

Data communication and network

Data :-

1.Text

- ✓ Alphanumeric
- ✓ Number

2. Audio

3. video

4.image

Medium/chanal

1. Wired (physically visible)

- ❖ Twisted pair cable
- ❖ Fiber optics
- ❖ Co-oxial cable

2. Wireless(Physically invisible)

- ❖ Wifi (wireless fidelity)
- ❖ Bluetooth
- ❖ Infrared
- ❖ Satalight

Data communication:- It is the exchange of the data between two device viaa same for of transmission medium .such as a wired cable and wireless.

Component of data communication

1. Message
2. Sender
3. Transmission medium
4. Receiver

1. **Message:-** This message is the information (data) to be communicate.
2. **Sender :-** The sender is the device that send the data message
Ex:- computer, mobile, laptop
3. **Transmission medium :-** The transmission medium is the physical path by which a message travels from sender to receiver.
4. **Receiver :-** This receiver is the device that receive the Message.
Ex:- Mobile/ television /radio etc

Data Flow:-

1. Simplex
2. Half duplex
3. Full duplex

1. **Simplex :-** In simplex mode the communication unidirectionally as on a one way street.
2. **Half Duplex :-** In half duplex mode , each station can transmit and receive both but not at the same time.
3. **Full Duplex :-** In full Duplex mode , both station can receive and transmit simultaneously.

Type of connection :-

1. Point to point
2. Multi point/ multidrop

1. **Point to point :-** A point to point connection it provides dedicated link between two devices .the entire capacity of the link is reserved for transmission between those two devices.
2. **Multipoint :-** A connection is one which more than two specific devices share a single link.

Network :- A network is a group of two or more computer systems linked together. A computer network is a telecommunications network which allows computers to exchange data. It is a set of computers connected together for the purpose of sharing resources. Means by network computers talking to each other by wires / links.

Type of network :-

1. LAN(local Area Network)
2. MAN (Metropolitan Area Network)
3. WAN (Wide Area Network)

1.LAN (local Area Network) :- A local area network is a privately owned computer Network covering a small Networks geographical area ,like a home, or group of buldings and school.

2. MAN (Metropolitan Area Network) :- MAN stands for Metropolitan Area Networks is one of a number of types of network .It is a larger than a local area network , it covers the area of a single city.

3. WAN (Wide Area Network):- This is another of the original catagories of network ,and slightly more complex in nature. Its connects computers all around the word together.

Network Topology :- Network topology is the arrangement of the various elements(links, node etc) of a communication network.

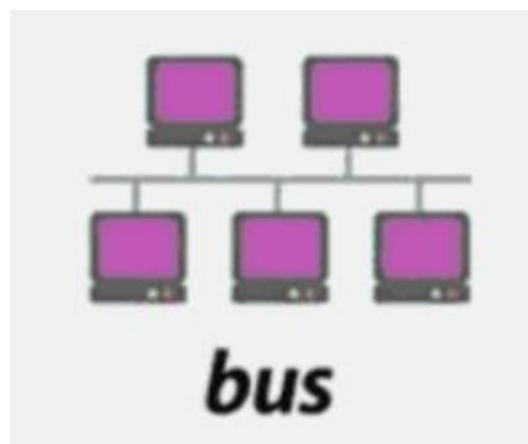
There are three types of topology:-

- 1). Star topology**
- 2). Bus topology**
- 3). Ring topology**

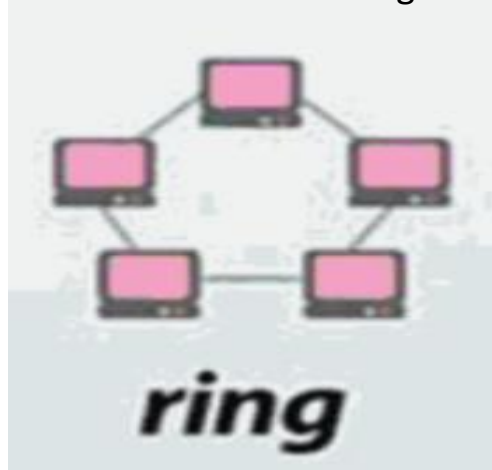
1. **Star Topology** :- In this topology all computers are connected together in a star sequence. In this topology all systems are attached with a main server that is known as host. The advantage of this topology is that if the link of one computer is go down, then the another computer is not affected.



2. **Bus Topology** :- In this topology all systems are arrange as train's coach. In it also all systems are attached with a administrator that is known as trunk. If the connection of one system is gone than the connection of along side computers will failed.



3. **Ring Topology** :- In this topology all systems are connected in a closed loop. In this topology there is no any administrator. If the connection of one computer is failed then all links are go down.



Internet :- The internet is a network of computers, which links many different types of computers all over the world. It share a common set of communication protocols for communications between two computers on the network.

WWW(World wide Web or w3) :- The world wide web is the most popular and promising method of organizing and accessing information on the internet. Main reason for its popularity is use of a concept called hyper text markup language. The WWW uses client server model, and an internet protocol called HTTP for interaction between computers on the internet.

Ex :- WWW.Softcampus.co.in

Browsers :- It is used as a web client, a user needs to load on it a special software tool known as browser. Browser enable a user to visit a server computer's site directory and access information on it by specifying its URL address.

There are many browsers like :- Internet Explorer , Google chrome , Mozilla Firefox , Uc browser etc.

Search Engine :- An internet search engine is an application, which helps users locate web sites containing useful information and references to such information to the WWW. It works as Search request interface, Information discover, presenter of search results.

Ex :- Hotbot (www.hotbot.com)

Yahoo (www.yahoo.com)

Google (www.google.com)

Infoseek (www.infoseek.com)

Inference Find (www.infind.com)

Lycos (www.lycos.com) etc.

URL (Uniform Resource Locator) :- It is an addressing scheme , which WWW browsers use to locate sites on the internet.

Ex :- <http://www.google.com>

E-Mail :- Electronic mail service (Known as e-mail in short) enable an Internet user to send a mail (message) to another Internet user in any part of the world in a near real time manner.

Q). How to create a E-mail account on google ?

⇒ Following steps:-

Step-1). Open any browser.

Step-2). Open google.

Step-3). Click on “ Gmail”/search “ Gmail.com”.

Step-4). Click on “ Ceate an account” option.

Now,

An application form opens on the screen.

Step-5). Type your details in application form(According to rule and regulations).

Step-6). Click on “ Next” option.

After some time a confirmation screen open.

Step-7). Type your number

Step-8). Select a medium to receive message like:- Text message/voice message.

Step-9).click on “ continue” option.

After some time you have a message where the your account confirmation code is available.

Step-10). Type your code.

Step-11). Click on “ Nest step” option.

After some time your E-mail address is ready to use.