Problem #4

Net. :0
Net. :1

R1
R2
R4
R3

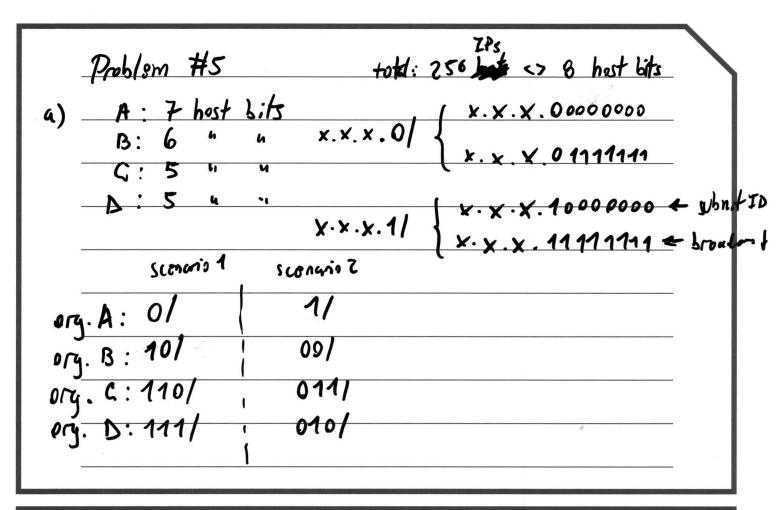| subnet #	subnet Mask	Next Hop
128.96.39.0	255.255.255.128	interface 0
128.96.39.128	255.255.255.128	interface 1
128.96.40.0	255.255.255.128	R2
192.4.153.0	255.255.255.192	R3
default		R4

a) 128.96.39.10 → 128.96.39.00001010
Mask: 255.255.255.128   xxx.xxx.xx.10000000
                          128.96.39.0
Next destination : interface 0

b) 128.96.40.12 → 128.96.40.00001100
Mask: 255.255.255.128   xx.xx.xx.10000000
                          128.96.40.0
Next hop : R2

c) 128.96.40.151 → 128.96.40.10010111 } 10000000
Mask: 255.255.255.128   xx.xx.xx.10000000   ↔ 128
                          128.96.40.128
Next hop : R4

d) 192.4.153.17 → 192.4.153.00010001
Mask: 255.255.255.192   xx. xx. xx. 11000000
                          192.4.153.0

Next hop: R3

e) 192.4.153.90 → 192.4.153. ~~01011010~~ 01011010 } 01000000
Mask: 255.255.255.192   xx.xx.xx. 11000000 }
                          192.4.153.64

Next hop: R4

Mask: /24 ⟷ 255.255.255.0
      /25 ⟷ 255.255.255.128
      /23 ⟷ 255.255.254.0

Problem #5   total: 256 ZPs ~~hosts~~ <> 8 host bits

a)
A : 7 host bits
B : 6 " "   x.x.x.0/ { x.x.x.00000000
C : 5 " "   { x.x.x.01111111
D : 5 " "
                  x.x.x.1/   { x.x.x.10000000 ← subnet ID
                             { x.x.x.11111111 ← broadcast

	scenario 1	scenario 2
org. A:	0/	1/
org. B:	10/	00/
org. C:	110/	011/
org. D:	111/	010/

b) A: 72 hosts < $2^6 + 2^5$ = 96 hosts | D: 34 hosts < 2^6

                    ↑   ↑   [6 host bits]
                 subnet   subnet
                 6 host   5 host
                  bits   bits

org. A:	01/
	001/
org. B:	10/
org. C:	000/
org. D:	11/