Computer Networks Lab

Assignment - 6

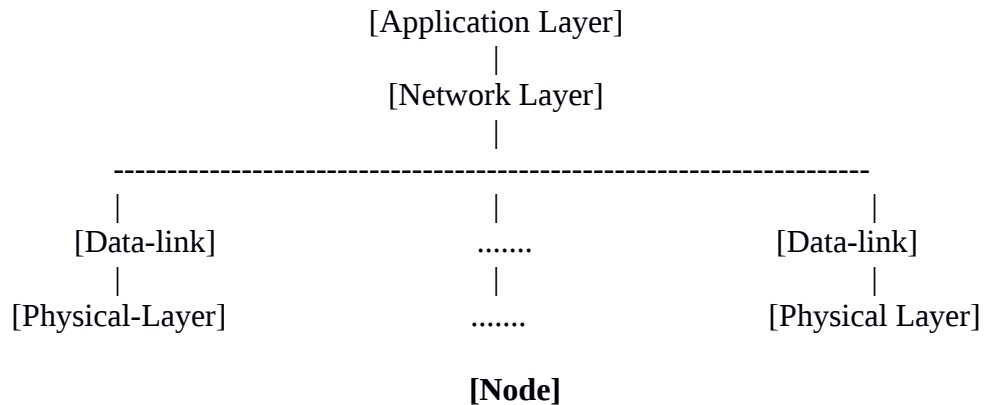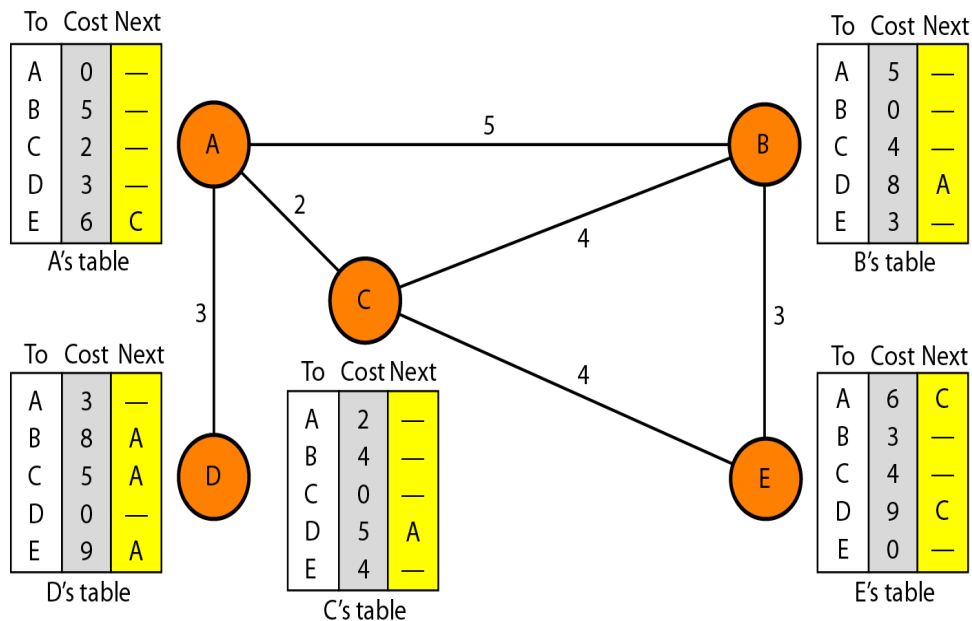**Task 1: Network Layer: Forwarding**

1. Add *Network Layer* below the *Application Layer* in the *node* defined in Lab 3.

```
                        [Application Layer]
                               |
                        [Network Layer]
                               |
        ----------------------------------------------------------------
        |                           |                        |
    [Data-link]                  .......               [Data-link]
        |                           |                        |
  [Physical-Layer]               .......             [Physical Layer]
```

[Node]

2. Create a network (name "*forwardingNetwork*") with five nodes, which are connected in following network topology.

3. [Network Layer] of the node will either accept the packet (if packet belongs to the same node) or forward the packet with the help of forwarding table implemented on each node (as defined in above figure). (Hint: use *map* (http://www.cplusplus.com/reference/map/map) data-structure to define the forwarding table)

4. Following value to be specified in omnetpp.ini file

   1. Source and Destination address

   2. Number of Packets to be sent

   3. Frame loss

5. Visualize (plot) *Delay* of packets (with min, max, and mean information)