**TASK - 01**

**COMPUTER NETWORK**

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**1. Difference Between Routers and When to Use Them:**

* **Generic Routers (e.g., 1941, 2911):** Basic routing between networks (e.g., LAN to WAN). Suitable for small to medium networks.
* **ISR Routers:** Advanced routers with VPN, firewall, and voice support. Ideal for branch offices or small businesses.
* **High-End Routers (e.g., 4321, 819HG):** Handle high traffic and complex routing. Used in larger enterprise networks.

**Use:** To connect different networks (e.g., LAN to WAN, LAN to LAN).

**2. Difference Between Switches and When to Use Them:**

* **2960 Switch:** Standard Layer 2 switch for connecting devices within a LAN. Used for basic switching and VLANs.
* **3560 Switch:** Layer 3 switch with routing capabilities. Used when VLAN routing is required.
* **Multi-Layer Switch:** Combines Layer 2 switching and Layer 3 routing for high performance. Ideal for large, high-traffic networks.

**Use:** For connecting devices within the same network (LAN) and routing between VLANs.

**3. Difference Between Connection Wires and When to Use Them:**

* **Straight-Through Cable:** Used to connect different devices (e.g., PC to switch or router).
* **Crossover Cable:** Used to connect similar devices (e.g., switch to switch or PC to PC).
* **Fiber Cable:** Used for high-speed, long-distance connections between devices.
* **Serial DCE/DTE Cable:** Used for WAN links between routers.
* **Console Cable:** Used for direct device configuration (e.g., PC to router or switch).

**Use:** Connect devices based on type (different/similar) and distance (short/long).