HELLO STUDENTS

WELCOME

Networking

Defination

Computer networking is the practice of connecting two or more computers or devices so they can share data, resources, and information with each other. Simple
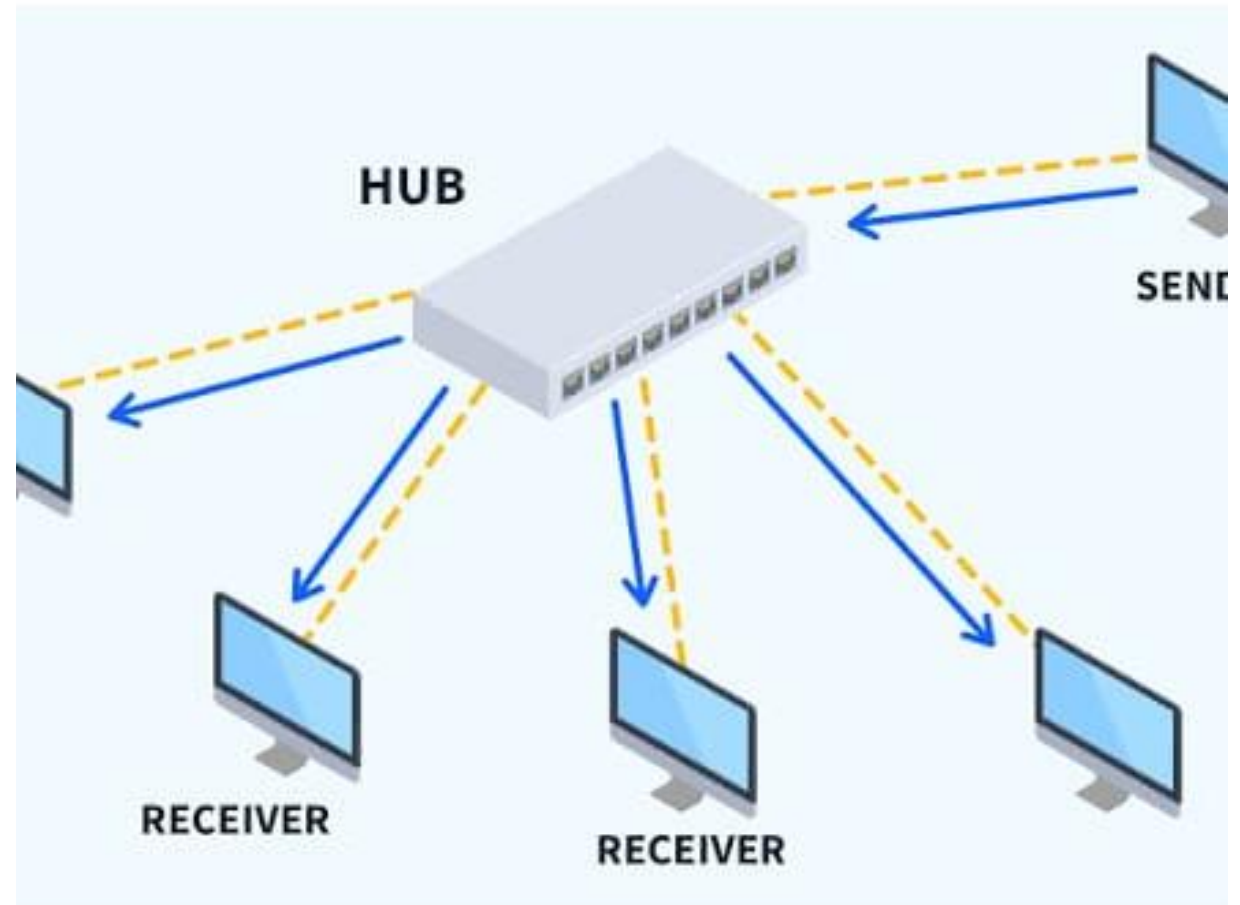
Meaning: Connecting computers together through wires or wireless signals so they can communicate.

