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CSE 160

Project 2 Discussion

1. Flooding LSA packets may not work in some cases. If A->B->C then A wouldn't receive B and C's LSA packets and they would not be in A's routing table so they may as well not exist. It is an issue of distributing LSA packets and building an accurate representation of the network rather than a limitation of the shortest path calculation.

2. Yes. Since the graph is undirected, the shortest path from X to Y is the same as the shortest path from Y to X. In this instance, the cost is 1 so there are many ties so whether or not the path is the same depends on how the minimum cost is calculated and how ties are broken.

3. If the route runs through the node, the packet won't reach the destination. This could be addressed with a response packet. If a packet fails to reach the destination X times, you could have each hop send an acknowledgement to the sender to test the route and determine which link is broken then mark that link as problematic and remove it if necessary.

4. If LSA packets are bad/lost the graph will not accurately represent the network but any attempt to route a packet through that area will be deemed impossible. This can be mostly avoided by sending redundant LSA packets that a node can compare its graph with and if there are no updates to be made it would be safe to calculate the shortest path.

5. The graph would never reflect the correct network and the shortest path calculation would never run in my case. This could be addressed by flagging the link as unstable after a few reports from the neighbor table. You could remove the link from your graph and build the SP tree without it, then check the stability of the link after X time. If the link becomes stable it can be added back to the graph and the shortest path can be recalculated.