

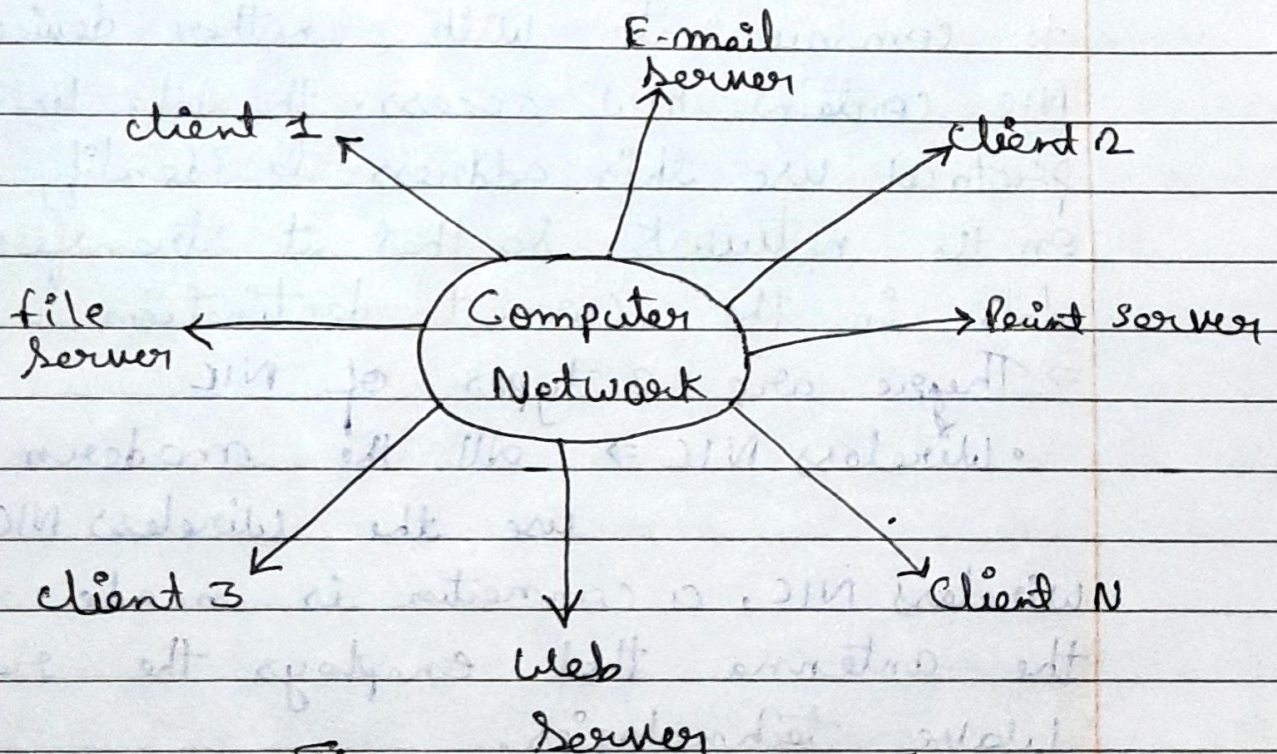
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Computer Network 😊

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A Computer Network is a set of devices connected through links. A node can be computer, printer or any other devices capable of sending or receiving the data. The link connecting the nodes are known as communication channels.

C.N uses distributed processing in which task is divided among several com. instead a single ~~com~~ computer handles an entire task, each separate com. handles a subset.



★ [Computer Network] ★

• Advantages & disadvantages of C.N.

⇒ Advantages

- i) It allows exchanging data & info b/w users.
- ii) Communication is easy and fast.
- iii) Sharing of h/w & other resources.
- iv) Easy for backup of data.

⇒ Disadvantages

- i) Expensive for connection of Com.
- ii) Not safe from hackers & crackers
- iii) Required special technical knowledge & skills to operate.

• Components of CN

- 1) Network interface card - NIC is a device that helps the Com. to communicate with another device. The NIC contains h/w address. The data link layer protocol use this address to identify the system on the network so that it transfers the data in the correct destination.

⇒ There are 2 types of NIC

- Wireless NIC ⇒ All the modern laptops use the wireless NIC. In wireless NIC, a connection is made using the antenna that employs the radio wave technologies.

- Wired NIC - Cables use the Wired NIC to transfer the data over the medium.

2.) Hub \Rightarrow Hub is a central device that splits the network connection into multiple devices. When a computer requests for info from a computer, it sends the request to the hub. The hub distributes this request to the interconnected computer.

3.) Switches \Rightarrow Switch is a networking device that groups all the devices over the network to transfer the data to another device. Switch is better than hub (it doesn't broadcast the message over the network). Therefore, we can say that switch sends the message directly from source to destination.

4.) Router \Rightarrow Router is a device that connects the local LAN to the internet. Router is mainly used to connect the distinct network or connect the internet to multiple computers.

5.) Modem \Rightarrow Modem connects the computer to the internet over the existing telephone line. A

Modem is not integrated with the com. motherboard. a modem is separate part of PC that found on motherboard.

G) Cables and Connections - Cables is transmission

media that transmits the communication signals.

• There are 3 type of cables:

i) Twisted pair cable → high-speed cable transmits data over 100s or more

ii) Coaxial cable → Coaxial cable resembles like TV installation cable.

more expansive than Twisted / high speed

iii) Fibre opti cable → FOC is high-speed cable that transmits the data using light beam. it provides high data transmission speed as compared to other cable. more expensive than other, so it is installed at government level.

• Use of CN →

- i) Resource sharing
- ii) Server-client model
- iii) Communication medium
- iv) E-commerce
- v) bussines app, Home app, mobile user, ^{Social} ~~Con~~ user