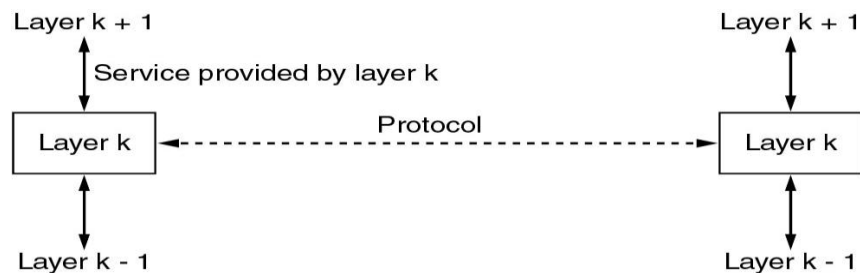


B38CN: Introduction Communications and Networks

Tutorial 1 (Chapter 1)

1. 1) What are two reasons for using layered protocols?
2) The president of the Specialty Paint Corp. gets the idea to work with a local beer brewer to produce an invisible beer can (as an anti-litter measure). The president tells her legal department to look into it, and they in turn ask engineering for help. As a result, the chief engineer calls his counterpart at the other company to **discuss the technical aspects** of the project. The engineers then report back to their respective legal departments, which then confer by telephone to **arrange the legal aspects**. Finally, the two corporate presidents **discuss the financial** side of the deal. Is this an example of a multilayer protocol in the sense of the OSI model?
2. What is the principal difference between connectionless communication and connection-oriented communication?
3. Two networks provide reliable connection-oriented service. One of them offers a reliable byte stream and the other offers a reliable message stream. Are these identical? If so, why is the distinction made? If not, give an example of how they differ.
4. In the following figure, a service is shown. Are any other services implicit in this figure? If so, where? If not, why not?



5. Which of the OSI layers handles each of the following:
 - 1) Dividing the transmitted bit stream into frames.
 - 2) Determining which route through the subnet to use.
6. If the unit exchanged at the data link level is called a frame and the unit exchanged at the network level is called a packet, do frames encapsulate packets or do packets encapsulate frames? Explain your answer.
7. List two ways in which the OSI reference model and the TCP/IP reference model are the same. Now list two ways in which they differ.
8. What is the main difference between TCP and UDP?
9. Why does ATM use small, fixed-length cells?