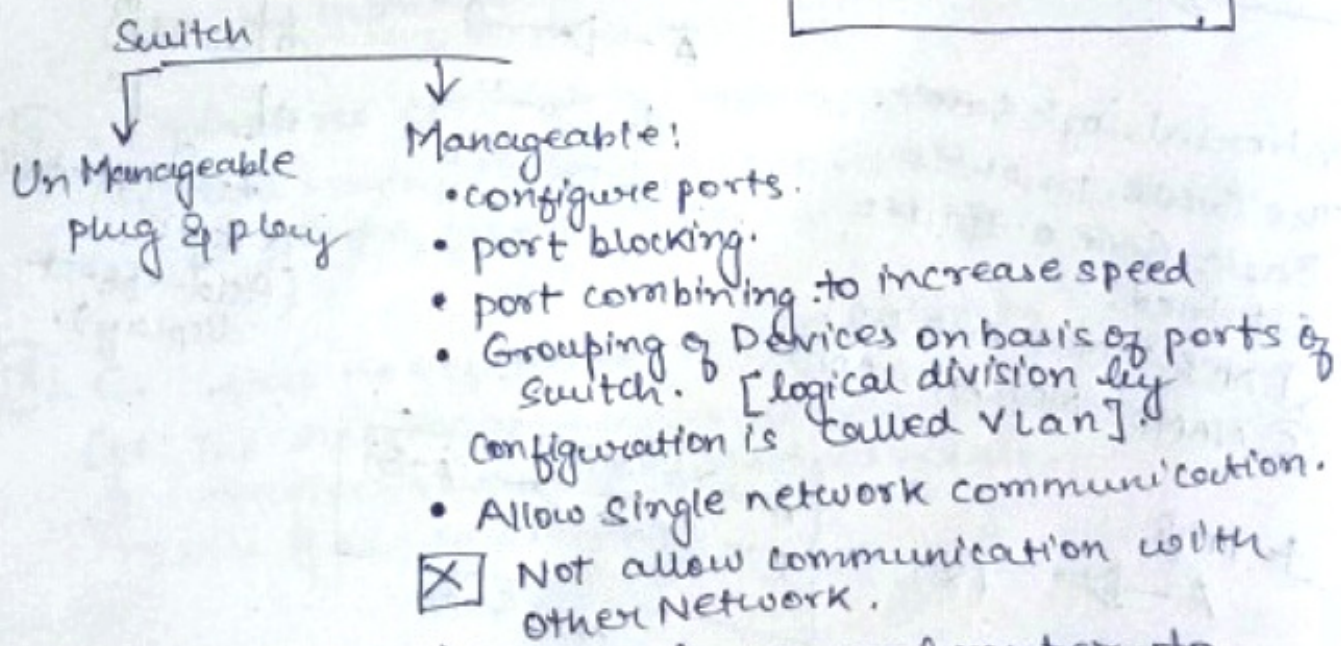


23.10.24

Networking:

Hub: Heavy collision and Traffic and Broadcast
To reduce it we brought bridge (Smart Device: manage Side and port-to-machine address in Table).
we made switch that had features of bridges and no. of ports were increased.
fiber switch had fiber cable.

Hub: L1.
Bridge/Switch: L2.
Router: L3.



Network (different): IP-Based. We need router to communicate with other network on basis of IP (unique id to all network devices).

IP makes different networks

10.0.0.0.1

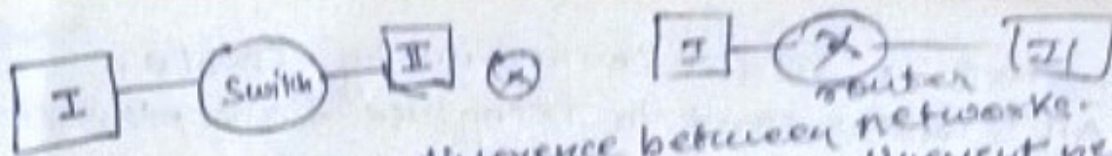
10.0.0.0.2

10.0.0.0.11

11.0.0.0.1

11.0.0.0.5

10 & 11 represent 2 different network.



IP Address defines difference between networks. Router will facilitate communication with different network. Each device has unique IP address. IP of a device make itself unique identity inside the network it is present.

Router:

It establishes connection between two or more different network that are based on different subnet of IP.

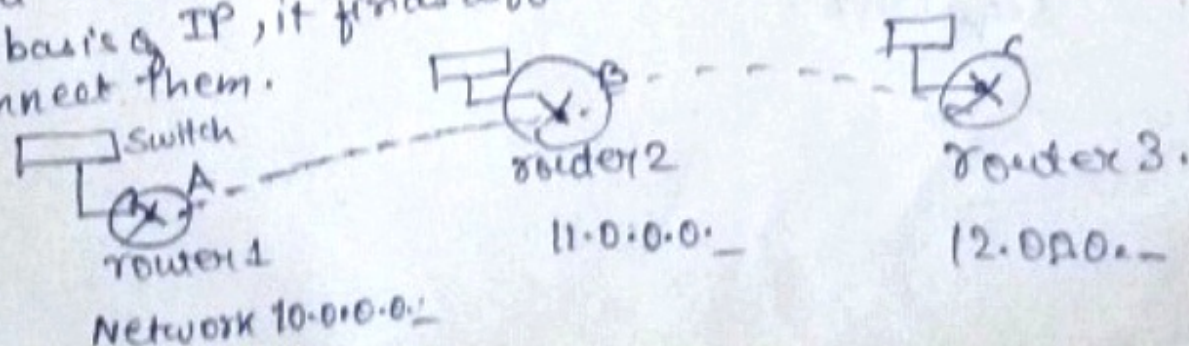
* Subnet = sub-network.

