

Chapter 4

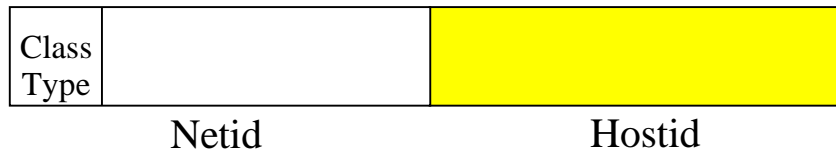
IP Addressing

- **Decimal Notation**
- **Classes**
- **Special Addresses**
- **A Sample Internet**
- **Unicast, Multicast, and Broadcast Addresses**
- **Applying for IP Addresses**
- **Private Networks**

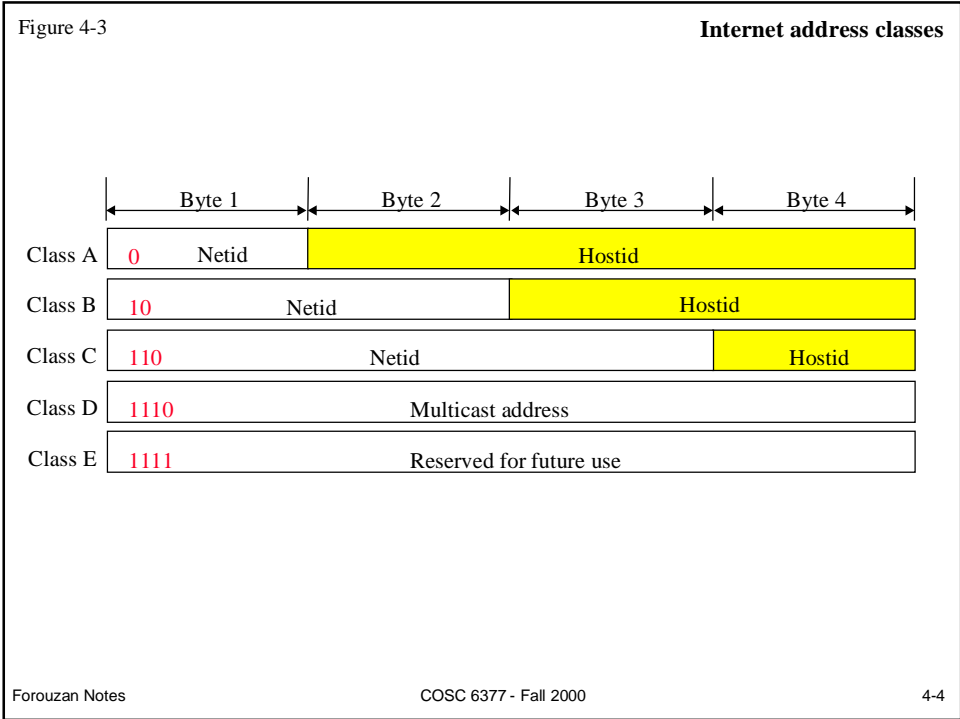
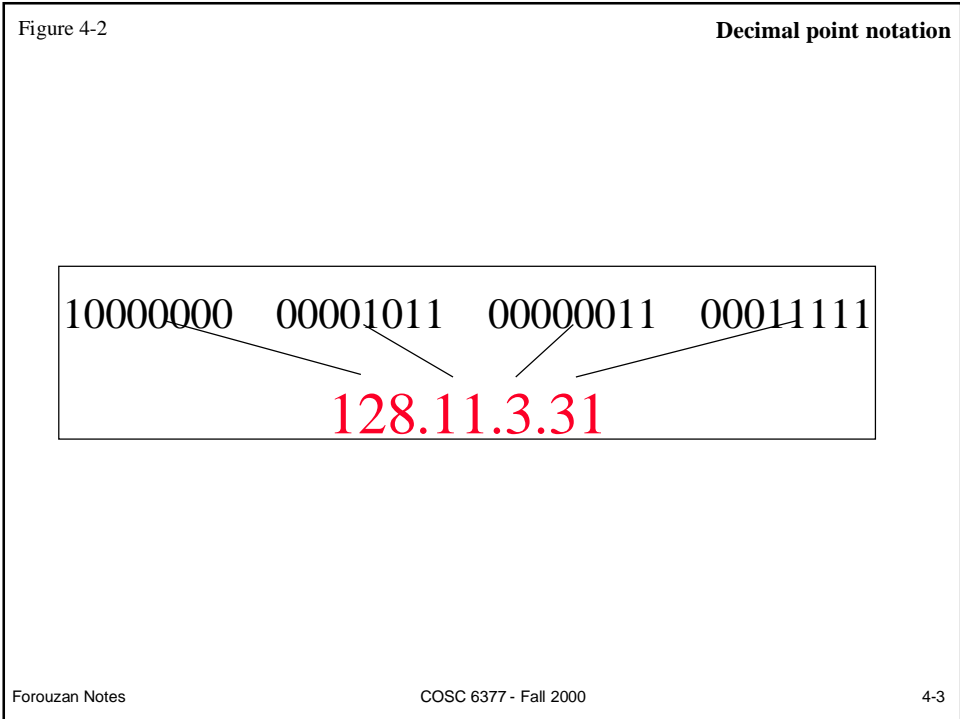
Figure 4-1