Networking Devices
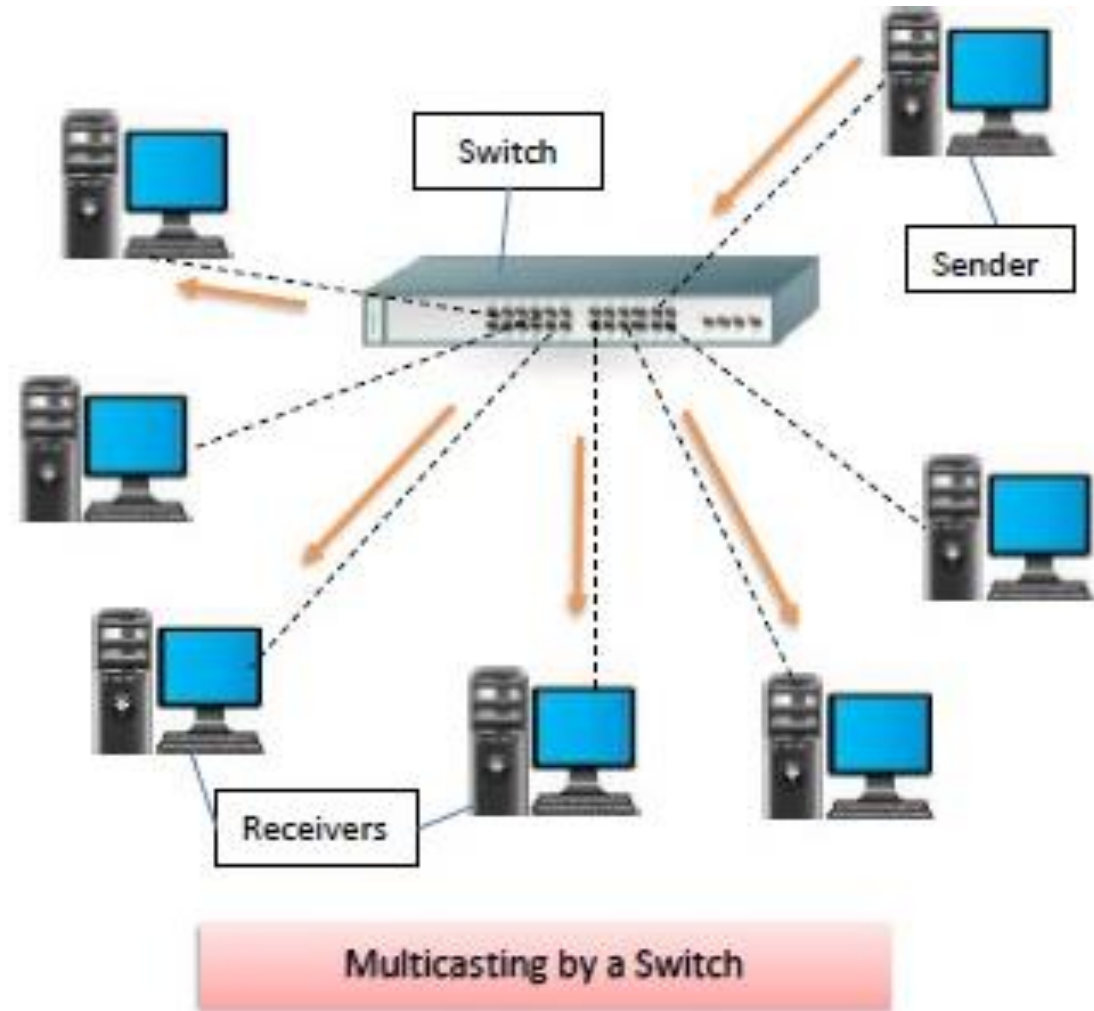
- Router
- Switch
- Hub

