Tutorial 5

Question 1

Suppose Host A sends Host B a TCP segment. When Host B receives the datagram, how does the network layer in Host B know it should pass the segment to TCP rather than to UDP?

upper layer from IP

TCP=6, UDP=17

Question 2

How to ensure that a datagram is forwarded through no more than N routers?

Time to live header field

Question 3

A network with 3 routers connected as a triangle. Each router links with a number of hosts and forms a subnet. The subnets with hosts are A, B, and C. The subnets without hosts are D, E, and F.

(a) Assign network addresses to each of these 6 subnets with the following constraints:

all addresses must be allocated from 214.97.254/23 32-9 9 bits of subnetID number of usable ip 512

subnet A should have enough addresses to support 250 interfaces nearest number 256

subnet B should have enough addresses to support 120 interfaces only 120 change to 128 - 8 for representation

subnet C should have enough addresses to support 120 interfaces

subnets D, E, and F should each be able to support 2 interfaces 8 for all three

2,2,4

(b) Using your answer in part (a), provide the forwarding tables for each of the 3 routers.

A: 214.97.254/24
B: 214.97.255.0/25 - 214.97.255.0/29
C: 214.97.255.128/25
D: 214.997.255.