

---

# Advanced Computer Networks

## Homework 2

Assigned: April 5, 2013

Due: April 12, 2013

1. Suppose we have the forwarding tables shown in the table below for nodes A and F, in a network where all links have cost 1. Give a diagram of the smallest network consistent with these tables (q53 Chapter 3 Peterson and Davie) and the forwarding tables of other nodes in your network.

Forwarding tables of Node A:

Node	Cost	Next hop
B	1	B
C	1	C
D	2	B
E	3	C
F	2	C

Forwarding tables of Node F:

Node	Cost	Next hop
A	2	C
B	3	C
C	1	C
D	2	C
E	1	E

2. Consider the network in Figure below, using link-state routing. Suppose the B-F link fails, and the following occur in sequence:
  - (a) Node H is added to the right side with a connection to G.
  - (b) Node D is added to the left side with a connection to C.
  - (c) A new link, D-A, is added.

The failed B-F link is now restored. Describe what link-state packets will flood back and forth. Assume that the initial sequence number at all nodes is 1, that no packets time out, and that both ends of a link use the same sequence number in their LSP for that link, greater than any sequence number used before. (q61 Chapter 3 Peterson and Davie)