Hub

- *Hub is a central device which connect multiple devices in a network when data is send by one person hub transfer it to all devices on network*
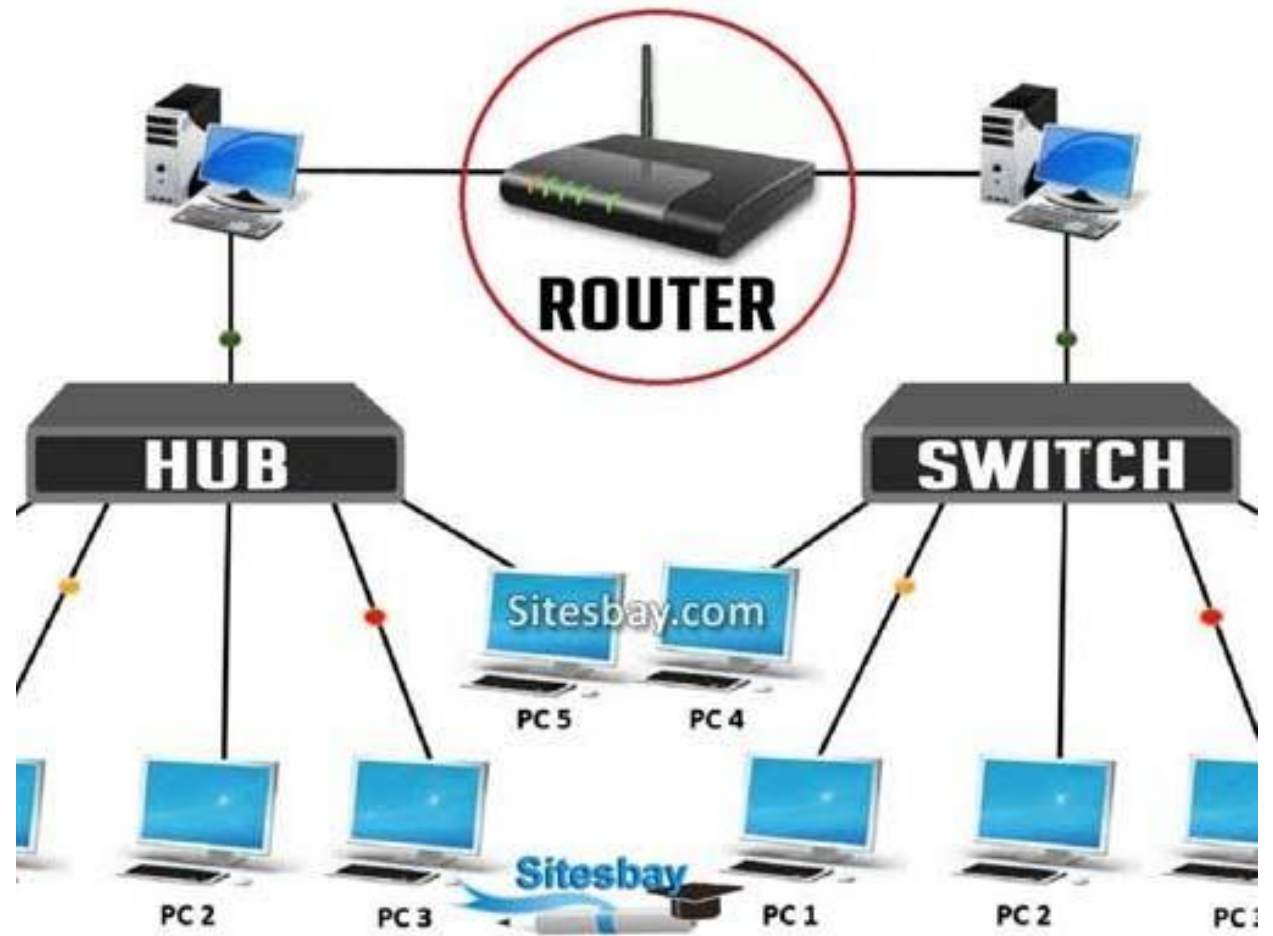
Switch

- *Switch is also a central device which connect multiple devices on network but is intelligent device which takes data to sender reader ip address of destination and send data to receiver*

