QUESTION:

1. Using Cisco Packet Tracer, explain with steps how the Star topology is achieved.

ANSWER:

Step 1: Pick the Center (The Switch)

Imagine the switch is the "referee" of a game. Every player must talk to the referee, not to each other directly.

-   **In Packet Tracer:** Go to **Network Devices** > **Switches** and drag the **2960 Switch** to the middle of your workspace.

Step 2: Add the Devices (The Computers)

These are the workstations where students or employees sit.

-   **In Packet Tracer:** Go to **End Devices** and place 3 or 4 **PCs** in a circle around the switch. It should start looking like a star (or a spider).

Step 3: Connect the "Rays" (The Cables)

You need to link each computer to the center.

-   **The Cable:** Use the **Copper Straight-Through** cable (the solid black line).
-   **The Connection:** Click on a PC, select **FastEthernet0**, then click the Switch and pick any available hole (port).
-   **What to watch for:** You'll see orange dots. Wait about 30 seconds until they turn **green**. Green means the "road" is open!

Step 4: Give Them "Phone Numbers" (IP Addresses)

Even if they are plugged in, computers won't talk without an address.

1. Click **PC0** > **Desktop** > **IP Configuration**.
2. In the IP address box, type: 192.168.1.1
3. Click the "Subnet Mask" box; it will fill itself in automatically (255.255.255.0).
4. Do the same for the other PCs, but change the last number (e.g., 192.168.1.2, 192.168.1.3).

Step 5: The "Hello World" Test (Ping)

To see if your star is working:

1. Click on **PC0**.
2. Go to **Command Prompt**.
3. Type ping 192.168.1.2 and hit Enter.
4. If you see **"Reply from..."**, congratulations! Your star network is officially communicating.