Internet address

An Internet address is made of four bytes (32 bits) that define a host's connection to a network.



Slides from TCP/IP - Forouzan



Slides from *TCP/IP* - Forouzan

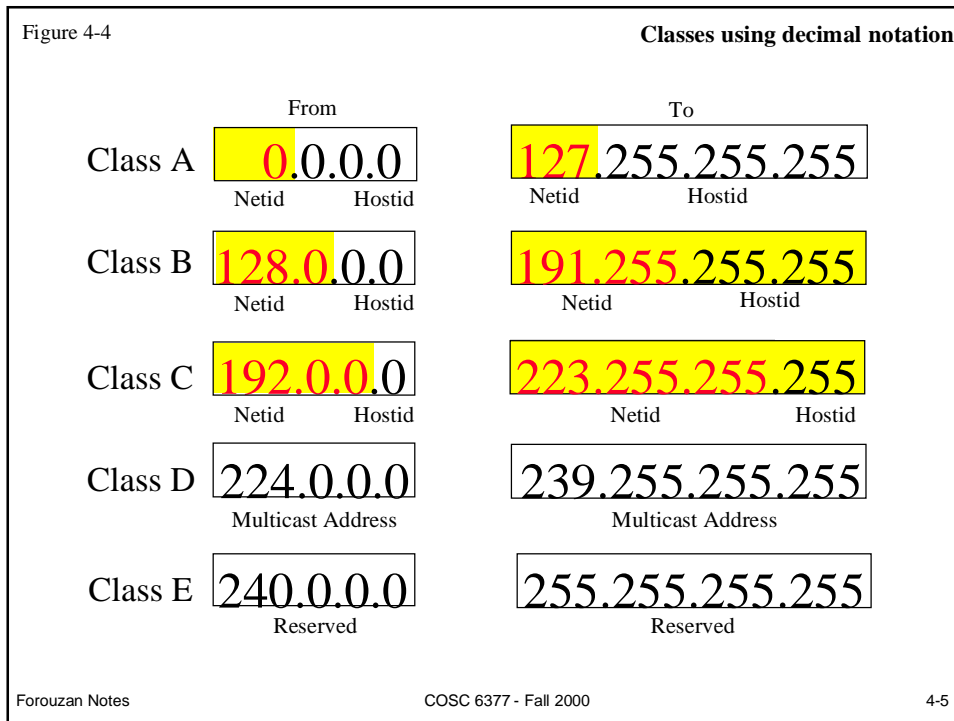
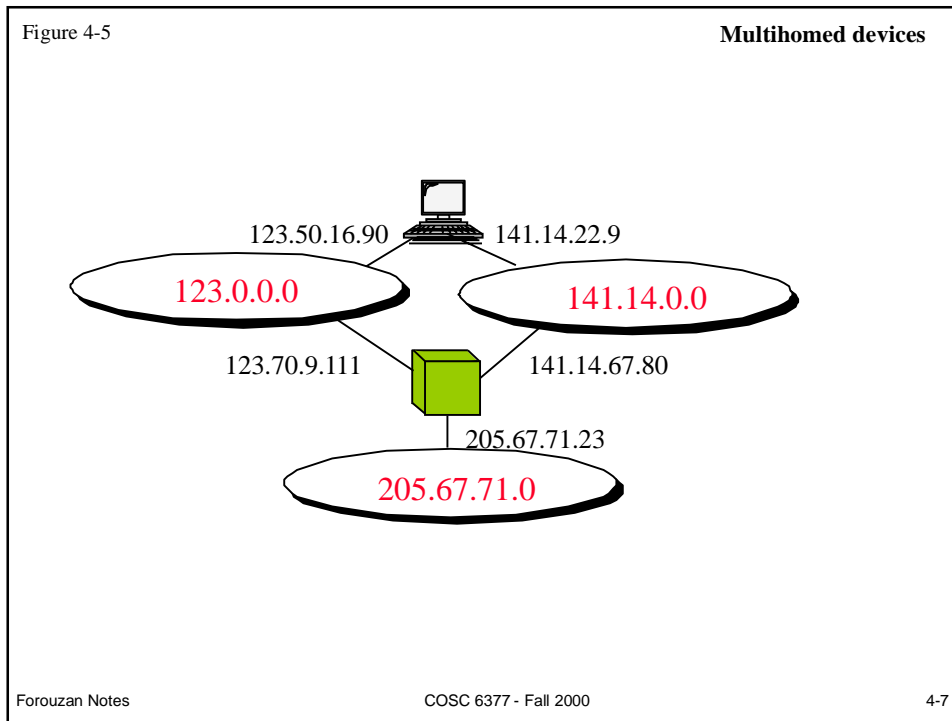


