Week 8

?.1

IP (Internet Protocol) Addressing

* IP Addressing Is an addressing scheme that provides the illusion of a large, seamless network for users.

Class A IP address = 0 – 127 || example : 15.7.5.3

Class B IP address = 128 – 191

Class C ip address = 192 – 223 || example 136.5.7.8

Class D = 224 – 239

Class E = 240 – 255

Look at the first 4 bits from the left: 1000 1111

If the first bit from left is 0 = class A

If the first bit from left is 1 = class B

If the first 2 bits from left is 1 = class C

If the first 3 bits from left is 1 = class D

Etc.

255 is the maximum value in one byte.

0 and 255 are reserved values

0 reserved for defining the network

255 reserved for broadcasting the network.

8.2

IPv4 addresses are:

* Virtual (they are only understood by software)
* Used for all communication in TCP/IP

Note:

* Ipv4 uses 32-bit ip addresses
* Ipv6 uses 128-bit ip addresses

Prefix | Suffix

Prefix = network, suffix = host

Prefix – network, suffix – all 1s, it is a directed broadcast (sends message to all users in the network)

Purpose: broadcast on a specified net

Suffix – all 1’s = 255

NAT: you can buy one public ip address from the service provider, and then forward all your ip address to the public ip address to access the internet.

Class A IP will always have more hosts than class B and Class, etc.

This is because class B loses a bit from the left, class C loses 2 bits from the left, etc.