

1 Communication Links

1. What is the difference between simplex, half-duplex and full-duplex transmission modes?

2 Topologies

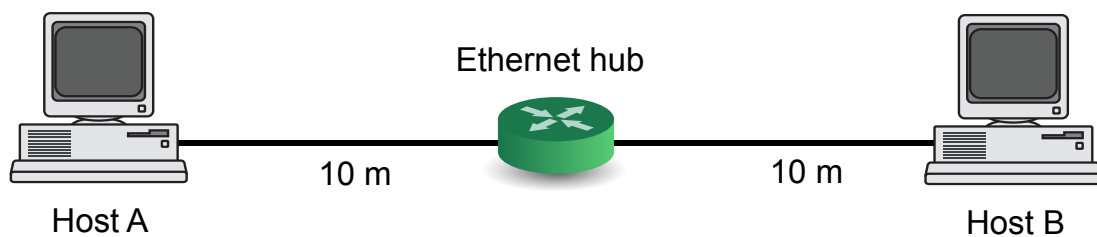
1. Name different types of network topologies.

2. What are the consequences of a connection failure in different topologies?

3 Spatial Dimension

1. What is the difference between LAN, MAN and WAN?

2. Consider a network in which two hosts are connected with an Ethernet hub. Ist this a LAN, MAN or a WAN?



4 Switching

1. What is the difference between circuit switching and packet switching?

2. What are the three phases involved in data transmission via circuit switching?

3. There is a link with capacity $C = 150\text{Mbit/s}$. It is shared by users requiring a bandwidth of $C = 10\text{Mbit/s}$ each. When circuit switching is used, what is the maximum number of users that can be supported?

4. Consider an application that transmits data at a steady rate and remains active for a relatively long period of time. Would a packet-switched network or a circuit-switched network be more appropriate for this application? Why?

5. For bursty traffic, is packet-switching more efficient than circuit-switching? Why?