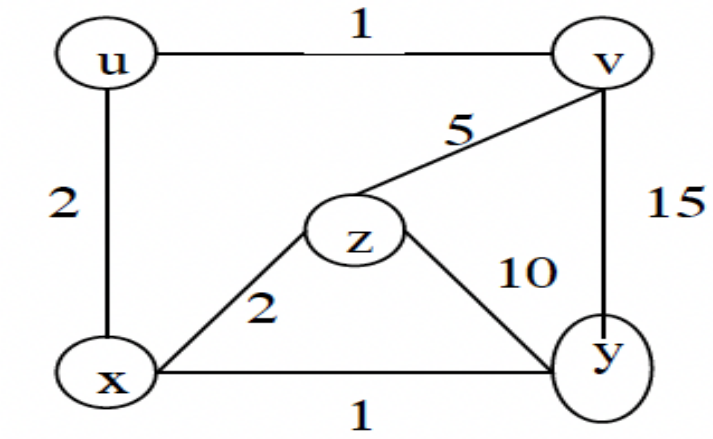

Figure 2 Network topology for Q2

Q3. Consider the count-to-infinity problem in the distance vector routing. Will this problem occur if we decrease the cost of a link? How about if we connect two nodes which do not have a link?