Computer Network Notes.

TCP/IP Model

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- TCP/IP model was designed and developed by department of defence in 1960. (used by ARPANET).
- TCP and IP are two protocols of this model.

TCP → Transmission Control Protocol

IP → Internet Protocol

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- It is a hierarchical protocol made up of interactive modules, and each of them provide specific functionality.

Layers in TCP/IP Reference Model :-

There are four layers in this model :-

1. internet Layer
2. Transport Layer
3. Application layer
4. Host to Network Layer.

Application	Application
Presentation	
Session	
Transport	Transport
Network	Internet
Data Link	Host to Network
Physical	

Layers in TCP/IP Model.

Note: first TCP/IP model came, after that OSI model came as a reference model.

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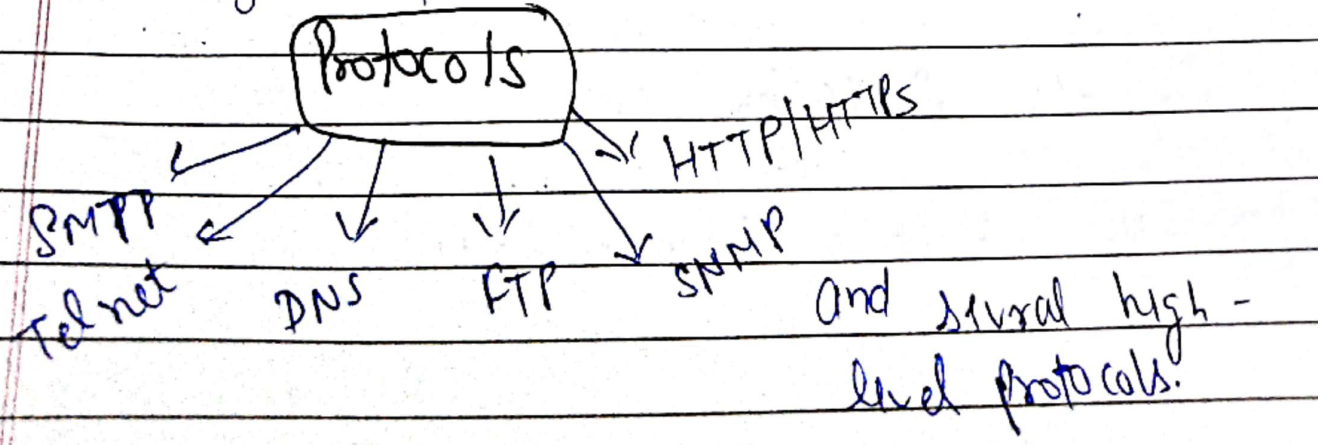
(1) Application Layer

→ It is the top layer of the TCP/IP model and the one closest to the user.

→ This layers Provides various services to different user applications.

→ It acts like a bridge b/w softwares and the lower layers of the network that actually send and receive data.



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② Transport Layer

Transport layer is similar in functionality to transport layer of OSI Model.

- It is responsible for making sure that data is sent reliably and in the correct order between devices.

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Services → Connection oriented
- Protocols
  - TCP (for reliable connection oriented)
  - UDP (Unreliable Connectionless fast)
- Connection less

③ Internet Layer

This layer is similar to the Network layer of OSI model.

- It is responsible for sending data packets across multiple interconnected networks.
- Packets travel independently to the destination and it may arrive in different order then upper layer arrangles them.

main Protocol:- IP (internet Protocol)

Main functions	Protocols
Routing (selecting best Path)	IP
	ICMP
logical addressing	IGMP, ARP, RARP

(4) Host to Network Layer

→ Also known as Network Access Layer or Network interface layer

→ Bottom layer of TCP/IP model.

- It handles Physical transmission of data over the network.
- It connects the host (computer) to the Physical medium like cables or Wifi.

Functions	Protocols / Technologies
→ Physical addressing (MAC address)	→ Ethernet
→ framing of data.	→ Wifi
→ Error detection on Physical link.	→ PPP
	→ ARP.

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