Dijkstra's shortest path first

From the link-state database, compute a shortest path delivery tree using a permanent set S and a tentative set Q:

1. Define the root of the tree: the router

2. Assign a cost of 0 to this node and make it the first permanent node.

3. Examine each neighbor node of the last permanent node.

4. Assign a cumulative cost to each node and make it tentative.

5. Among the list of tentative nodes:

   ·Find the node with the smallest cumulative cost and make it permanent.

   ·If a node can be reached from more than one direction, select the direction with the smallest cumulative cost.

6. Repeat steps 3 to 5 until every node is permanent.