

Exercise 6

1 Datagram vs. Virtual Circuit Services

Give an abstract criterion when a connectionless service is more suitable for an application than a connection-oriented service. Give two examples for each kind of service.

2 Connection-oriented Transmission

Give three examples of protocol parameters that might be negotiated when a connection-oriented transmission is set up.

3 Link State Routing

Consider the example topology from the lecture with routers A , B , C , D , E , F . Router C just received the fresh messages $(A, s_A, a_A, (B, 3), (E, 6))$, $(B, s_B, a_B, (A, 3), (C, 6), (F, 5))$, $(C, s_C, a_C, (B, 4), (D, 2), (E, 2))$, $(D, s_D, a_D, (C, 3), (F, 6))$, $(E, s_E, a_E, (A, 5), (C, 7), (F, 7))$ and $(F, s_F, a_F, (B, 2), (D, 9), (E, 3))$. The router C itself calculates the cost to B at 3, to D at 6 and to E at 1. Compute the optimal routes from C to the other routers.