

## Subnetting task

- Assigned network: 192.168.24.0
- Host address requests:
  - 16 addresses for range A
  - 127 addresses for range B
  - 30 addresses for range C
  - 15 addresses for range D
  - 63 addresses for range E
  - 7 addresses for range F
- Task: ordering requests from bigger to lower, and assigning IP addresses from lower to higher, divide the original set to satisfy all requests.

→ order the requests

Range B: 127 addresses

Range E: 63 addresses

Range C: 30 addresses

Range A: 16 addresses

Range D: 15 addresses

Range F: 7 addresses

### Masks

#### Range B Network and broadcast (+2)

↳ Required addresses 127 + 2

$$\Rightarrow 2^7 = 128 \text{ X}$$

$$2^8 = 256 \text{ ✓}$$

$$32 - 8 = 24 + 1$$

/25

192.168.24.0/25

↳ Needs 128 addresses

255.255.255.128

#### Range A

↳ Required addresses 16 + 2

$$\Rightarrow 2^5 = 32 \text{ ✓}$$

$$32 - 5 = 27$$

192.168.24.0/27

↳ Needs 16 addresses

255.255.255.224

#### Range E

↳ Required addresses 63 + 2

$$\Rightarrow 2^6 = 64 \text{ ✓}$$

$$32 - 6 = 26$$

192.168.24.0/26

↳ Needs 64 addresses

255.255.255.192

#### Range D

↳ Required addresses 15 + 2

$$\Rightarrow 2^4 = 16 \text{ ✓}$$

$$32 - 4 = 28$$

192.168.24.0/28

↳ Needs 15 addresses

255.255.255.240

#### Range C

↳ Required addresses 30 + 2

$$\Rightarrow 2^5 = 32 \text{ ✓}$$

$$32 - 5 = 27$$

/27

192.168.24.0/27

↳ Needs 30 addresses

255.255.255.224

#### Range F

↳ Required addresses 7 + 2

$$\Rightarrow 2^4 = 16 \text{ ✓}$$

$$32 - 4 = 28$$

192.168.24.0/28

↳ Needs 7 addresses

255.255.255.240

## Assign IP Ranges

### Range B

Subnet

192.168.24.0/25

Usable IP's

192.168.24.1 - 192.168.24.126

Broadcast

192.168.24.127

### Range A

Subnet

192.168.24.224/27

Usable IP's

192.168.24.225 - 192.168.24.254

Broadcast

192.168.24.255

### Range E

Subnet

192.168.24.128/26

Usable IP's

192.168.24.129 - 192.168.24.190

Broadcast

192.168.24.191

### Range D

Subnet

192.168.25.0/28

Usable IP's

192.168.25.1 - 192.168.25.14

Broadcast

192.168.25.15

### Range C

Subnet

192.168.24.192/27

Usable IP's

192.168.24.193 - 192.168.24.222

Broadcast

192.168.24.223

### Range F

Subnet

192.168.25.16/28

Usable IP's

192.168.25.17 - 192.168.25.22

Broadcast

192.168.25.23