Multicasting by a Switch

Router

- *Router is a networking device which is used to connect two different networks*
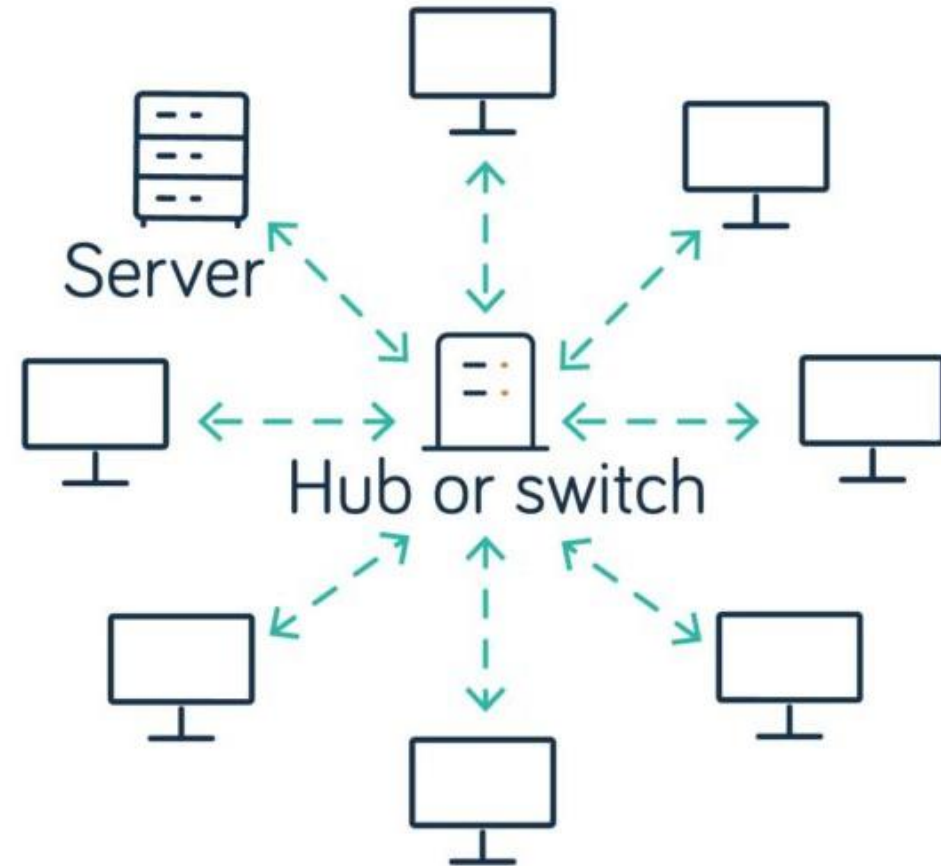
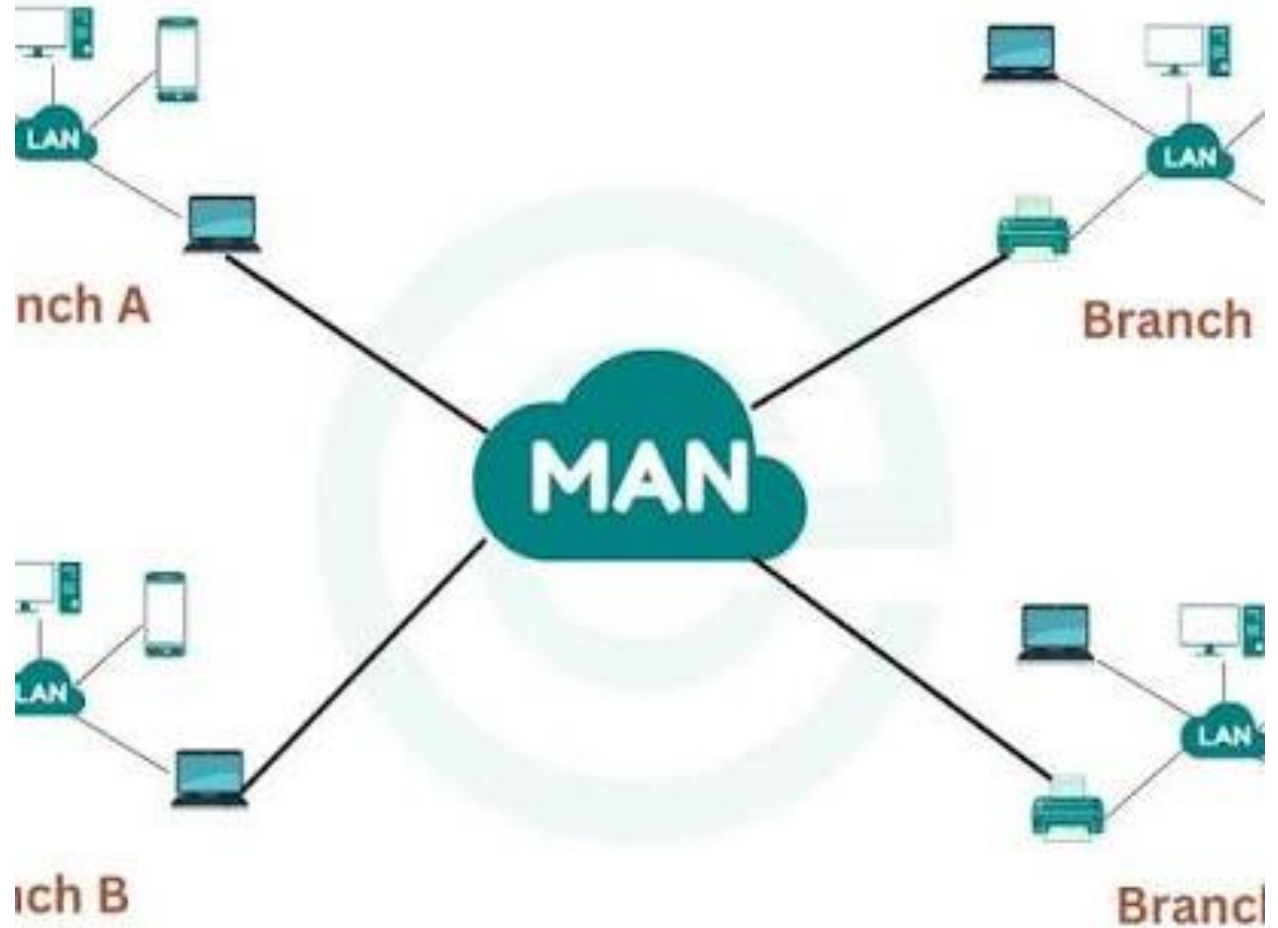# **Types of Computer Network**

- Lan
- Man
- Wan

LAN

- *LAN (Local Area Network): A network that covers a small area like a room, house, school, or office. Example: Computers connected in a computer lab.*

MAN

- *MAN (Metropolitan Area Network):A network that covers a city or large campus. Example: Cable TV network in a city.*

