Homework Questions on Network Layer (Routing)

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.)

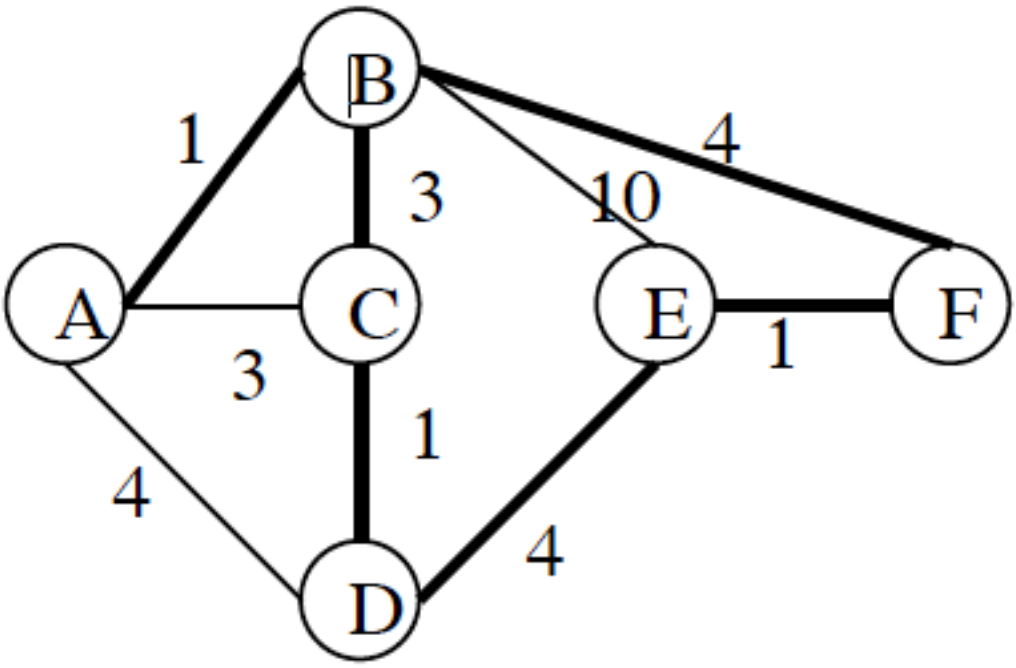

Figure 1 Network topology for Q1

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.

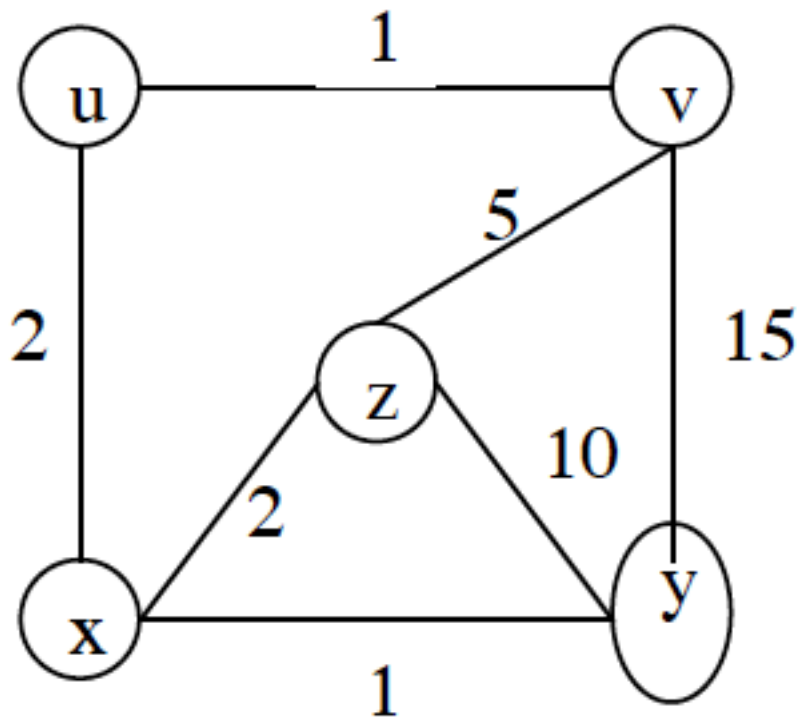

Figure 2 Network topology for Q2

End of homework