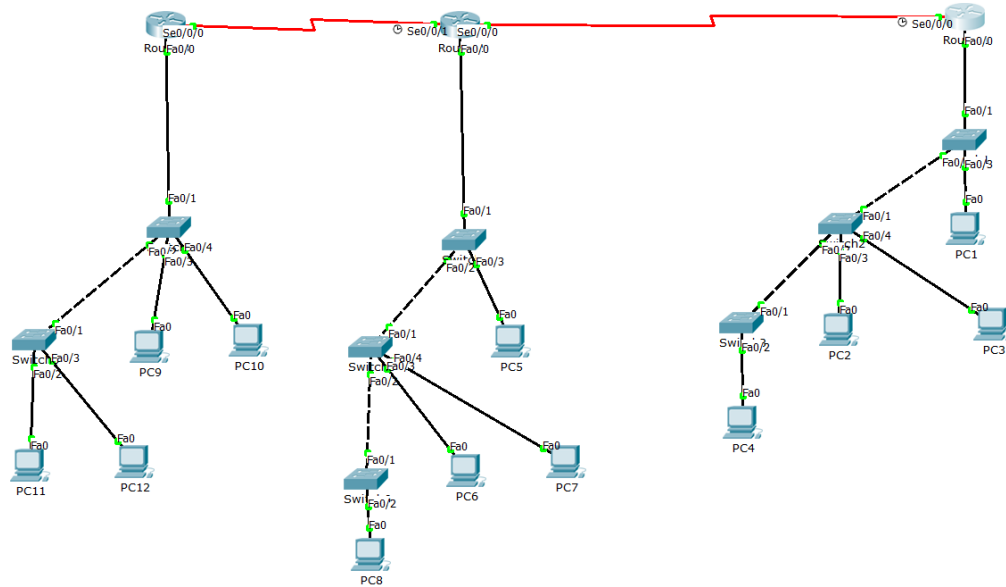


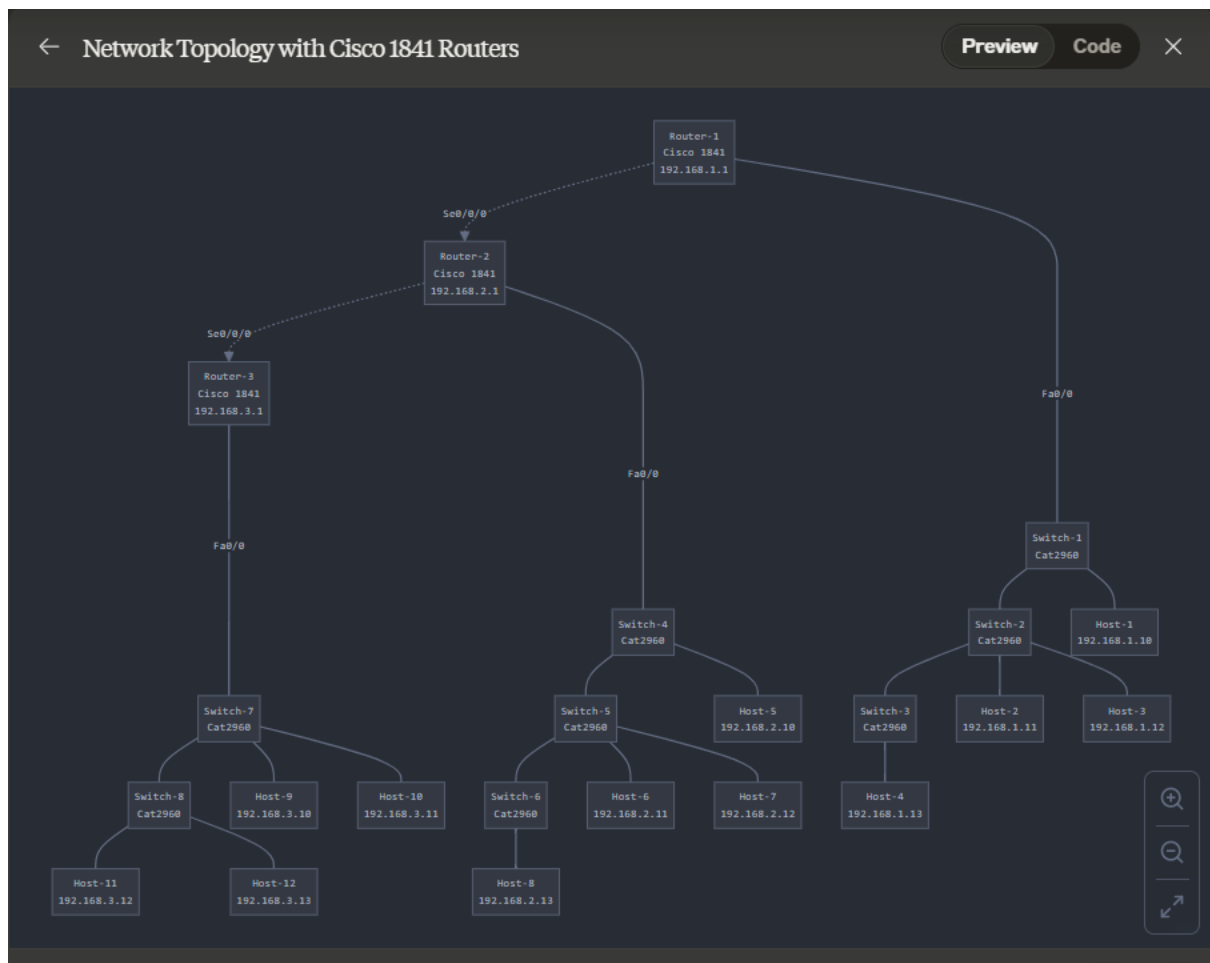
1. Design a network with proper labeling with the following components and transfer packets through different networks.