Table 4-1 Numbers in classes

<i>Class</i>	<i>Number of Networks</i>	<i>Number of Hosts</i>
A	$2^7 - 2 = 126$	$2^{24} - 2 = 16,777,214$
B	$2^{14} = 16,384$	$2^{16} - 2 = 65,535$
C	$2^{21} = 2,097,152$	$2^8 - 2 = 254$
D	Not Applicable	Not Applicable
E	Not Applicable	Not Applicable

Forouzan Notes COSC 6377 - Fall 2000 4-6



Types of addresses

- Introduced at layer 2 - ex. Ethernet MAC address
- Addresses at layer 3 are IP
- Packets to specific computer are *unicast*
- Packets to groups of computers are *broadcast* or *multicast*
- 4.3 deals with broadcasts

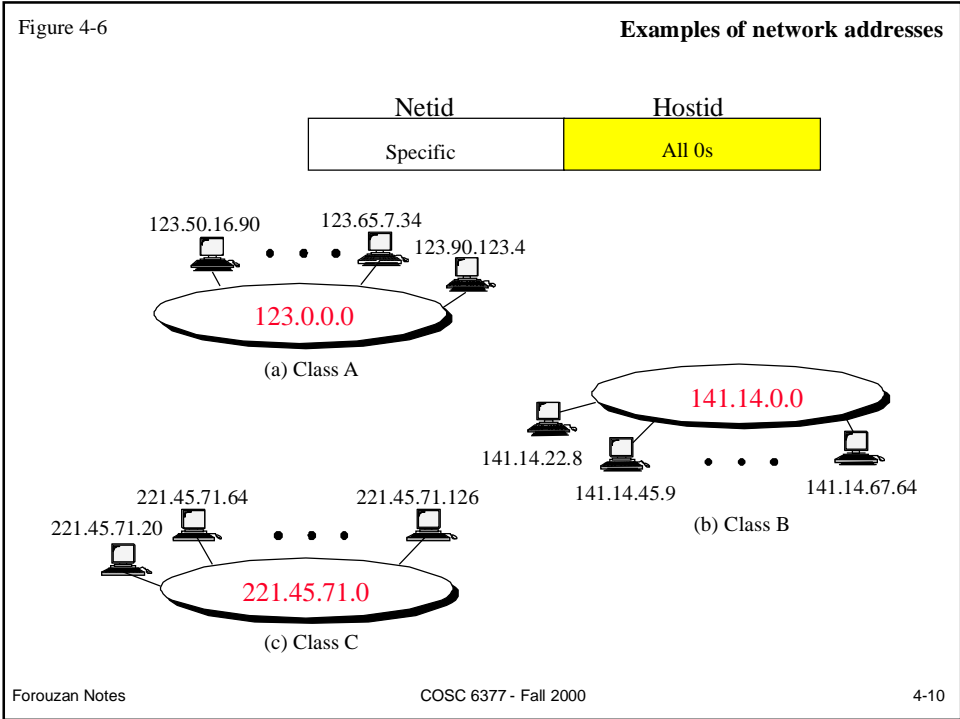
Slides from TCP/IP - Forouzan

Table 4-2 Special addresses

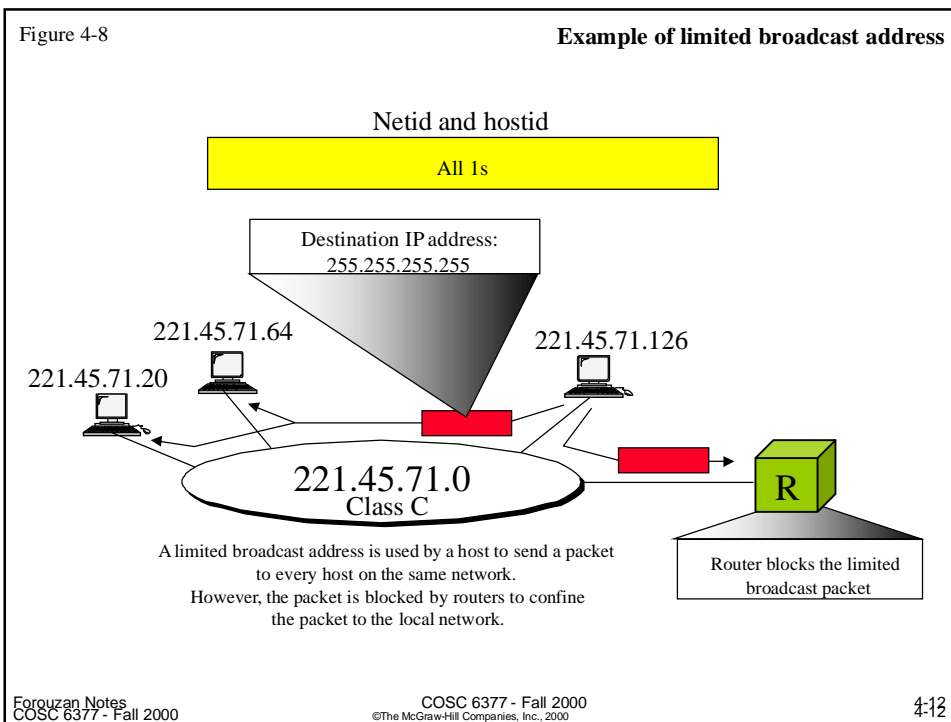
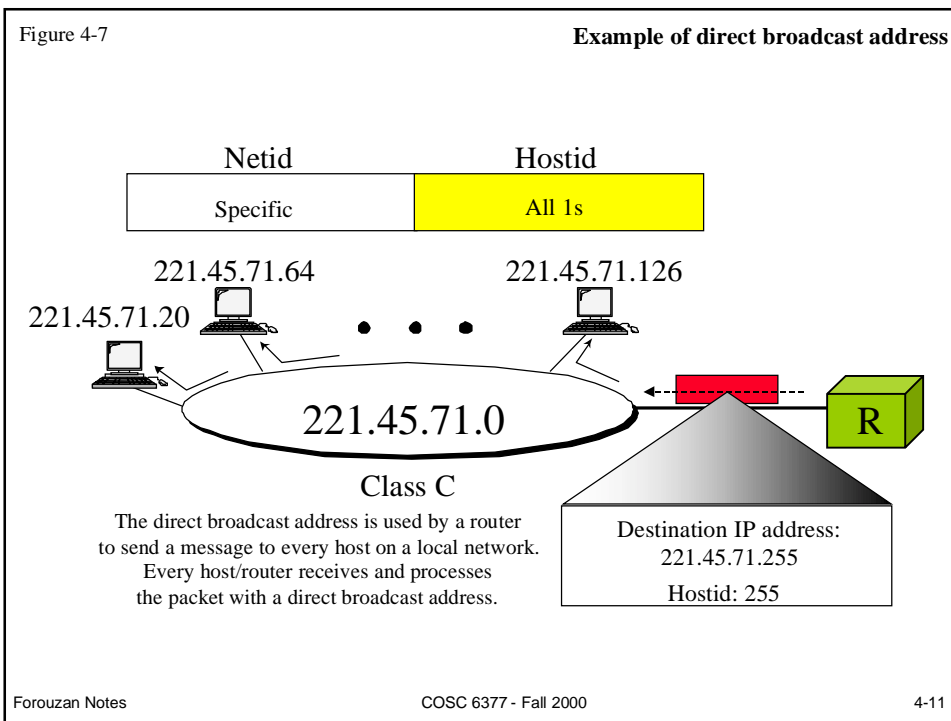
<i>Special Address</i>	<i>Netid</i>	<i>Hostid</i>	<i>Source or Destination</i>
Network address	Specific	All 0s	None
Direct broadcast address	Specific	All 1s	Destination
Limited broadcast address	All 1s	All 1s	Destination
This host on this network	All 0s	Specific	Destination
Loopback address	127	Any	Destination

Why?

