Exercise 10: Simulation of Routing protocol

AIM: Write tcl script to simulate the routing protocols in wired networks

Algorithm:

1. Create 12 nodes and the links between the nodes as

    a. 0 → 8 1Mb 10 ms duplex link droptail

    b. 1 → 10 1Mb 10 ms duplex link droptail

    c. 0 → 9 1Mb 10 ms duplex link droptail

    d. 9 → 11 1Mb 10 ms duplex link droptail

    e. 10 → 11 1Mb 10 ms duplex link droptail

    f. 11 → 5 1Mb 10 ms duplex link droptail

2. Align all nodes properly

3. Setup a UDP connections over 0 and 5, 1 and 5 with flow id, type, packet size, rate, random fields.

4. Set different colors for different flows.

5. Use **distance vector routing** protocol.

6. Make links 11-5 and 7-6 down for 1 second.

7. Run the simulation for 5 seconds, and show the simulation in network animator and in trace file.

- Similarly write another tcl script to simulate **link state routing** protocol.

  Also show the flooding in the simulation.