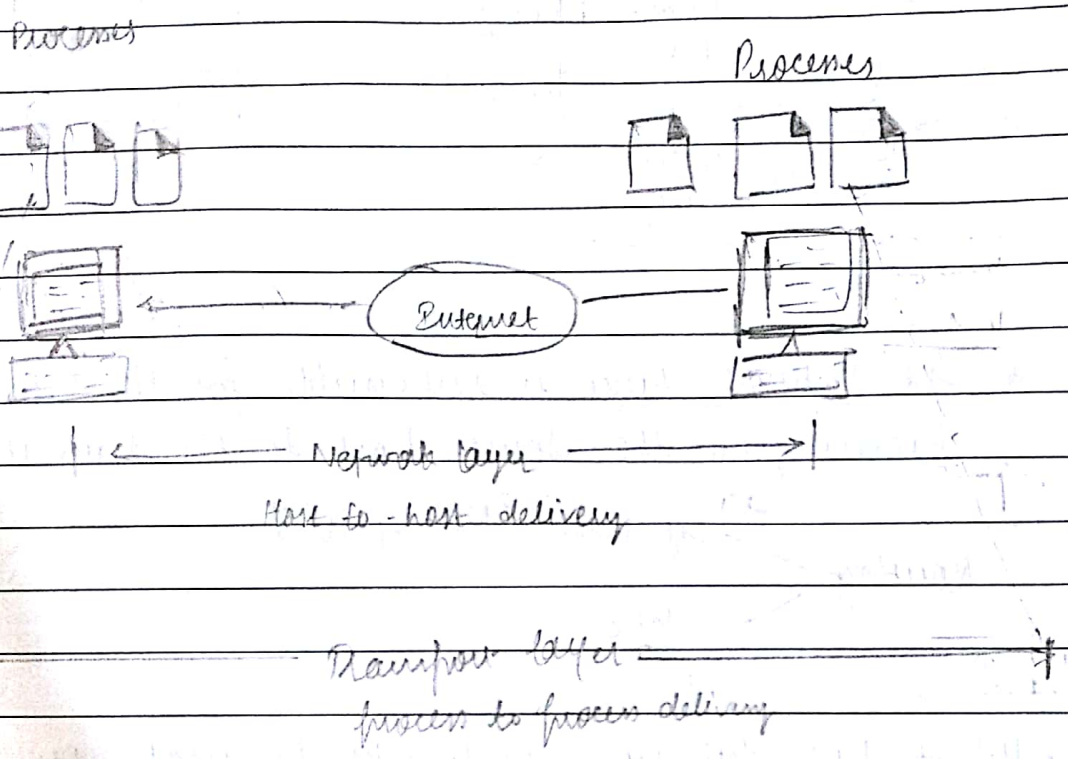
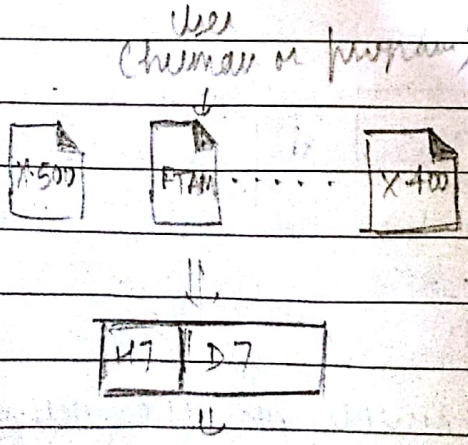
Stays same universally chosen by user, can vary b/w a particular range.

Lecture-3
SDe
18/01/18



* The session layer is responsible for dialog control and synchronization.

