

In the subnet we are expected to subnet 192.168.1.0/24 to contain 5 networks

$2^n = \text{subnets}$

$2^1 = 2$

$2^2 = 4$

$2^3 = 8$

192.168.1.0/24

| Network                           | subnet | host                    |
|-----------------------------------|--------|-------------------------|
| 1111 1111.1111 1111.1111 1111.000 |        | 00000->192.168.1.0/27   |
| 1111 1111.1111 1111.1111 1111.001 |        | 00000->192.168.1.32/27  |
| 1111 1111.1111 1111.1111 1111.010 |        | 00000->192.168.1.64/27  |
| 1111 1111.1111 1111.1111 1111.011 |        | 00000->192.168.1.96/27  |
| 1111 1111.1111 1111.1111 1111.100 |        | 00000->192.168.1.128/27 |
| 1111 1111.1111 1111.1111 1111.101 |        | 00000->192.168.1.160/27 |

128 64 32 16 8 4 2 1

| Network       | Range               | Broadcast | Subnet |
|---------------|---------------------|-----------|--------|
| 192.168.1.0   | x.x.x.1-x.x.x.30    | x.x.x.31  | /27    |
| 192.168.1.32  | x.x.x.33-x.x.x.62   | x.x.x.63  | /27    |
| 192.168.1.64  | x.x.x.65-x.x.x.94   | x.x.x.95  | /27    |
| 192.168.1.96  | x.x.x.97-x.x.x.126  | x.x.x.127 | /27    |
| 192.168.1.128 | x.x.x.129-x.x.x.158 | x.x.x.159 | /27    |
| 192.168.1.160 | x.x.x.161-x.x.x.190 | x.x.x.191 | /27    |

X.X.X rep 192.168.1