

PBLE-2

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ISP has $\Rightarrow 245.248.128.0/20$

Mask $\Rightarrow 11111111 \ 11111111 \ 11110000 \ 00000000$

Total available address $= 2^{12} = 4096$

We need to provide 2048 to A
1024 to B
1024 to Mr A.

\therefore For A \Rightarrow

$$2^{11} = 2048$$

$$32 - 11 = 21$$

\therefore Subnet mask $\Rightarrow 11111111 \ 11111111 \ 11111000 \ 00000000$
255 255 248 0

First IP $\Rightarrow 245.248.128.0$

$$+ 4 \ 255.255.248.0$$

$$245.248.128.0$$

last IP $\Rightarrow 245.248.128.0$

$$\text{or } 0.0.7.255$$

$$245.248.135.255$$

complement
of mask

A $\Rightarrow 245.248.128.0$ to $245.248.135.255$

For B \Rightarrow

$$2^{10} = 1024$$

$$32 - 10 = 22$$

subnet mask $\Rightarrow 11111111 \ 11111111 \ 11111100 \ 00000000$
255 255 252 0

→ As the A ended on ~~245~~ 135-25

$$\begin{array}{r} \text{First IP} \Rightarrow 245 \cdot 248 \cdot 136 \cdot 0 \\ + 155 \quad 255 \quad 252 \cdot 0 \\ \hline 245 \cdot 248 \cdot 138 \cdot 0 \end{array}$$

$$\begin{array}{r} \text{Endig IP} \Rightarrow 245 \cdot 248 \cdot 136 \cdot 0 \\ \text{or } 0 \cdot 0 \cdot 0 \cdot 3 \cdot 255 \\ \hline 245 \cdot 248 \cdot 139 \cdot 255 \end{array}$$

$$\therefore B \Rightarrow 245 \cdot 248 \cdot 136 \cdot 0 \quad \text{to} \quad 245 \cdot 248 \cdot 139 \cdot 255$$

For Mr A

$$\text{Subnet mask} = 255 \cdot 255 \cdot 252 \cdot 0$$

$$\begin{array}{r} \text{First IP} \Rightarrow 245 \cdot 248 \cdot 140 \cdot 0 \\ + 255 \cdot 255 \cdot 252 \cdot 0 \\ \hline 245 \cdot 248 \cdot 140 \cdot 0 \end{array}$$

$$\begin{array}{r} \text{Endig IP} \Rightarrow 245 \cdot 248 \cdot 140 \cdot 0 \\ \text{or } 0 \cdot 0 \cdot 0 \cdot 3 \cdot 255 \\ \hline 245 \cdot 248 \cdot 143 \cdot 255 \end{array}$$

$$\therefore \text{Mr A} \Rightarrow 245 \cdot 248 \cdot 140 \cdot 0 \quad \text{to} \quad 245 \cdot 248 \cdot 143 \cdot 255$$