* The presentation layer is responsible for translation, compression and encryption. → converts to proper service, encrypt/decrypt



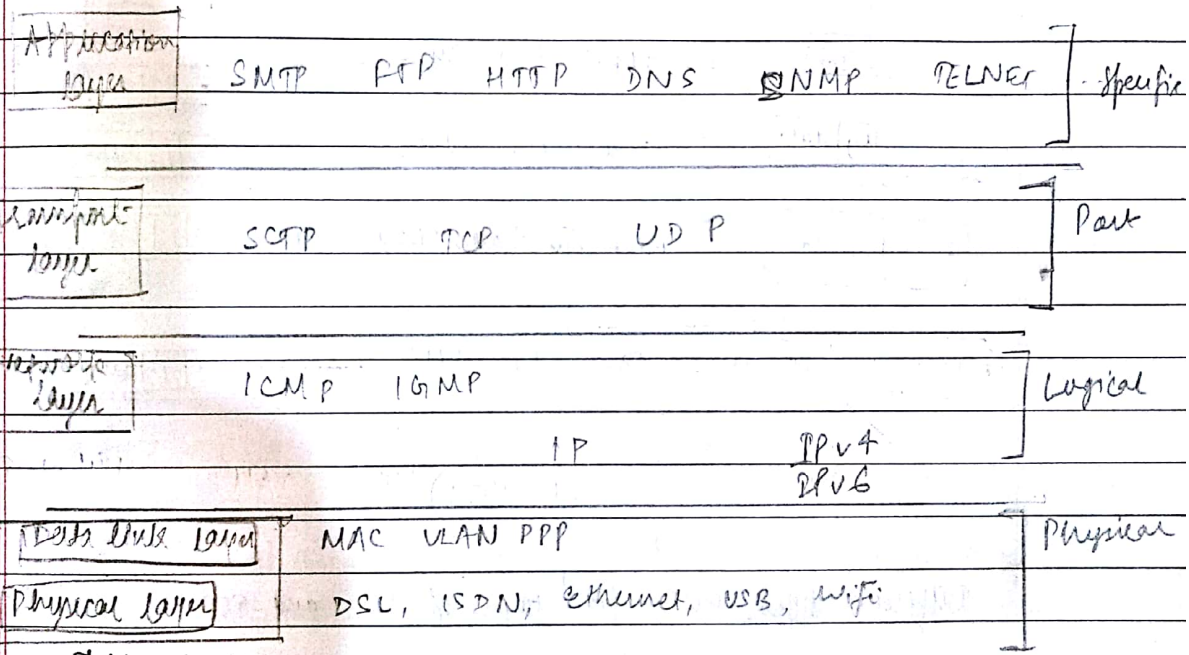
* The application layer is responsible for providing services to the user.
file transfer, mail, web browsing

TCP/IP protocol suite → functionalities are same

- Developed by the US Defense Advanced Research Project Agency (DARPA) for its packet switched network (ARPANET)

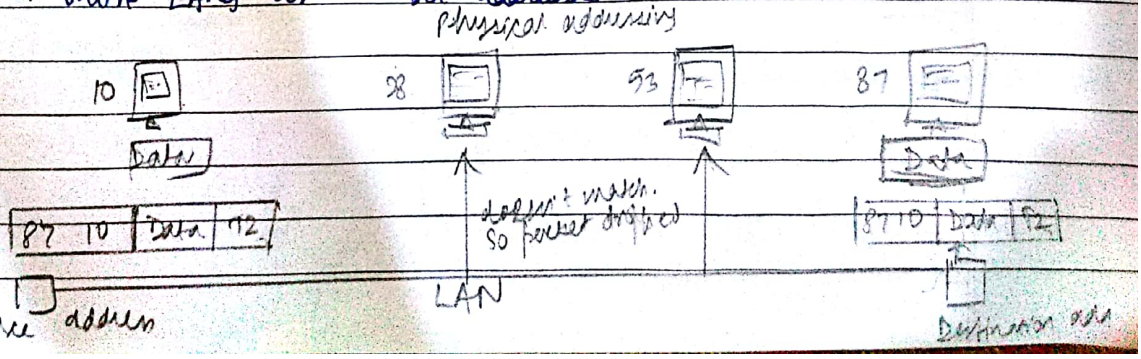
- Used by global internet.