WAN

- *WAN (Wide Area Network):A network that covers a very large area, even entire countries or the world. Example: The Internet.*
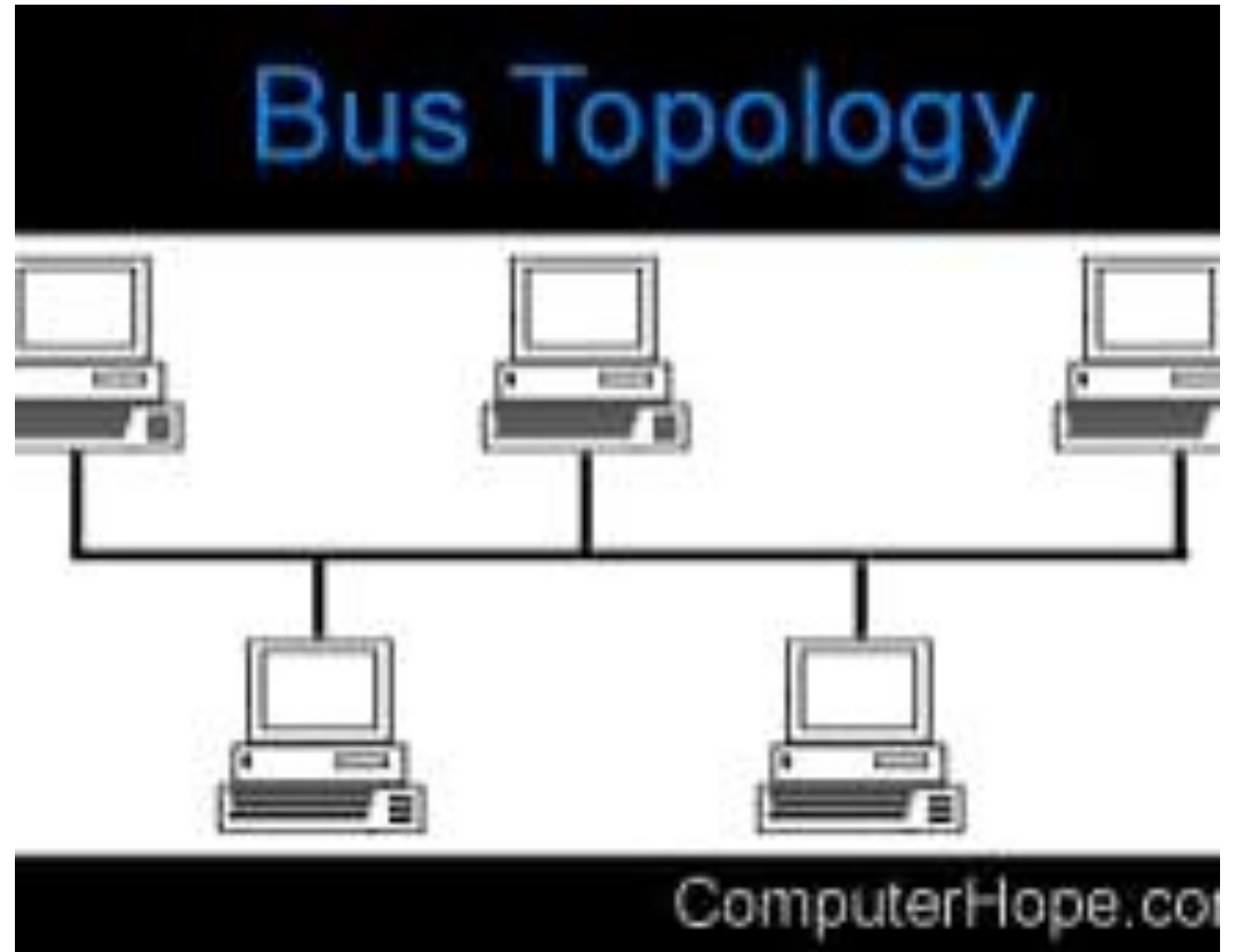
Network Topology

