Activity 1. VLSM Exercices

Topology 1.

Network: 192.168.2.0/23

130 → 256 8bits

192.168. _ _ _ _ _ _ $\frac{1}{0}$|$\frac{1}{0}$|. _ _ _ _ _ _ _ _

1

130: 192.168.2.0/24

55 → 64 6bits

192.168.3. _ |$\frac{1}{0}$|_ _ _ _ _ _

1

55: 192.168.3.0/26

12 → 16 4bits

192.168.3. _ $\frac{1}{}$ _ |$\frac{1}{0}$|_ _ _ _

1

12: 192.168.3.64/28

12 → 16 4bits

192.168.3. _ $\frac{1}{}$ _ $\frac{1}{}$ _ _ _ _

12 ⇒: 192.168.3.80/28

~~2 → 4 2 bits~~
~~192.168.3. _ 1 _ 1 0 1~~
~~2: 192.168.3.80/30~~

2 → 4 2bits

192.168.3. _ $\frac{1}{}$ _ $\frac{1}{}$ 0 $\frac{1}{}$ _ _

2: 192.168.3.84/30

2 → 4 2bits
192.168.3. _ $\frac{1}{}$ _ $\frac{1}{}$ 1 0 _ _

2: 192.168.3.88/30

2 → 4 2bits

192.168.3. _ $\frac{1}{}$ _ $\frac{1}{}$ $\frac{1}{}$ $\frac{1}{}$ _ _

2: 192.168.3.92/30

2: 192.168.3.96/30

Final results

Network: 192.168.2.0/23
130 hosts: 192.168.2.0/24
55 hosts: 192.168.3.0/26
12 hosts: 192.168.3.64/28
12 hosts: 192.168.3.80/28
~~2 hosts: 192.168.3.80/30~~
2 hosts: 192.168.3.84/30
2 hosts: 192.168.3.88/30
2 hosts: 192.168.3.92/30
2 hosts: 192.168.3.96/30

Topology 2.

Network ~~172~~ 172.16.8.0/22

200 → 256 8 bits
172.16. _ _ _ _ 1 _ _|0|. _ _ _ _ _ _ _ _ _ _
                        |1|

200: 172.16.8.0/24

100 → 128 7 bits
172.16.9.|1| _ _ _ _ _ _
           |0|
            1

100: 172.16.9.0/25

60 → 64 6 bits
172.16.9. 1|0| _ _ _ _ _ _
             |1|
              1

60: 172.16.9.128/26

40 → 64 6 bits
172.16.9. 1|1| _ _ _ _ _
             |

40: 172.16.9.192/26

35 → 64 6bits
172.16. _ _ _ _ 1 _ 10. 00 _ _ _ _ _ _ _ _

35 → 172.16.10.0/26

2 → 4 2bits
172.16.10. _ 1 _|_ _ 3 _|_ _
                000
                001
                010
                011
                100
                101

2 : 172.16.10.64/30
2 : 172.16.10.68/30
2 : 172.16.10.72/30
2 : 172.16.10.76/30
2 : 172.16.10.80/30
2 : 172.16.10.~~~~84/30

1 → 4 2 bits

1 : 172.16.10.88/30

Final Results

200: 172.16.8.0/24
100: 172.16.9.0/25
60: 172.16.9.128/26
40: 172.16.9.192/26
35: 172.16.10.0/26
2: 172.16.10.64/30
2: 172.16.10.68/30
2: 172.16.10.72/30
2: 172.16.10.76/30
2: 172.16.10.80/30
2: 172.16.10.~~~~84/30
1: 172.16.10.88/30

Topology 3.

Network: 134.~~XX~~.14.8.0 /22

500	→	~~XXX~~ 512	9 bits
150	→	256	8 bits
120	→	128	7 bits
60	→	64	6 bits

134.14.____-1-|_|-.----------

                 $^0_1$

500: 134.14.8.0 /23

~~XXX~~ 134.14.____-1-1|_|.---------

                    $^0_1$

150: 134.14.10.0/24

134.14.11.|_|-_------

        $^0_1$

120: 134.14.11.0/25

134.14.11.1|_|------

        $^0_1$

60: 134.14.11.128/26

2: 134.14.11.192/30

2: 134.14.11.196/30

2: 134.14.11.200/30

2: 134.14.11.204/30

2: 134.14.11.208/30

2: 134.14.11.212/30

2: 134.14.11.216/30

Final Results

500 hosts: 134.14.8.0/23
150 hosts: 134.14.10.0/24
120 hosts: 134.14.11.0/25
 60 hosts: 134.14.11.128/26

Subnet 1: 134.14.11.192/30
Subnet 2: 134.14.11.196/30
Subnet 3: 134.14.11.200/30
Subnet 4: 134.14.11.204/30
Subnet 5: 134.14.11.208/30
Subnet 6: 134.14.11.212/30
Subnet 7: 134.14.11.216/30

Topology 4.

Network: 192.168.28.0/22

192.168.2 _ _ _ 1 1 1 -|_|. _ _ _ _ _ _ _ _ _ _
                      |0|
                       1

150: 192.168.28.0/24

192.168.29.|_|- _ _ _ _ _ _
           |0|
            1

90: 192.168.29. ~~NNN~~ 0 /25

192.168.29.1|_|- _ _ _ _ _
            |0|
             1

60: 192.168.29.128/26

192.168.29, 1 1|_|- _ _ _ _ _
               |0|
                1

30: 192.168.29.192/27

192.168.29, 1 1 1 _ _ _ _ _

24: 192.168.29.224/27

24: 192.168.30.0/27

20: 192.168.30.32/27

2: 192.168.30.64/30
2: 192.168.30.68/30
2: 192.168.30.72/30
2: 192.168.30.76/30

150 → 256   8 bits
90 → 128   7 bits
60 → 64   6 bits
30 → 32   5 bits
24 → 32   5 bits
24 → 32   5 bits
20 → 32   5 bits

Final Results

Network: 192.168.28.0/22
150 hosts: 192.168.28.0/24
90 hosts: 192.168.29.0/25
60 hosts: 192.168.29.128/26
30 hosts: 192.168.29.192/27
24 hosts: 192.168.29.224/27
24 hosts: 192.168.30.0/27
20 hosts: 192.168.30.32/27

Subnet 1: 192.168.30.64/30
Subnet 2: 192.168.30.68/30
Subnet 3: 192.168.30.72/30
Subnet 4: 192.168.30.76/30