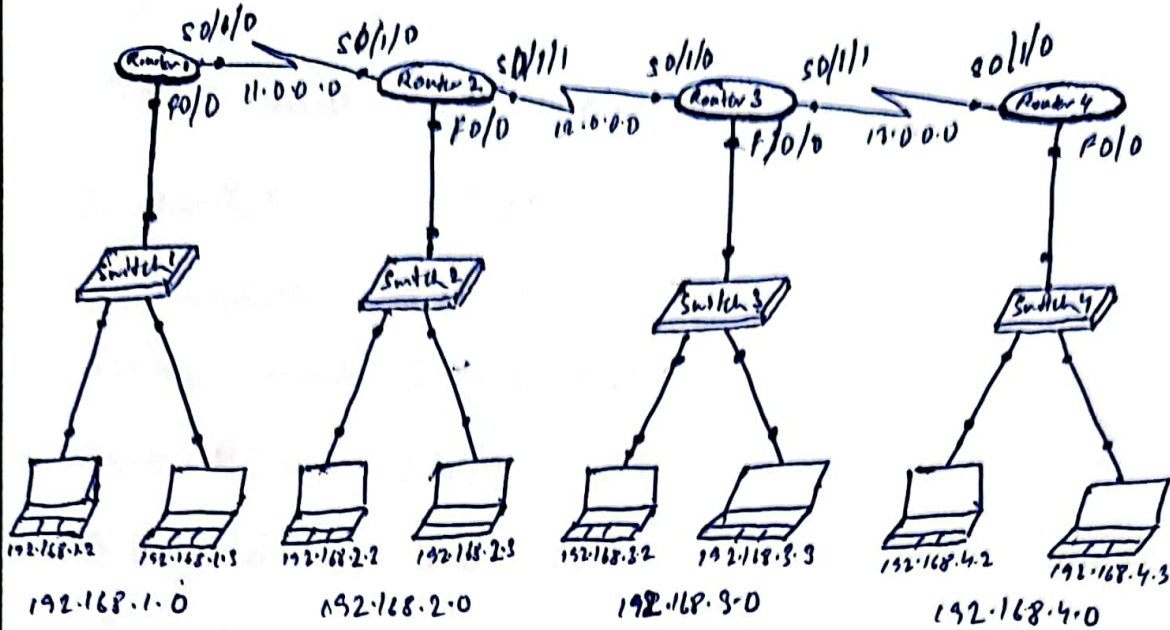


Assignment - 6

1. Static routing with 4 routers



→ Router 1 connected with switch 1 and switch 2 is connected with 2 PCs with IP addresses 192.168.1.2 and 192.168.1.3 respectively

→ Similarly Router 2, Router 3 and Router 4 are connected
~~Router 2~~ PCs under Router 2 192.168.2.2 and 192.168.2.3
 PCs under ~~Router 3~~ Router 3 192.168.3.2 and 192.168.3.3

PCs under Router 4 192.168.4.2 and 192.168.4.3

→ On p0/0

Router	IP Address	Subnet Mask
Router 1	192.168.1.1	255.255.255.0
Router 2	192.168.2.1	255.255.255.0
Router 3	192.168.3.1	255.255.255.0
Router 4	192.168.4.1	255.255.255.0

→ Router 1 on s0/1/0

IP Address 11.0.0.1

Subnet mask 255.0.0.0

Router 2

→ Router 2 on s0/1/0

IP Address 11.0.0.2

Subnet Mask 255.0.0.0

→ Router 2 on 50/1/1
IP address ~~12~~ 12.0.0.1
Subnet mask 255.0.0.0

→ Router 3 on 50/1/0
IP address 12.0.0.2
Subnet mask 255.0.0.0

→ Router 3 on 50/1/1
IP address 13.0.0.1
Subnet mask 255.0.0.0

→ Router 4 on 50/1/0
IP address 13.0.0.2
Subnet Mask 255.0.0.0

~~→ Router 1~~

~~Network: 192.168.2.0~~

~~Mask: 255.255.255.0~~

~~Next Hop: 11.0.0.2~~

→ Router 1

<u>Network</u>	<u>Mask</u>	<u>Next Hop</u>
192.168.2.0	255.255.255.0	11.0.0.2
12.0.0.0	255.0.0.0	11.0.0.2
192.168.3.0	255.255.255.0	12.0.0.2
13.0.0.0	255.0.0.0	12.0.0.2
192.168.4.0	255.255.255.0	13.0.0.2

→ Router 2

<u>Network</u>	<u>Mask</u>	<u>Next Hop</u>
192.168.1.0	255.255.255.0	11.0.0.1
192.168.3.0	255.255.255.0	12.0.0.2
13.0.0.0	255.0.0.0	12.0.0.2
192.168.4.0	255.255.255.0	13.0.0.2

→ Router 3

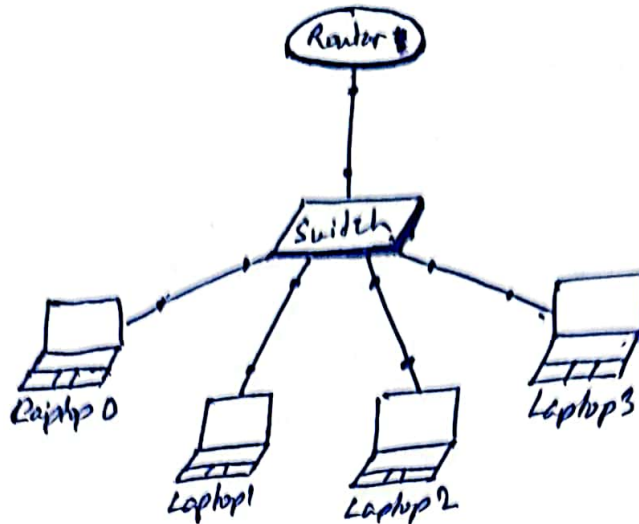
<u>Network</u>	<u>Mask</u>	<u>Next Hop</u>
192.168.2.0	255.255.255.0	12.0.0.1
11.0.0.0	255.0.0.0	12.0.0.1
192.168.1.0	255.255.255.0	11.0.0.1
192.168.4.0	255.255.255.0	13.0.0.2

→ Router 4

<u>Network</u>	<u>Mask</u>	<u>Next Hop</u>
192.168.3.0	255.255.255.0	13.0.0.1
12.0.0.0	255.0.0.0	13.0.0.1
192.168.2.0	255.255.255.0	12.0.0.1
11.0.0.0	255.0.0.0	12.0.0.1
192.168.1.0	255.255.255.0	11.0.0.1

→ Now we can send packets from Router 1's connected PCs to any PCs
At first we will get 25% loss but at last ~~we~~ we will get 0% loss.

2. Dynamic host configuration Protocol



→ One router is connected to a switch and then connected to 4 PCs with ~~IP addresses manually~~ IP configuration as DHCP.

→ Now in CLI panel

Router > en

Router # config t

Router (config) # int s0/0

Router (config-if) # ip add 192.168.1.1 255.255.255.0

Router (config-if) # no sh

Router (config-if) # ip dhcp pool abc

Router (config-dhcp-pool) # default-router 192.168.1.1

Router (dhcp-config) # network 192.168.1.0 255.255.255.0

Router (dhcp-config) # ^ Z

Router # wr

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→ The IP address, default gateway and subnet mask will be added automatically to Laptop 0 to Laptop 4 as 192.168.1.2, 192.168.1.3, 192.168.1.4 & 192.168.1.5 respectively.