- Bus topology
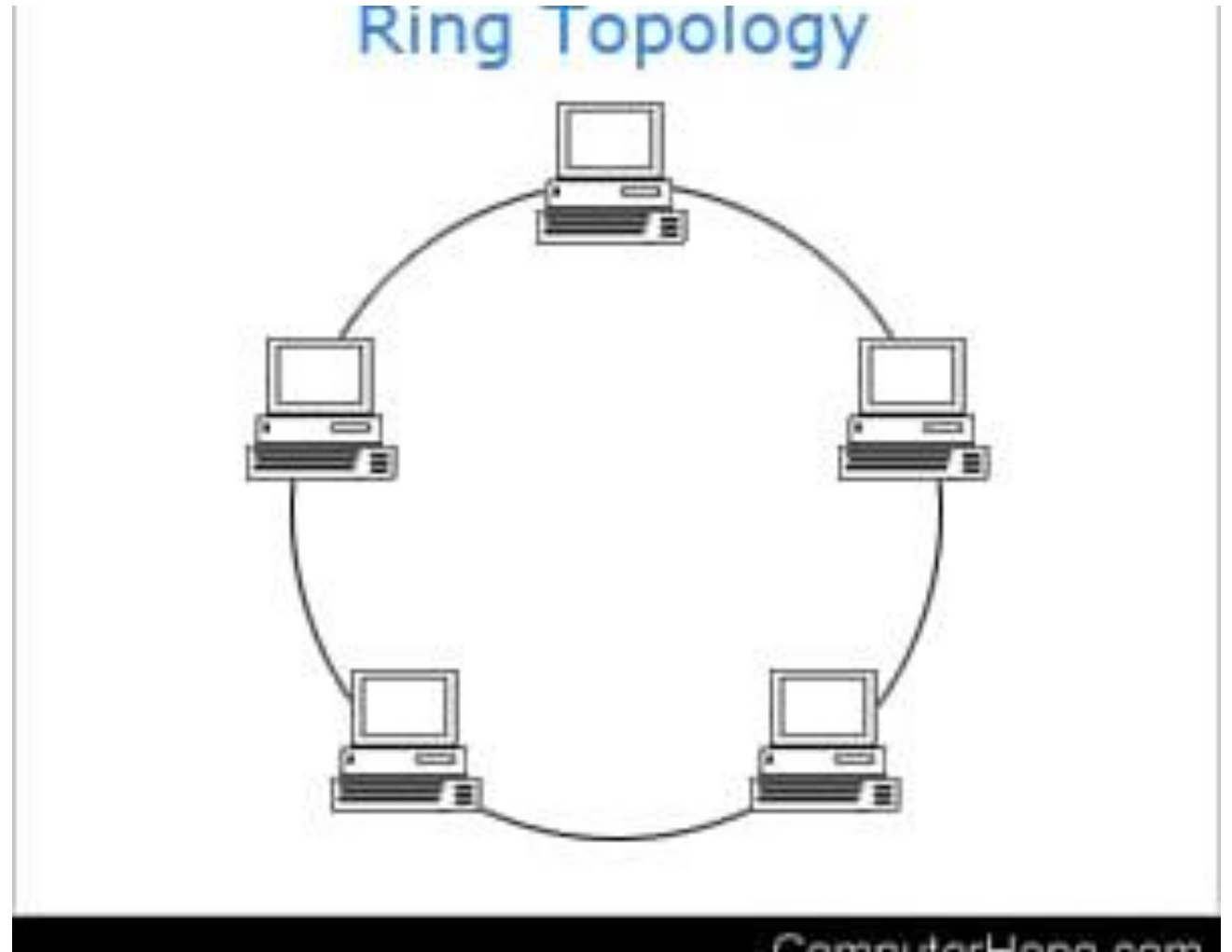- Ring topology
- Mesh topology

Bus topology

- *Bus topology is a network setup where all devices are connected to a single, shared cable called the "bus" or "backbone"*
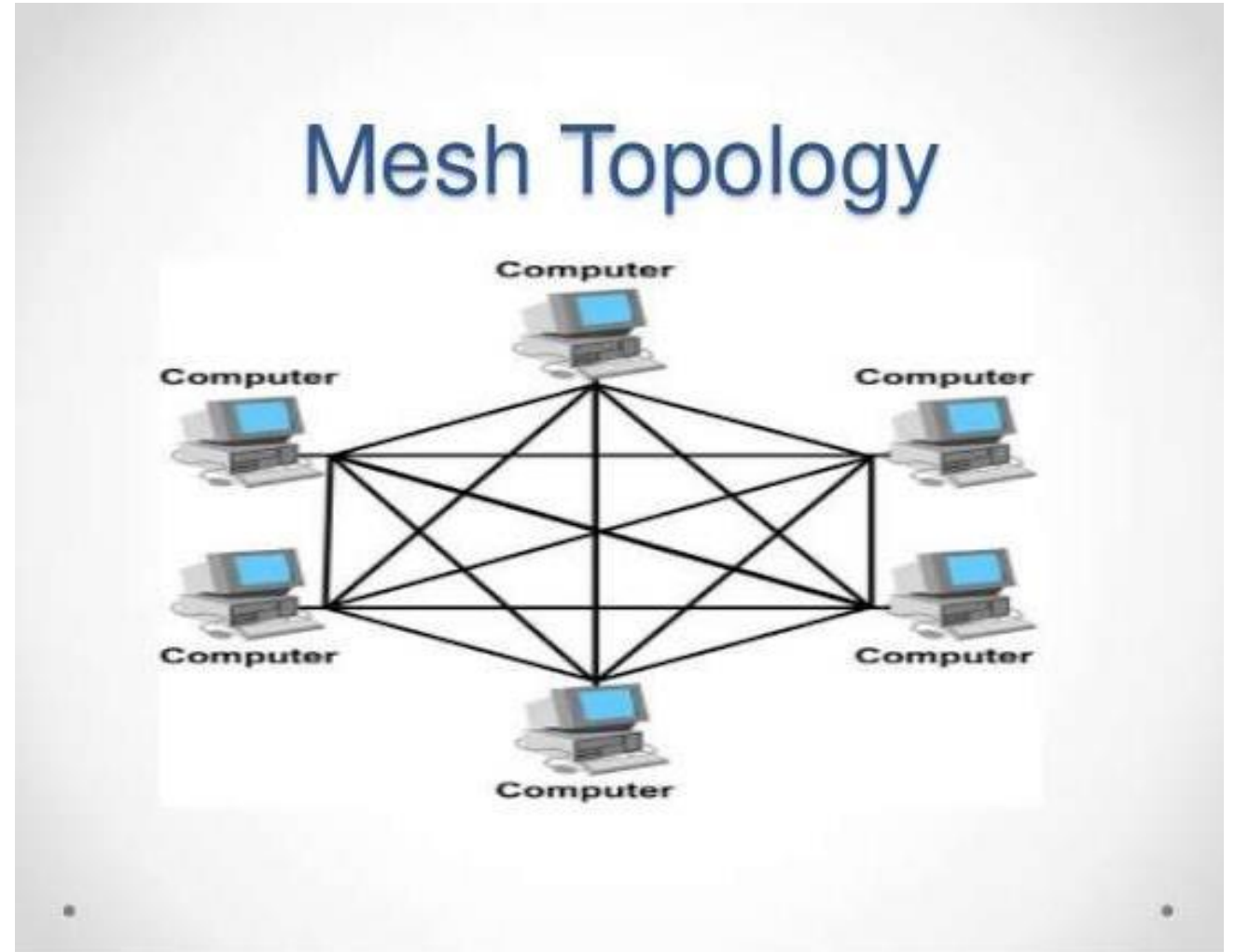
Ring topology