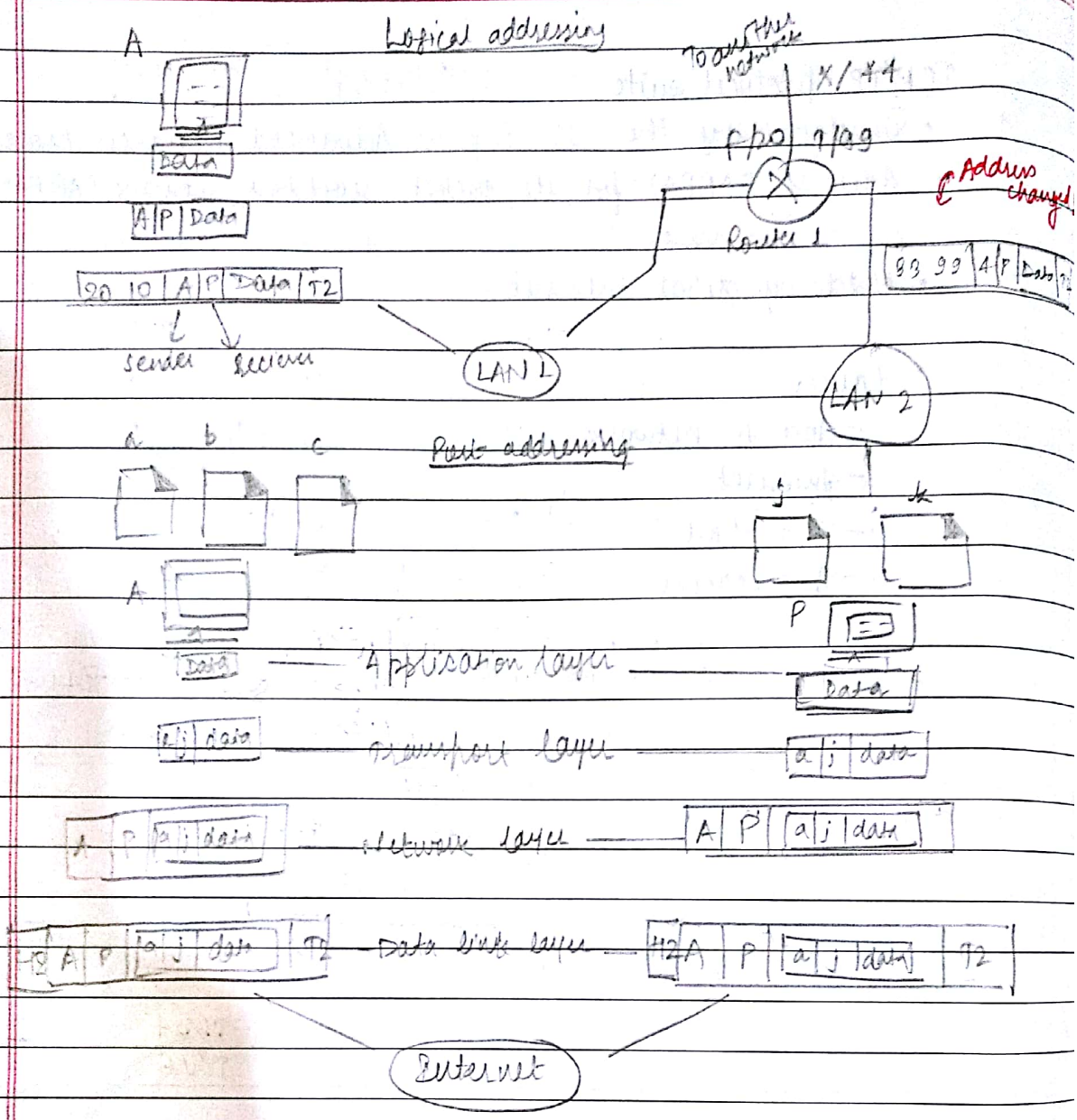
- Layers -
  - ~~Host to~~ network
  - Internet
  - Transport
  - Application



Addressing
- Physical
- Logical
- Port
- Specific

* Most LANs use 48 bit addresses.





