

Physical Layer :-

Moving bits from one end to other end.

↓
"1" or a "0"

full Duplex & Simplex

↓
One direction

↓
Both directions

RJ45 port

Data Layer :-

MAC Address :- (Media Access Control)

GLOBALLY UNIQUE

identifier attached to

an INDIVIDUAL NETWORK INTERFACE

(physical Device)

48-bit number

↳ 6 groupings of

8 bits

↓
2 Hexa-decimal numbers.

first 24 bits → Organizational Unique Identifier

Apple → 1 001

Lenova → 1

etc, etc.

Ethernet uses MAC addresses to ensure data sent has information of Sender & Receiver.

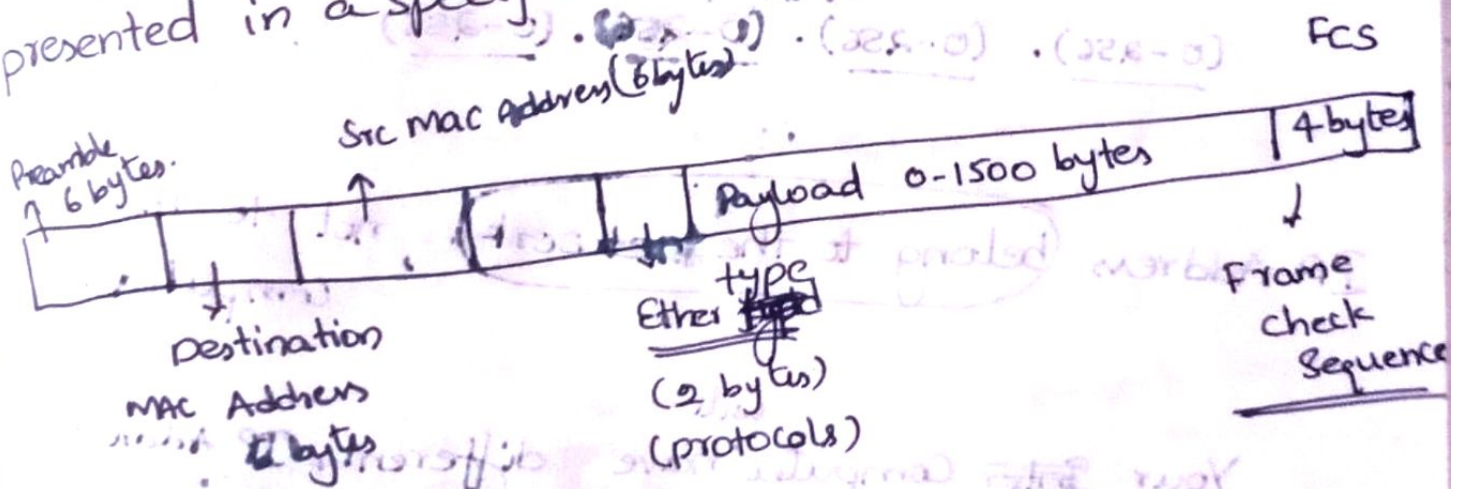
Unicast :- (One Sender, One Receiver)

Multicast :- (One Sender, multiple Receivers)

Broadcast :- (1 sender, all Receivers)

Ethernet Frame :-

A highly structured collection of information presented in a specific order.



Cyclical Redundancy check :-

Protocol :- Ethernet, wifi

Data Layer :-

Data Unit :- Frames

Addressing :- MAC Address.