- (i) L3 (layer 3 - Device). Device: OSI Ref. Model: Network layer.
- (ii) OS Based: works on IP Address.
- (iii) works on IP-address.
- (iv) Creates IP routing table.
- (v) Provides best path for different destination network.
- (vi) Filters Data packets for security.

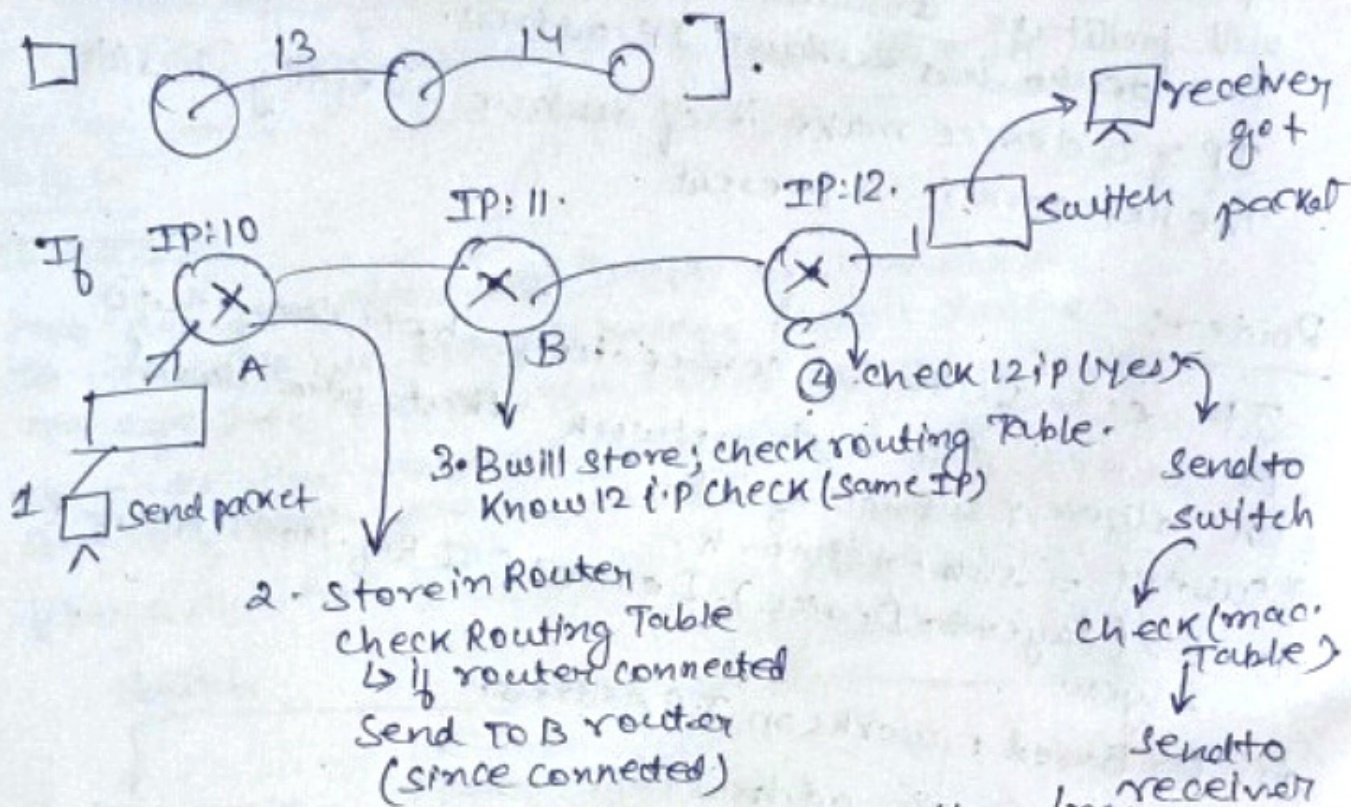
Types of Routers

- (i) De-modular: All ports are fixed.
- (ii) Modular: Few price slots are available to connect different cards.
- (iii) —

IP Address is defined at L3. So, Router is layer 3 device. Router is OS based, so intelligent device that works on the basis of IP address. It will on basis of IP, it finds different networks, it will connect them.



A → B → C is serial connection by cable.
 So All 3 cables start to recognise each other
 routers.



I.P will be basis; The router may allow / may deny passing of packet called the filtering.

Home router is demodulator.

Some router has card slots to configure.

USB: not for pendrive; but also for networking.

for OS of router is a bin file of 4/12/64mb.
 (a binary code).

All process broken down to 7 sub process
 refer to call as layers. For proper understanding
 implementation, we have made a logical
 sequence.