i) 3 routers

ii) 8 switches

iii) 12 hosts





Router 1 (R1) Configuration

enable

configure terminal

hostname R1

interface FastEthernet0/0

ip address 192.168.1.1 255.255.255.0

no shutdown

exit

interface Serial0/0/0

ip address 10.0.0.1 255.255.255.252

no shutdown

exit

Router 2 (R2) Configuration

enable

configure terminal

hostname R2

interface FastEthernet0/0

ip address 192.168.2.1 255.255.255.0

no shutdown

exit

interface Serial0/0/0

ip address 10.0.0.2 255.255.255.252

no shutdown

exit

interface Serial0/0/1

ip address 10.0.0.5 255.255.255.252

no shutdown

exit

Router 3 (R3) Configuration

enable

configure terminal

hostname R3

interface FastEthernet0/0

ip address 192.168.3.1 255.255.255.0

no shutdown

exit

interface Serial0/0/0

ip address 10.0.0.6 255.255.255.252

no shutdown

exit

RIP Configuration for Routing

On all routers:

router rip

version 2

network 192.168.1.0

network 192.168.2.0

network 192.168.3.0

network 10.0.0.0

Hosts Configuration

Network 1: 192.168.1.0/24

- **Router:** 192.168.1.1
- **Hosts:**
 - **PC1:**
 - IP Address: 192.168.1.10
 - Default Gateway: 192.168.1.1
 - **PC2:**
 - IP Address: 192.168.1.11
 - Default Gateway: 192.168.1.1
 - **PC3:**
 - IP Address: 192.168.1.12
 - Default Gateway: 192.168.1.1
 - **PC4:**
 - IP Address: 192.168.1.13
 - Default Gateway: 192.168.1.1

Network 2: 192.168.2.0/24

- **Router:** 192.168.2.1
- **Hosts:**
 - **PC5:**
 - IP Address: 192.168.2.10
 - Default Gateway: 192.168.2.1
 - **PC6:**
 - IP Address: 192.168.2.11
 - Default Gateway: 192.168.2.1
 - **PC7:**
 - IP Address: 192.168.2.12
 - Default Gateway: 192.168.2.1
 - **PC8:**
 - IP Address: 192.168.2.13
 - Default Gateway: 192.168.2.1

Network 3: 192.168.3.0/24

- **Router:** 192.168.3.1
- **Hosts:**
 - **PC9:**
 - IP Address: 192.168.3.10
 - Default Gateway: 192.168.3.1
 - **PC10:**
 - IP Address: 192.168.3.11
 - Default Gateway: 192.168.3.1
 - **PC11:**
 - IP Address: 192.168.3.12
 - Default Gateway: 192.168.3.1
 - **PC12:**
 - IP Address: 192.168.3.13
 - Default Gateway: 192.168.3.1

2.Design a network with proper labeling with the following components and Configure Dynamic IP through DHCP.

i) 3 routers

ii) 10 switches

iii) 15 hosts

3.Design a network with proper labeling with the following components and configure Enhanced Interior Gateway Routing Protocol (EIGRP).

4 Routers

ii) 4 switches

iii) 10 hosts

4. Design a network with proper labeling with the following components and configure RIP.

5) 4 Routers

ii) 6 switches

iii) 12 hosts

5. Design a network with proper labeling with the following components and configure OSPF routing protocol.

i)

3 Routers

ii) 9 switches

iii) 18 hosts

6. Design a network with proper labeling with 4 switches and 12 hosts, and configure VLAN for the network by using

IP 192.168.1.1-192.168.1.10 for ICE Department (VLAN 10)

IP 192.168.1.11-192.168.1.20 for CSE Department (VLAN 20)

IP 192.168.1.21-192.168.1.30 for EECE Department (VLAN 30)

IP 192.168.1.31-192.168.1.40 for EEE Department (VLAN 40)