CS52222 Computer Networks and Internets

Tutorial 7 (week 8)

1. Consider a datagram network using 8-bit host addresses. Suppose a router uses longest prefix matching and has the following forward table:

Prefix Match	Interface
00	0
010	1
011	2
10	2
11	3

   For each of the four interfaces, give the associated range of destination addresses and the number of addresses in the range.

2. Suppose that an IP address in a network is 10.16.3.65/23. What is the lowest host address in this subnet? What is the broadcast address of this subset?

3. What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?

4. You have an interface on a router with the IP address of 192.168.192.10/29. Including the router interface, how many hosts can have IP addresses on the LAN attached to the router interface?

5. Suppose that an enterprise gets a block of IP address where the network address is 212.1.18.0/23. The enterprise would like to partition the network into 5 subnets where the number of hosts to be supported in these 5 subnets are as follows: 230, 125, 60, 30, 30. Show your design of address allocation.