Problem Set 6
(due before December 12th)

[20 points] Problem 5.4, textbook page 480.

[20 points] Problem 5.1, textbook page 479 (Apply only Prim-Dijkstra algorithm).

[20 points] Problem 5.3, textbook page 479.

[20 points] OSPF standard:
1. Find the OSPF (version 2) IETF RFC and provide the http link.
2. What is the IP protocol value for OSPF?
3. What is the difference between OSPF and a protocol like RIP or BGP?
4. Explain the fields of an OSPF Link State Advertisement (LSA) packet.
5. Draw a simple network topology and provide the details of an LSA packet.

[20 points] Fair Queuing (wait until next lecture to solve it):
Three connections A, B, C, of equal weight share the same link.
\( t = 0 \): packets arrive for the connections with length 1, 2, 3
\( t = 5 \): one packet of size 3 arrives for connection A,
\( t = 7 \): one packet of size 1 arrives for connection C.

a. Draw the round number \( R(t) \) as a function of time for the ideal GPS (Max-Min fairness).
b. Compute the finish number for each packet \( F(A/B/C, i, t) \) when using weighted fair queuing (WFQ).
c. In what order would the WFQ schedule the transmission of the packets?