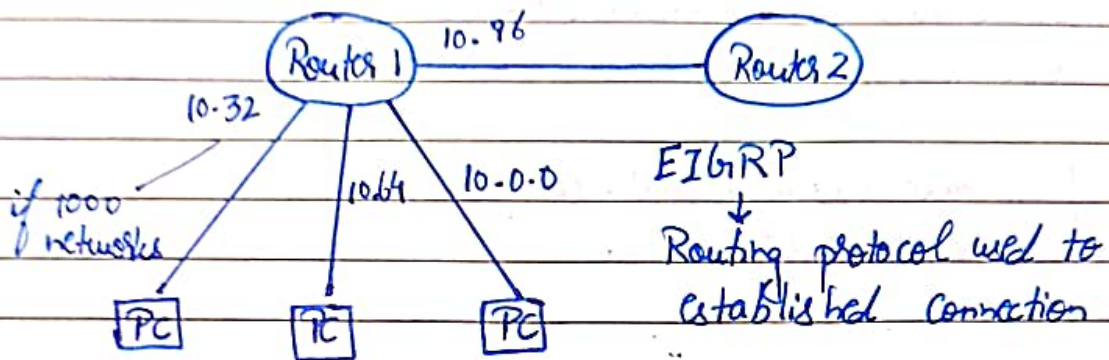


Summarization



3 networks connected with router

When these 3 networks enter the Routing Table, only then the connection will be established.

But if we have 1000 networks, then the routing table will become very big.


It will lead to load on the devices too. i.e. ↑ CPU utilization

We use summarization to reduce it

$\left\{ \begin{array}{l} 10.0.0.4/24 \\ 10.0.0.5/24 \\ 10.0.0.8/24 \end{array} \right.$

→ The first octet should be same to perform summarization (i.e. first 8 bits)

Convert Decimal to Binary

		①	②	③	④							
10.	0.	0.	0.	Change	128	64	32	16	8	4	2	1
<div>Fixed</div>		4			0	0	0	0	0	1	0	0
		5			0	0	0	0	0	1	0	1
		8			0	0	0	0	1	0	0	0



ie first 3 octet ie 24 bits are fixed
 same binary in starting
 24 + 4 = 28
 those which do not match leave it

ie 10.0.0.0/28

2. 20.16.8.0/16
 20.16.9.4/16
 20.16.8.3/16

	1st	2nd	3rd	4th	128	64	32	16	8	4	2	1
1.	0 bit	8	0		0	0	0	0	1	0	0	0
2.	Fixed	9	4		0	0	0	0	1	0	0	1
3.		8	3		0	0	0	0	1	0	0	0

Matches (bits 1-4)
 Does not match (bits 5-7)

$\therefore \text{CIDR} = 8 + 8 + 7$
 $= 23$

$\therefore 20.16.8.0/23$