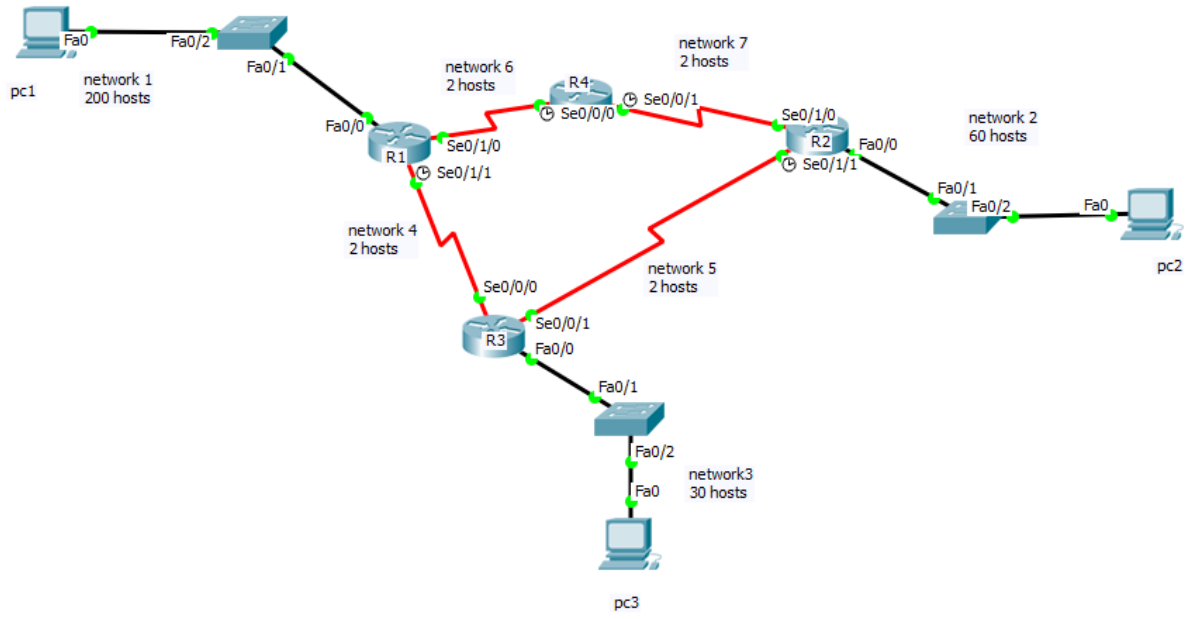


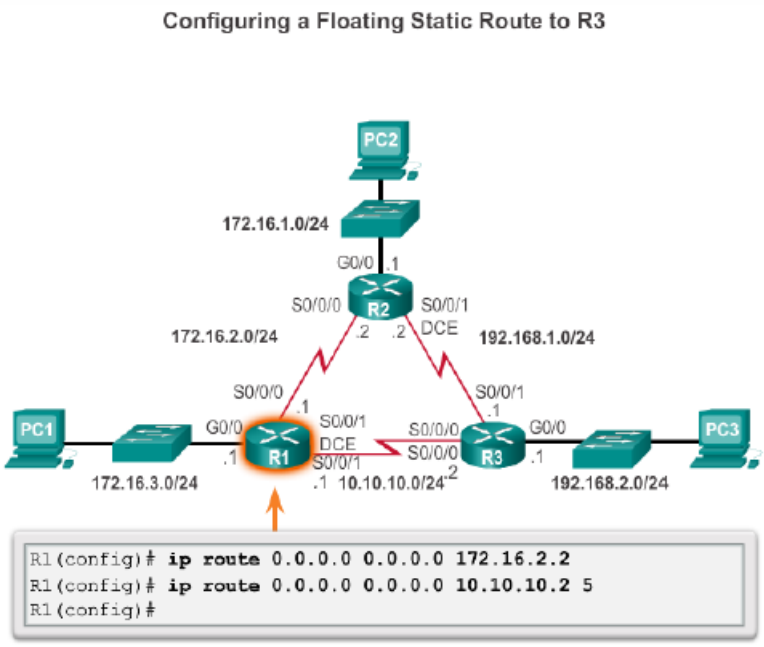
Given the ip address 172.20.0.0/23, subnet the following ip address as shown in the figure.(number of host include the router interface.

Note: use the same interfaces shown in the figure. Use router 1841

1. Configure all interfaces and PCs with the appropriate ip address.
2. Configure a static route so that the network is fully converged and such that :
    - R 1 can reach network 2 and network 3 through int s0/1/0 of R1.
    - R 2 can reach network 1 through int s0/1/0 of R2, and network3 through int s0/1/1 of r2.
    - R 3 can reach network 1 through int s0/0/0 of R3 and network 2 through int s0/0/1 of R3.
3. Check the routing table ON R1 to see the exit interface used to reach THE NETWORKS of pc2 and pc3.
4. Use traceroute to see the path taken from pc1 to reach pc2 and pc 3.
5. Configure a floating static route on R1 to reach network 2 and network 3 through int S0/1/1 of R1.
6. Check routing table of R1. Any change in exit interface to reach network 2 and network 3?
7. What floating static route should you configure on R2 and R3 in case int s0/1/0 of R1 AND int S0/1/0 OF R2 are down.
8. Shut down int s0/1/0 of R1 AND int S0/1/0 OF R2.
9. Check routing table of R1, R2, and R3.what changed?
10. Use traceroute to see the path taken from pc1 to reach pc2 and pc 3.

```
R1(config)#ip route 172.20.1.0 255.255.255.192 s0/1/1 ?
  <1-255>  Distance metric for this route
  <cr>
R1(config)#ip route 172.20.1.0 255.255.255.192 s0/1/1 10
```

Configure a Floating Static Route



Floating Static Routes

Floating static routes are static routes that have an administrative distance greater than the administrative distance of another static route or dynamic routes:

- The administrative distance of a static route can be increased to make the route less desirable than that of another static route or a route learned through a dynamic routing protocol.
- In this way, the static route "floats" and is not used when the route with the better administrative distance is active.
- However, if the preferred route is lost, the floating static route can take over, and traffic can be sent through this alternate route.

Test the Floating Static Route

To test a floating static route:

- Use a **show ip route** command to verify that the routing table is using the default static route.
- Use a **traceroute** command to follow the traffic flow out the primary route.
- Disconnect the primary link or shutdown the primary exit interface.
- Use a **show ip route** command to verify that the routing table is using the floating static route.
- Use a **traceroute** command to follow the traffic flow out the backup route.