EXPERIMENT 3

Exp3)Design a network with the help of Cisco packet tracer which involves a switch/hub

Steps:

1. Open Cisco Packet Tracer

Launch the application and open a new workspace.

2. Add Network Devices

- Go to the **Devices** section.
  - Drag and drop the following components onto the workspace:
  - **1 Switch or Hub**: Choose either a switch (e.g., 2960-24TT) or a hub (e.g., PT-Hub).
  - **2-4 PCs**: These will be the end devices connected to the switch/hub.

3. Connect the Devices

- Select the **Connections** tab (looks like a lightning bolt).
  - Use the **Copper Straight-Through** cable to connect each PC to the switch/hub:
  - PC1 → FastEthernet0 on Switch/Hub
  - PC2 → FastEthernet1 on Switch/Hub

4. Configure IP Addresses

- Click on each PC → Go to **Desktop** → **IP Configuration**.
  - Assign IP addresses to the PCs in the same subnet.
  - PC1: IP: 192.168.1.2, Subnet Mask: 255.255.255.0
  - PC2: IP: 192.168.1.3, Subnet Mask: 255.255.255.0
  - PC3: IP: 192.168.1.4, Subnet Mask: 255.255.255.0

5. Test Connectivity

- Go to **PC1** → **Desktop** → **Command Prompt**.

Ping other PCs to test connectivity: Successful replies indicate proper connectivity.

ping 192.168.1.3

ping 192.168.1.4

EXPERIMENT 4

Exp4)Design a network with the help of router/without router on Cisco Packet Tracer

Steps:

1. **Open Cisco Packet Tracer** and create a new workspace.
   - Add Devices: **1 Router** from **Network Devices → Routers**.
   - **1 Switch** from **Network Devices → Switches**.
   - **3 PCs** from **End Devices**.
2. Connect Devices: Use **Copper Straight-Through** cables:
   - PCs → Switch
   - Switch → **FastEthernet0/0** on Router
3. Configure IP Addresses:
   - Router **(FastEthernet0/0)**: ▪ IP: **192.168.1.1**, Subnet Mask: **255.255.255.0**
   - PC1: IP: **192.168.1.2**, Subnet Mask: **255.255.255.0**, Default Gateway: **192.168.1.1**
   - PC2: IP: **192.168.1.3**, Subnet Mask: **255.255.255.0**, Default Gateway: **192.168.1.1**
   - PC3: IP: **192.168.1.4**, Subnet Mask: **255.255.255.0**, Default Gateway: **192.168.1.1**

   Click on the Router → **CLI** → Enter the following commands:

4. Configure Router:

   Router> enable

   Router# configure terminal

   Router(config)# interface FastEthernet0/0

   Router(config-if)# ip address 192.168.1.1 255.255.255.0

   Router(config-if)# no shutdown

   Router(config-if)# exit

   Router(config)# exit

   Router# write memory

5. Test Connectivity: Open **Command Prompt** on PC1 and ping other PCs:

   Successful replies confirm connectivity.

   ping 192.168.1.3

   ping 192.168.1.4