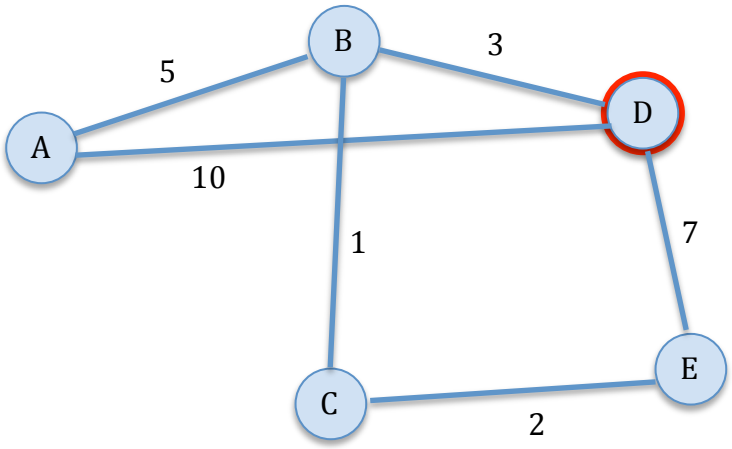
Problem 1

Consider the network shown below.

a) Using Dijkstra's algorithm, and showing your work using a table similar to text and class examples, compute the shortest path from **D** to all network nodes.

b) Write out the forwarding table for node **D**, using the information in the table you just created.



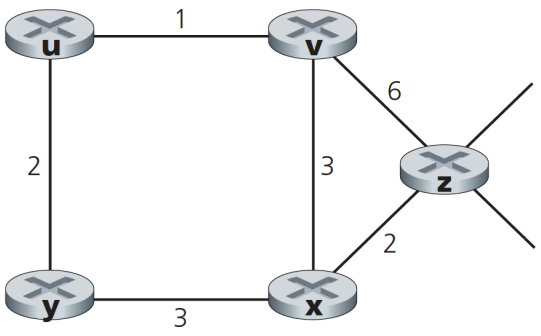
Problem 2

Consider the network shown below, and assume that each node initially knows only the existence of and the costs to each of its neighbors.

a) Consider the distance-vector algorithm and show the distance table entries at **node z**. It should take you 4 or so iterations to settle to the final table, starting with many of the distances set to ∞ (as they are unknown initially), and stopping when no further updates exist.

   a. It is fine to include rows for all the nodes in your initial, since you can see them all, but be sure to fill in all the unknown link costs as infinity.

b) Create the forwarding table for **node z**.



(continued…)

Question 3: Net Neutrality

Write, and type out, one or two paragraphs about how net neutrality could be affected (negatively or positively) by the algorithms and protocols implemented in the network layer.

- You can include some discussion of SDN (software defined networking) as has been introduced in class and in the text if you want to
- You can include anything else you find of interest to this discussion
- For full credit include a title, an introductory sentence, a concluding sentence, a clear (and short) discussion, and at least one new source of information (and include the citation to this source)

Wireshark Lab: IP

Use the IP Wireshark lab to learn more about IP and write a lab memo.