

1.

300 - /23

200 - /24

100 - /25

80 - /25

60 - /26

35 - /27

C KLASA IP Adresa

Lokacija C

Network address: 192.168.0.0

First usable IP: 192.168.0.1

Last usable IP: 192.168.1.254

Subnet mask = 255.255.254.0

Broadcast IP: 192.168.1.255

Lokacija A

Network address: 192.168.2.0

First usable IP: 192.168.2.1

Last usable IP: 192.168.2.254

Subnet mask = 255.255.255.0

Broadcast IP = 192.168.2.255

Lokacija B

Network address: 192.168.3.0

First usable IP = 192.168.3.1

Last usable IP = 192.168.3.126

Subnet mask = 255.255.255.128

Broadcast IP = 192.168.3.127

Lokacija D

Network address: 192.168.3.128

First usable IP: 192.168.3.129

Last usable IP: 192.168.3.254

Broadcast IP: 192.168.3.255

Subnet mask: 255.255.255.128

Lokacija F

Network address: 192.168.4.0

First usable IP: 192.168.4.1

Last usable IP: 192.168.4.62

Broadcast IP: 192.168.4.63

Subnet mask: 255.255.255.192

Lokacija E

Network address: 192.168.4.64

First usable IP: 192.168.4.65

Last usable IP: 192.168.4.126

Broadcast IP: 192.168.4.127

Subnet mask: 255.255.255.192

2.

/16 – 11111111.11111111.00000000.00000000 – 255.255.0.0

/12 – 11111111.11110000.00000000.00000000 – 255.240.0.0

/8 – 11111111.00000000.00000000.00000000 – 255.0.0.0

/20 – 11111111.11111111.11110000.00000000 – 255.255.240.0

/25 – 11111111.11111111.11111111.10000000 – 255.255.255.128

/27 – 11111111.11111111.11111111.11100000 – 255.255.255.224

3.

$0+8+8+8+8+8+8+8=8+16+16+16=24+16+16=40+16=56$

10.10.100.56/29

4.

192.168.1.0/24

192.168.2.0/26

192.168.4.0/29

192.168.6.128/25

192.168.13.0/25

192.168.15.128/26

0000|0001

0000|0010

0000|0100

0000|0110

0000|1101

0000|1111

0000 = 4

192.168.0.0/20

5.

A – 10.0.0.0/8

B – 172.16.0.0/12

C – 192.168.0.0/16

a) 255.255.192.0

U = 32

m = 18

KLASA A

n = 8

No. subnets = $2^{(m-n)} = 2^{(18-8)} = 2^{10} = 1024$

Usable IP addresses = $2^{(32-18)} - 2 = 2^{14} - 2 = 16382$

KLASA B

n = 12

No. subnets = $2^{(m-n)} = 2^{(18-12)} = 2^6 = 64$

Usable IP addresses = $2^{(32-18)} - 2 = 2^{14} - 2 = 16384 - 2 = 16382$

KLASA C

n = 16

No. subnets = $2^{(m-n)} = 2^{(18-16)} = 2^2 = 4$

Usable IP addresses = $2^{(32-18)} - 2 = 2^{14} - 2 = 16384 - 2 = 16382$

b) 255.248.0.0

$$U = 32$$

$$m = 13$$

KLASA A

$$n = 8$$

$$\text{No. subnets} = 2^{(13-8)} = 2^5 = 32$$

$$\text{Usable IP addresses} = 2^{(32-13)} - 2 = 2^{19} - 2 = 524286$$

KLASA B

$$n = 12$$

$$\text{No. subnets} = 2^{(13-12)} = 2^1 = 2$$

$$\text{Usable IP addresses} = 2^{(32-13)} - 2 = 2^{19} - 2 = 524286$$

KLASA C

$$n = 16$$

$$\text{No. subnets} = 2^{(13-16)} = 2^{-3} = \text{PREVELIKO ZA KLASU C}$$

c) 255.255.248.0

$$U = 32$$

$$m = 21$$

KLASA A

$$n = 8$$

$$\text{No. subnets} = 2^{(m-n)} = 2^{(21-8)} = 2^{13} = 8192$$

$$\text{Usable IP addresses} = 2^{(32-21)} - 2 = 2^{11} - 2 = 2048 - 2 = 2046$$

KLASA B

$$n = 12$$

$$\text{No. subnets} = 2^{(m-n)} = 2^{(21-12)} = 2^9 = 512$$

$$\text{Usable IP addresses} = 2^{(32-21)} - 2 = 2^{11} - 2 = 2048 - 2 = 2046$$

KLASA C

$$n = 16$$

$$\text{No. subnets} = 2^{(m-n)} = 2^{(21-16)} = 2^5 = 32$$

$$\text{Usable IP addresses} = 2^{(32-21)} - 2 = 2^{11} - 2 = 2048 - 2 = 2046$$

d) 255.255.255.248

U = 32

m = 29

KLASA A

n = 8

No. subnets = $2^{(m-n)} = 2^{(29-8)} = 2^{21} = 2097152$

Usable IP addresses = $2^{(32-29)} - 2 = 2^3 - 2 = 8 - 2 = 6$

KLASA B

n = 12

No. subnets = $2^{(m-n)} = 2^{(29-12)} = 2^{17} = 131072$

Usable IP addresses = $2^{(32-29)} - 2 = 2^3 - 2 = 8 - 2 = 6$

KLASA C

n = 16

No. subnets = $2^{(m-n)} = 2^{(29-16)} = 2^{13} = 8192$

Usable IP addresses = $2^{(32-29)} - 2 = 2^3 - 2 = 8 - 2 = 6$

6.

a) 10.1.0.0/23

Network address = 10.1.0.0

First usable IP address = 10.1.0.1

Last usable IP address = 10.1.1.254

Broadcast IP address = 10.1.1.255

B) 10.2.4.0/24

Network address = 10.2.4.0

First usable IP address = 10.2.4.1

Last usable IP address = 10.2.4.254

Broadcast IP address = 10.2.4.255

c) 10.3.6.0/25

Network address = 10.3.6.0

First usable IP address = 10.3.6.1

Last usable IP address = 10.3.6.126

Broadcast IP address = 10.3.6.127

d) 10.4.8.0/26

Network address = 10.4.8.0

First usable IP address = 10.4.8.1

Last usable IP address = 10.4.8.62

Broadcast IP address = 10.4.8.63

e) 10.5.10.0/27

Network address = 10.5.10.0

First usable IP address = 10.5.10.1

Last usable IP address = 10.5.10.30

Broadcast IP address = 10.5.10.31

f) 10.6.12.0/28

Network address = 10.6.12.0

First usable IP address = 10.6.12.1

Last usable IP address = 10.6.12.14

Broadcast IP address = 10.6.12.15