- *A ring topology is a network configuration where devices are connected in a circular path, with each device linked to exactly two neighbors to form a closed loop*

Ring Topology

Mesh topology

- *Mesh topology is a network setup where every device is interconnected with multiple other devices, creating a "mesh-like" structure*
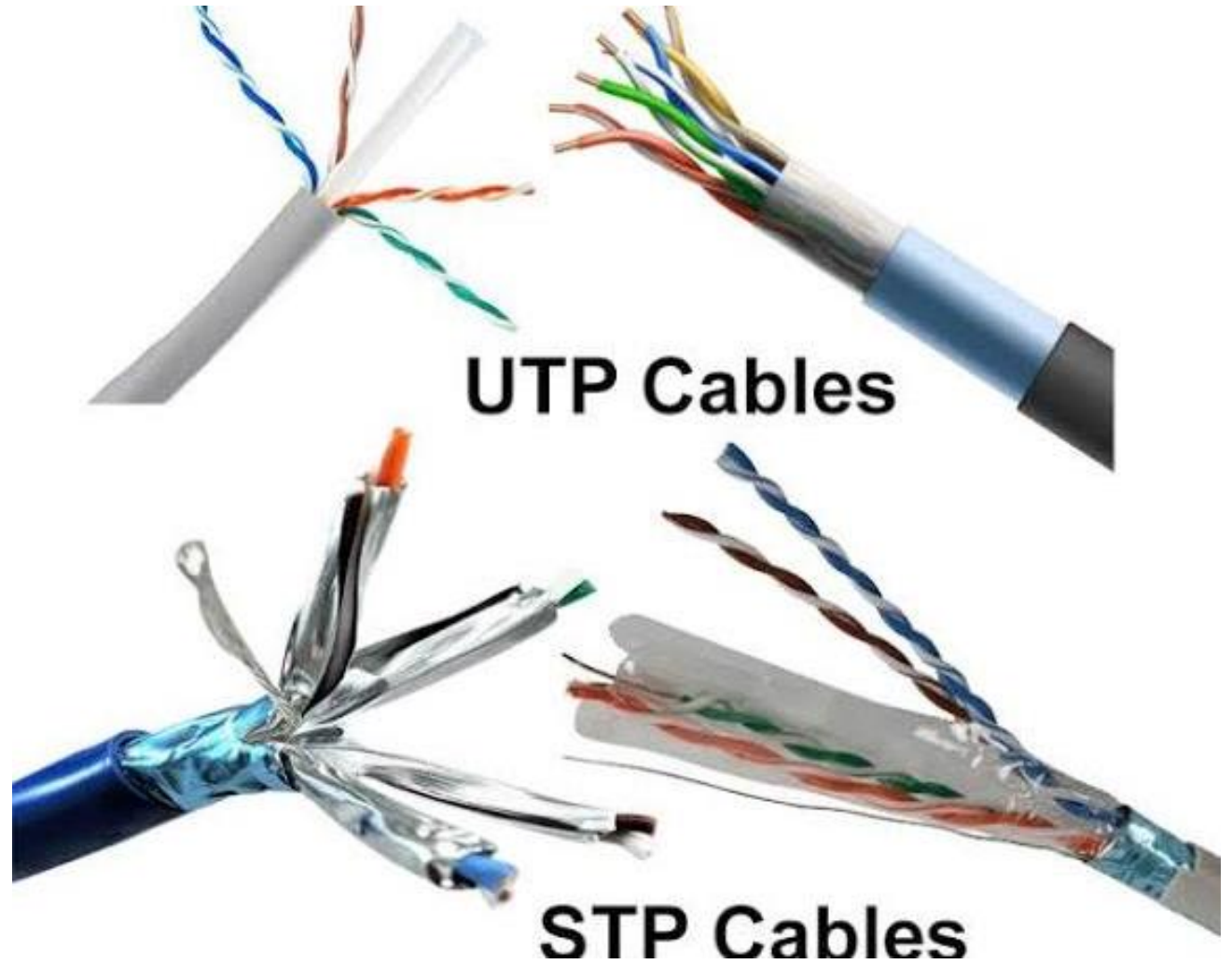

