CHAPTER- 02
NETWORK PROTOCOLS

We will learn:
Network Protocols   Types of NP   How TCP works
                                  TCP vs UDP

- Protocols is rules and regulations to share data within one computer to another

- Protocols is set of rules for how data is transmitted then Device will communicate better.

TCP / IP model

TCP / IP - Internet Protocol suite

Application	Telnet, SMTP, Pop3, FTP, NTP, HTTP, SNMP, DNS, SSH.
Transport	TCP, UDP
Internet	IP, ICMP, ARP, DHCP
Network Access	Ethernet, PPP, ADSL

- TCP is core communication protocol.

How TCP Works (Flags)

URG	FIN	RST
(Urgent)	(FINISH)	(Reset)

- Data contained in the Packate should be proccessed immediately
- There will be no further transmission.
- Resets a connection.

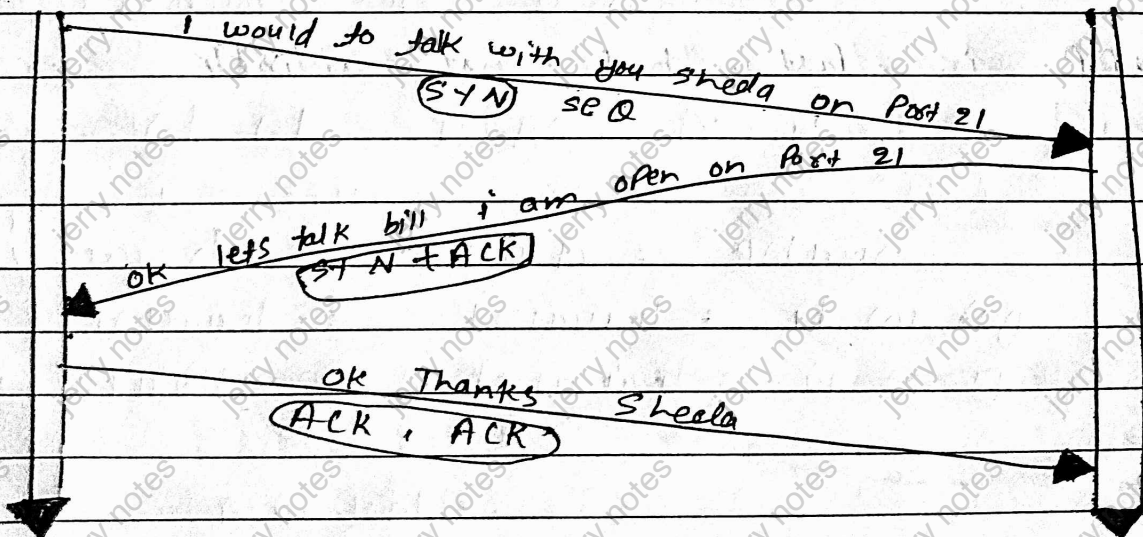| PSH	ACK	SYN
(Push)	(Acknowledgement)	(Syncronize)

- Sends all buffered data immediately
- Acknowledgements the recipt of a Packate
- Initiates a connection between hosts
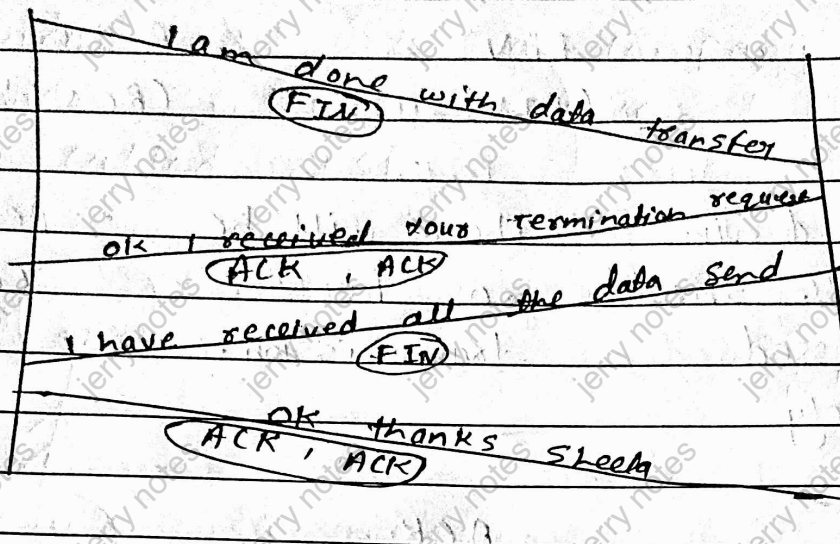
TCP Three - way handshake

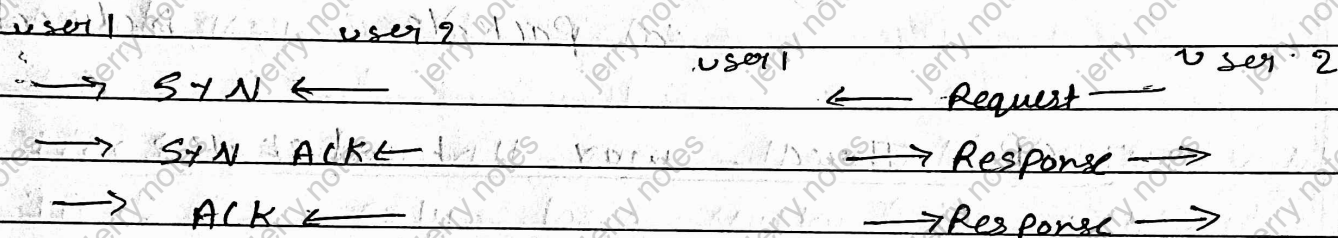Bill   Sheela

i would to talk with you sheela on Port 21
(SYN) seQ

i am open on Port 21
ok lets talk bill
(SYN + ACK)

ok Thanks Sheela
(ACK , ACK)

TCP session Termination

Bill   Sheela

I am done with data transfer
(FIN)

ok I received your Termination request
(ACK, ACK)

I have received all the data send
(FIN)

OK thanks Sheela
(ACK, ACK)

TCP vs UDP

Transmission control Protocol   user datagram Protocol

user1   user2   user1   user 2

→ SYN ←   ← Request ─

→ SYN ACK ←   → Response →

→ ACK ←   → Response →

- UDP is fast, but not reliable