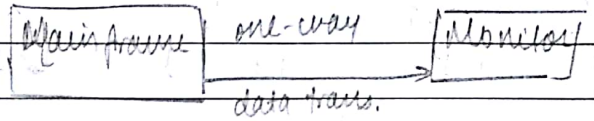
Different types PDUs for layers of OSI and TCP

Data
↓
Segment (TCP/IP) / Datagram (UDP)
↓
Packet
↓
Frame
↓
Bits

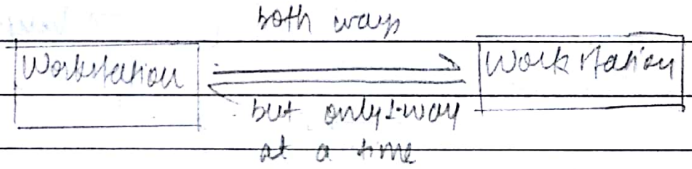
OSI	TCP/IP
• Contains 7 layers	• Contains 4 layers
• Uses strict layering (vertical)	• Uses loose layering (horizontal)
• Connectionless and connection oriented comm^{n} in network layer but only connect^{n} oriented in transport layer	• Other way around.
• Distinguishes b/w services, ~~interfaces~~ interfaces and protocol	• Doesn't care

Transmission types

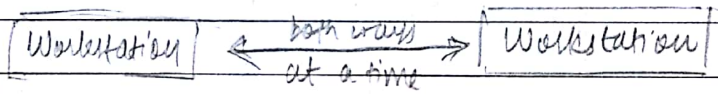
- Simplex



- Half duplex



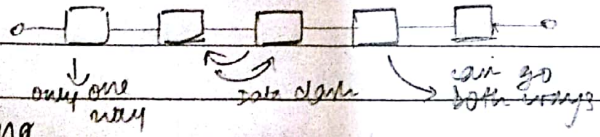
- Full duplex



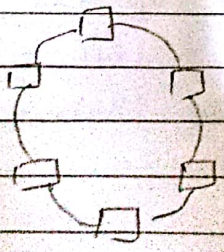
LAN - Local area network (computers over ethernet as in offices)
MAN - Metropolitan area network (Telephone company connec^{n}/DSL)
WAN - Wide area network (Internet worldwide)

Network topologies

1. Bus - Cost efficient, easy to implement. Data clash.



2. Ring

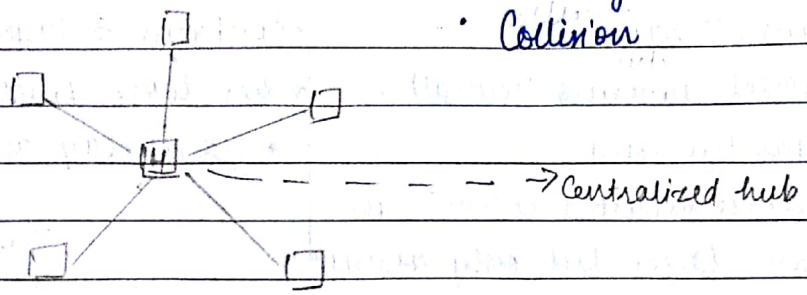


In ring, all nodes can transfer both ways. A bit costly.

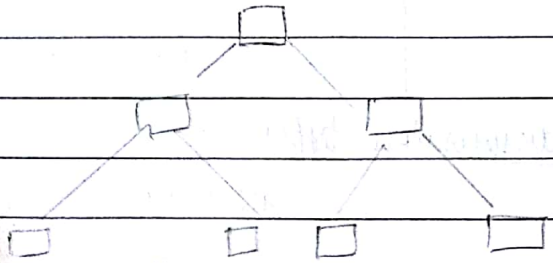
3. Star

DST logical device

- Security issues
- Collision

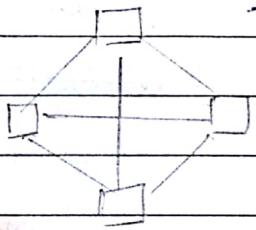


4. Tree



5. Mesh

→ Very costly, difficult implementation



Hybrid