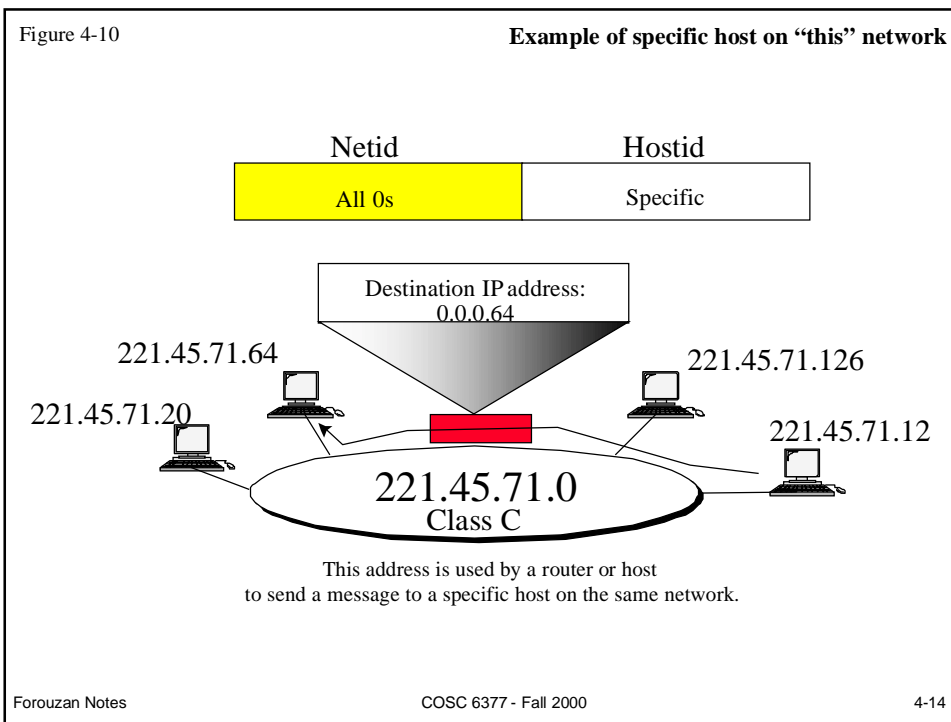
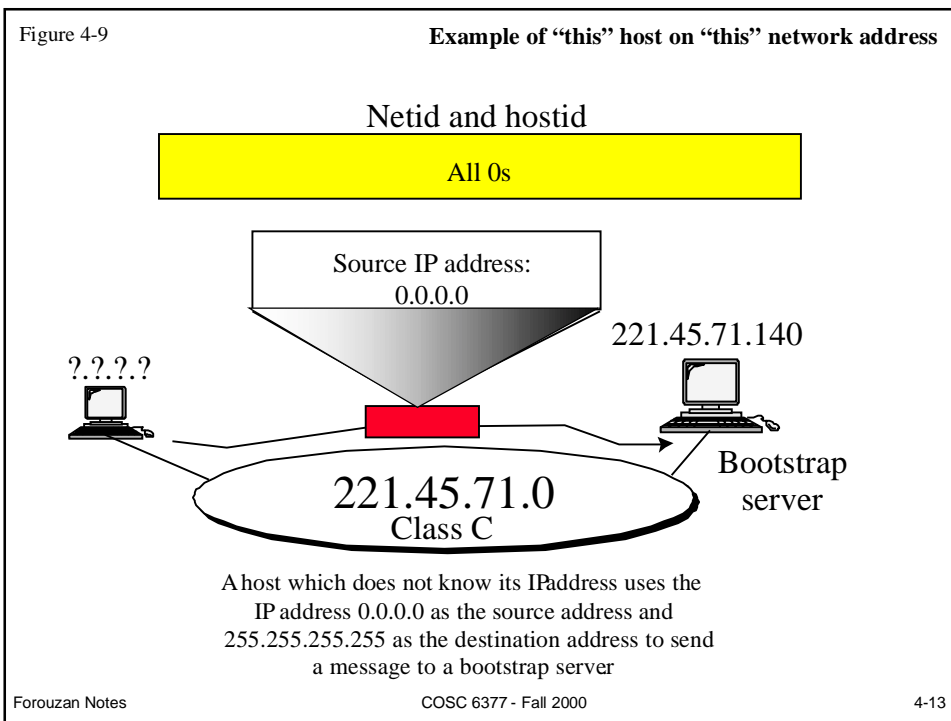
Forouzan Notes COSC 6377 - Fall 2000 4-9



Slides from TCP/IP - Forouzan



Slides from *TCP/IP* - Forouzan



Slides from *TCP/IP* - Forouzan

