Tutorial 10:

1. A network using CSMA/CD has a bandwidth of 10Mbps. If the maximum propagation time (including the delays in the devices and ignoring the time needed to send a jamming signal, as we see later) is 25.6μs, what is the minimum size of the frame?
2. In a CSMA/CD network with a data rate of 10Mbps, the minimum framesize is found to be 512 bits for the correct operation of the collision detection process. What should be the minimum frame size if we increase the data rate to 100 Mbps? To 1Gbps? To 10Gbps?

Tutorial 11: BRIDGES:

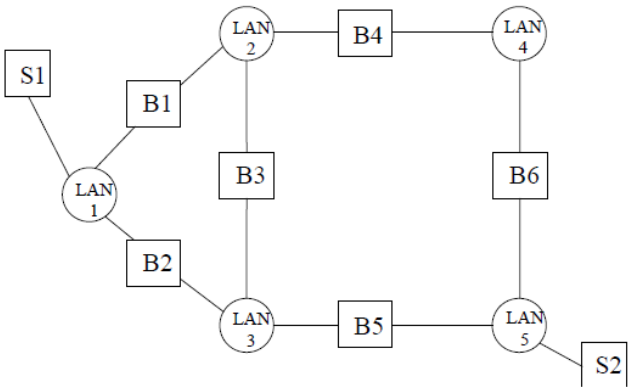
1. Five LANs are connected using source routing bridges. Assume that the bridges 3 and 4 are not part of the initial spanning tree.

1. Show the single route broadcast frames when S1 wants to learn the route to S2

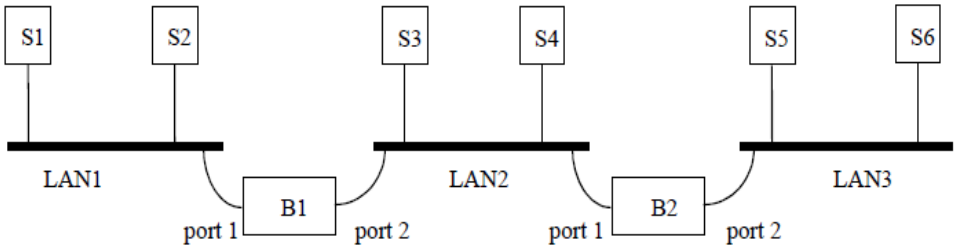
2. Show the path to all routes broadcast frames returned by S2.

3. List all possible routes from S1 to S2 from part (2)

4. How many LAN frames are required to learn the possible routes



52. Six stations (S1-S6) are connected to an extended LAN through transparent bridges (B1 and B2), as shown in the figure below. Initially, the forwarding tables are empty. Suppose the following stations transmit frames: S2 transmits to S1, S5 transmits to S4, S3 transmits to S5, S1 transmits to S2, and S6 transmits to S5. Fill in the forwarding tables with appropriate entries after the frames have been completely transmitted.



Station	Port

Station	Port

Tutorial 12

1. Draw the table for the following and write its properties:
    - Ethernet evolution through four generations.
    - Categories of standard Ethernet w.r.t implementation.
    - Categories of Fast Ethernet w.r.t implementation.
    - Categories of Gigabit Ethernet w.r.t implementation.
2. Draw the diagram of 802.3MAC frame and explain each fields in the frame.