

HW 5

R12 Only 1 addr for each interface in router

R13
223 = 110 1111
1 = 00000001
3 = 00000011
27 = 00011100

So binary IP = 110 1111 00000001 00000011 00011100

R15 • IP Datagram sent from source to dest will travel over 8 interfaces

• 3 forwarding tables will be indexed

R17 • 8-bit field

• If host B receives datagram Network layer transfers data to TCP in the host B

P13 • 223.1.17.0/25

• 223.1.17.128/26

• 223.1.17.192/26

P16

200.23.16/21 0
200.23.24/24 1
200.23.24/21 2
otherwise 3

P17

a) Subnet A: 214.97.255/24
Subnet B: 214.97.254/25
Subnet C: 214.97.254/25
Subnet E: 214.97.254/31
Subnet F: 214.97.254/30

256 addr
120 addr
128 addr
2 addr
4 addr

b) Router 1

Longest Prefix Match Outgoing

11010110	01100001	11111111	Subnet A
11010110	01100001	11111110	00000000 Subnet D
11010110	01100001	11111110	00000001 Subnet F

P19

Frag	Bytes in Data	Id #	Frag off	Flag
1	680	422	0	1
2	640	422	85	1
3	680	422	170	1
4	340	422	255	0

$$\left[\frac{\text{Datagram} - \text{IP Header}}{\text{MTU} - \text{IP Header}} \right] = \# \text{ of Fragments}$$

P20

$$\text{MP3} = 5 \times 10^6 \text{ bytes}$$

$$\text{datagram} = 1500 - 20 - 20 = 1460$$

$$\frac{5 \times 10^6}{1460} = 3425$$

$$\text{last Datagram Size} = 960 + 40 = \underline{1000 \text{ bytes}}$$