COSC 264: Data Communications and Networks
5th Problem Set

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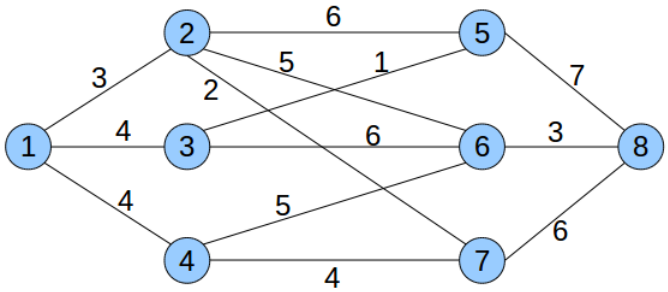
September 18, 2015

Problems on Routing Algorithms

Consider the following network:



Problem 1. Run the Bellman-Ford algorithm discussed in the lecture to find the minimum-cost routes from station 1 to all other stations. For each step (including the initialization) give:

- all values $D(i, j)$ and next hop

After termination of the algorithm, give the shortest-cost route for each destination. You may use a table as shown in the lecture. Show a forwarding table for the station 1.

Problem 2.
Run the Dijkstra algorithm discussed in the lecture to find the minimum-cost routes from station 1 to all other stations. For each step (including the initialization) give:

- the set $\mathcal{S}$
- the $D(w)$ and $c(w, v)$
- all values $D(v)$ and the $p(v)$

You may use a table as shown in the lecture. Show a forwarding table for the station 1.