Introduction to N/w

Within a network devices:

Host

Any device that receives or transmits traffic over a network is **host**.

Client ⇒ Any device that sends request to a server over a network is a **client**.

Server ⇒ Any device that sends response to a client over a network is a **server**.

IP address

Same network can not have same IP address.

An IP addr is a 32-bit data .[IPv4] IPv6 is of a 128-bit.

Entry point has IP address xxx.xxx.xxx.1

Router routes the request from one machine to another machine.

Internet

A multiple machines connected to each other over network either via wired connection or a via wireless connection is called as internet.

Repeater

Repeaters are network devices that amplify or regenerate an incoming signal before retransmitting it. This is used as an extender.

Hubs

Hubs are simply multi-port repeaters.

Bridge

Bridge is used to connect two hubs.

Switches

Switch is a combination of a hub and a bridge.

Communicate outside n/w:

Router

It is used to communicate between two networks.

Router can be connected to an internet.

It can be configured as a switch.

Router learns which network they are connected to.

Routing table → All networks a router knows about.

GATEWAY → Each host's way out to their local network.

Virtual Switches : Switches created using method of vertual devices.

Transmission modes

- Simplex mode
- Half-duplex mode
- Full-duplex mode

```
Channel_capacity = 2*Bandwidth*Propogation_delay
```
