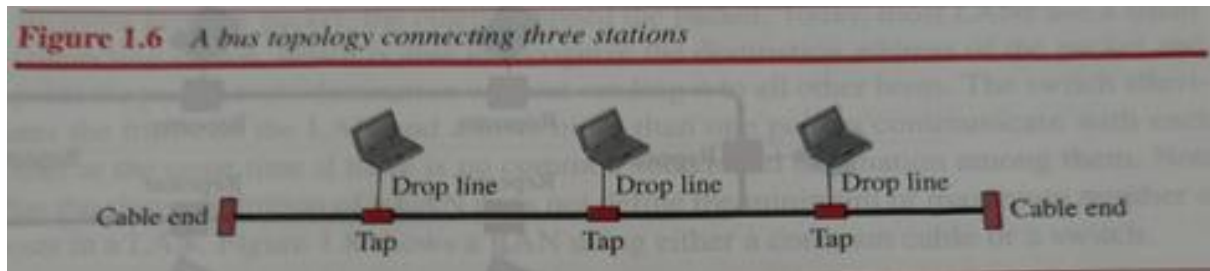


Assignment #01 Problem

P1-1. in the bus topology in Figure 1.6. what happens if one of the stations is unplugged?



P1-2. Compare the telephone network and the Internet. What are the similarities? What are the difference?

P1-6. For each of the following four networks, discuss the consequences if a connection fails.

- a.** Seven devices arranged in a mesh topology
- b.** Seven devices arranged in a star topology (not counting the hub)
- c.** Seven devices arranged in a bus topology
- d.** Seven devices arranged in a ring topology

P1-7. Assume eight devices are arranged in a mesh topology. How many cables are needed? How many ports are needed for each device?

P2-4. Assume that an application-layer protocol is written to use the services of UDP. Can the application-layer protocol use the services of TCP without change?

P2-11. Assume that the number of hosts connected to the Internet at year 2010 is five hundred million. If the number of hosts increases only 20 percent per year. what is the number of hosts year 2020?

P2-13. Match the following to one or more layers of the TCP/IP protocol suite:

- a.** creating user datagrams
- b.** responsibility for handling frames between adjacent nodes
- c.** transforming bits to electromagnetic signals