Q1.What are the different ways in which you can classify networks?

Below mentioned are different types of networks:

https://www.simplilearn.com/tutorials/networking-tutorial/importance-of-types-of-networks-lan-man-wan#types_of_networks

- PAN (Personal Area Network)
- LAN (Local Area Network)

  The Local Area Network (LAN) is designed to connect multiple network devices and systems within a limited geographical distance. The devices are connected using multiple protocols for properly and efficiently exchanging data and services.

- MAN (Metropolitan Area Network)

  The Metropolitan Area Network (MAN) is a network type that covers the network connection of an entire city or connection of a small area. The area covered by the network is connected using a wired network, like data cables.

- WAN (Wide Area Network)

  The Wide Area Network (WAN) is designed to connect devices over large distances like states or between countries. The connection is wireless in most cases and uses radio towers for communication.

  The WAN network can be made up of multiple LAN and MAN networks.

Q2. What are different types of medium used in local area networks?

http://web.simmons.edu/~chen/nit/NIT'92/349-wij.htm

There are 3 types of communication media for LAN:-

Twisted pair wires: This is the most common form of wiring and the cheapest. Consists of two identical insulated wires wrapped together in a double helix. Twisting the wires together reduces the noise - any noise emanating from the environment or the communication medium, which is not a part of the message to be communicated.

Coaxial cables: This is a copper conductor surrounded by one or more foil or braided wire shields, each separated by the other by some kind of plastic insulator.

Optical fibers: This is the latest form of communication medium which consists of thin strands of glass enclosed in an insulator. These are light in weight, but the cost is still high. Needs expertise in installation, but the data security is very high, since any tapping of the lines can be detected easily due to the disturbances of the light signals.

Q3.Draw and explain the architecture of internet

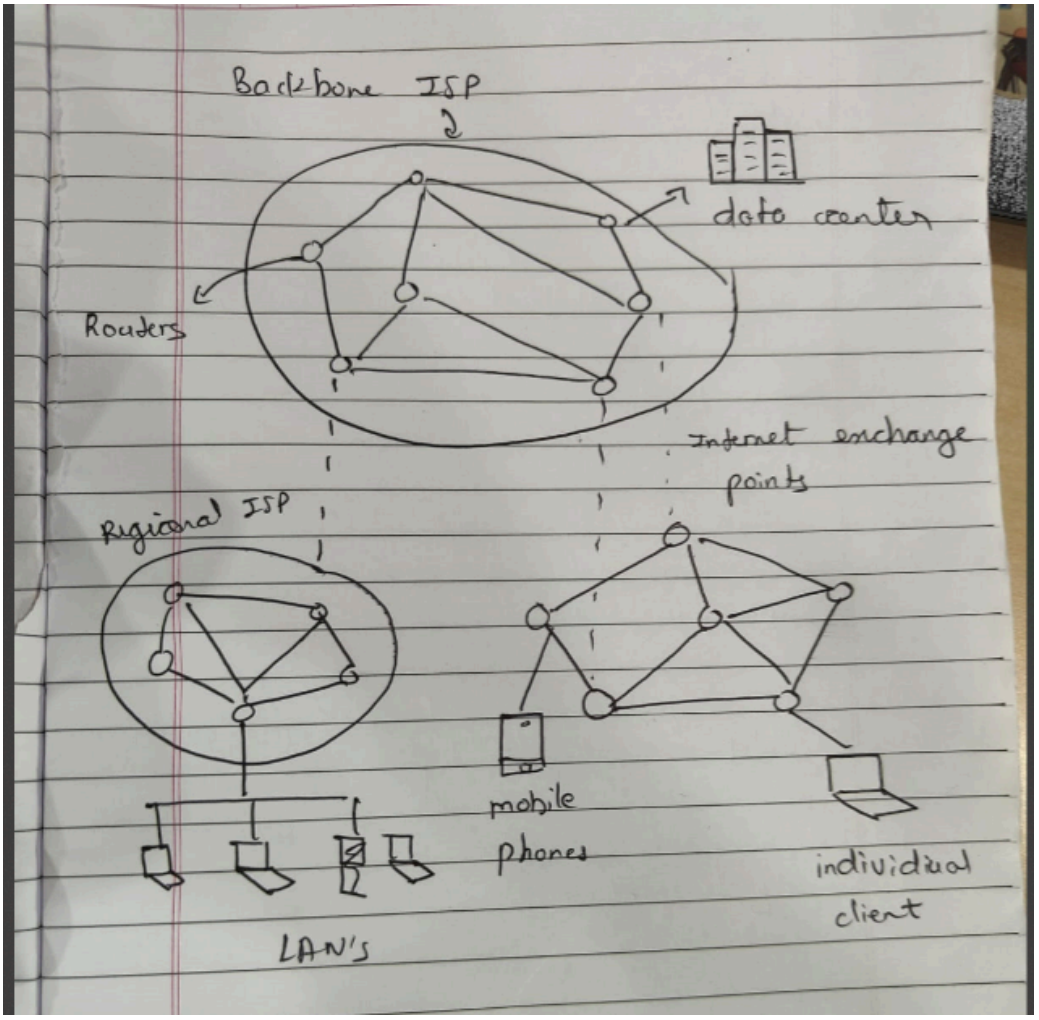
The overall architecture can be described in three levels −

Backbone ISP (Internet Service Provider)

Regional ISPs

Clients

The following diagram shows the three levels −



Backbone ISP (Internet Service Provider) − Backbone ISPs are large international backbone networks. They are equipped with thousands of routers and store enormous amounts of information in data centers, connected through high bandwidth fiber optic links. Everyone needs to connect with a backbone ISP to access the entire Internet.

There are different ways through which a client can connect to the ISP. A commonly used way is DSL (Digital Subscriber Line) which reuses the telephone connection of the user for

transmission of digital data. The user uses a dial-up connection instead of the telephone call. Connectivity is also done by sending signals over cable TV system that reuses unused cable TV channels for data transmission. For high-speed Internet access, the connectivity can be done through FTTH (Fiber to the Home), that uses optical fibers for transmitting data.