Mesh Topology

Transmission media
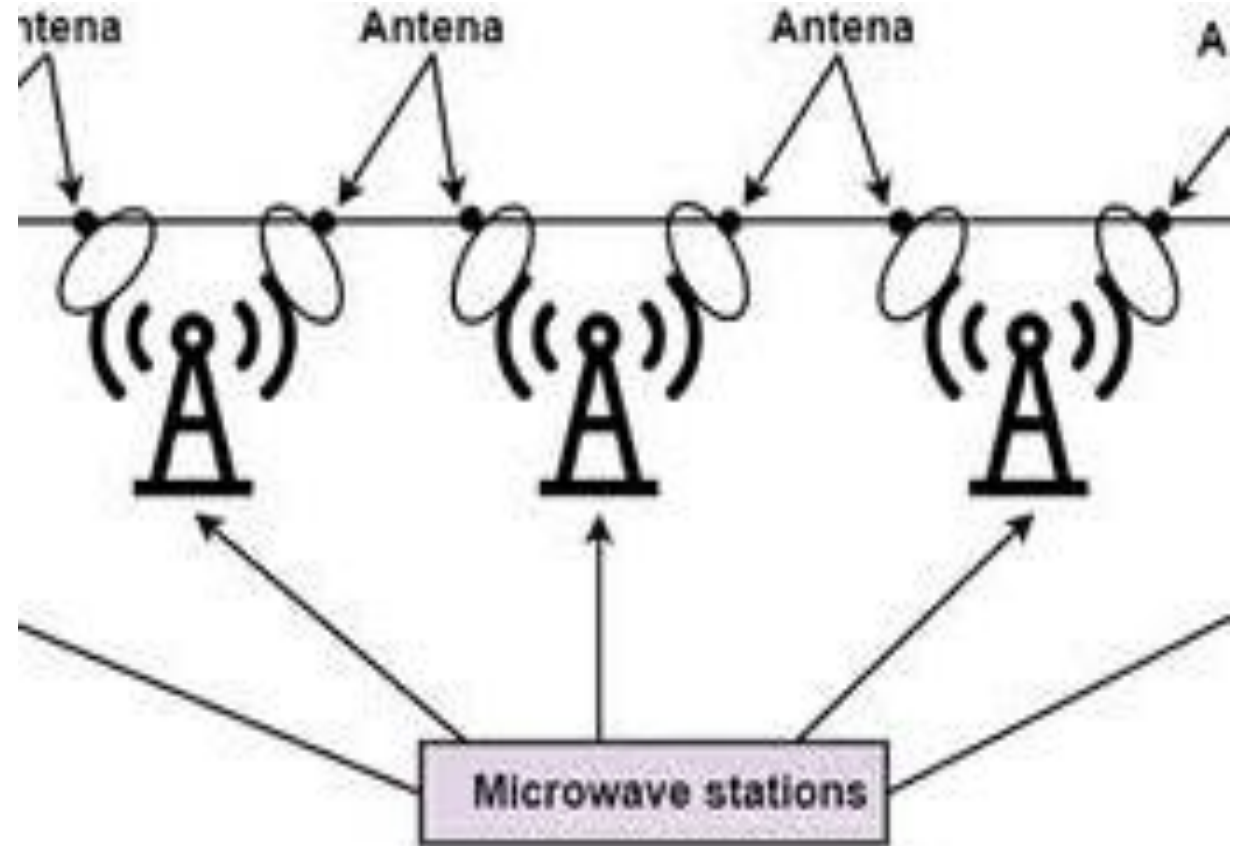
- Wired media
- Unwired media

Wired media

- *Physical cables used to transmit data. Types: Ethernet Cable – common cable for LAN Coaxial Cable – used in TV/internet connections Fiber Optic Cable – sends data using light, very fast*

UTP Cables

STP Cables

Unwired media

- *Uses air (radio waves) to transmit data. Examples: Wi-Fi, Bluetooth, Infrared Mobile networks (3G/4G/5G)*

Antena   Antena   Antena   A

Microwave stations

Microwave Communication

THANKS FOR WATCHING