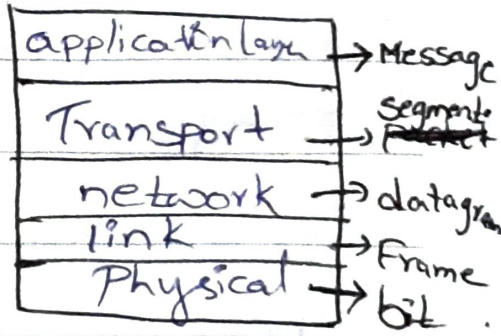
Week 1

Internet protocol stack - Application Layer

Application Layer:- It consists of applications and their protocols.



→ An application layer protocol is distributed over multiple End System.

→ application in one end system using the protocol to exchange packets of information with the application in another end system

→ packet of information at the application layer is message.

protocols: FTP, SMTP, HTTP, DNS

SMTP used for mails; HTTP used for web

Transport Layer:- Internet Transport layer transports application-layer messages b/w application endpoints.

→ Two protocols:- TCP & UDP

TCP: flow control (won't loose packets)

UDP: no flow control (i.e. packets will be lost)

→ Here packet is called segment

Network Layer:- It delivers the segment to the transport layer in the destination host.

→ Here packet is called datagram (links along source)

→ Datagram is handled by different link-layer protocols at different

Link:- To move a packet from one node to next node in the route.

→ Here Link Layer message is called as Frame

→ The services depend on the specific link layer protocols ex:- ethernet, wifi

5 Sunday

Week 2

Physical:-

The job is to move the individual bits within the frame from one node to the next.

Implementation:-

application, transport → Software

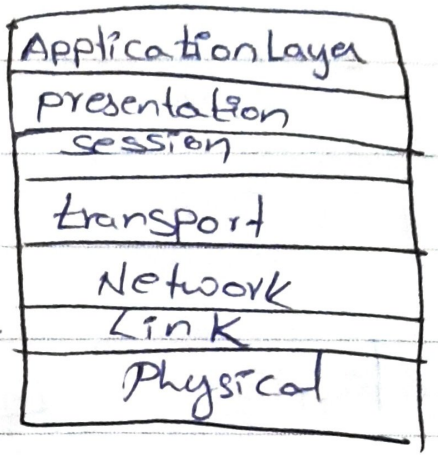
physical, link → hardware

Network → software & hardware

Iso/OSI Reference Model:-

↳ Before internet protocol stack there is a reference model (Iso/OSI)

(•) presentation:- allow applicatants to interpret meaning of data
Eg: encryption, Compression, machine specific Conventions.



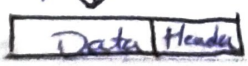
(•) session:-
Synchronization, Checkingpoint, recovery of data exchang

→ Internet stack missing ~~the~~ layers.

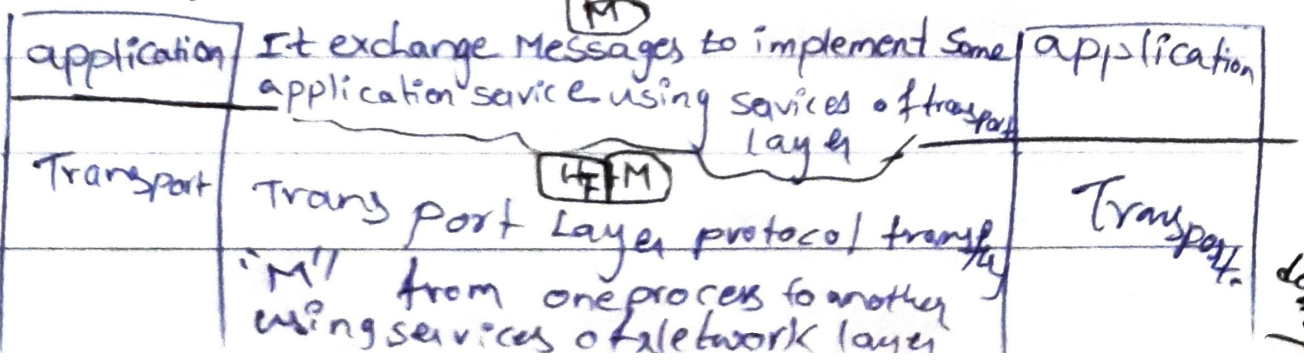
↳ If we need this 2 layers then we can build in application layer.

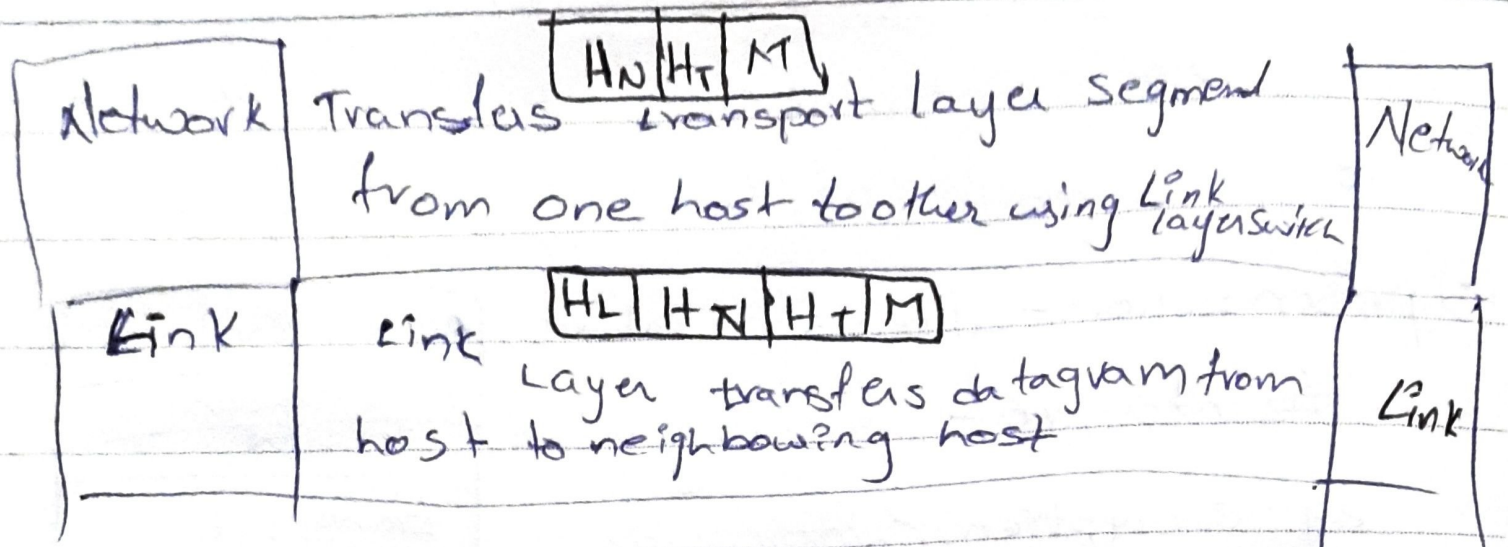
Encapsulation:-

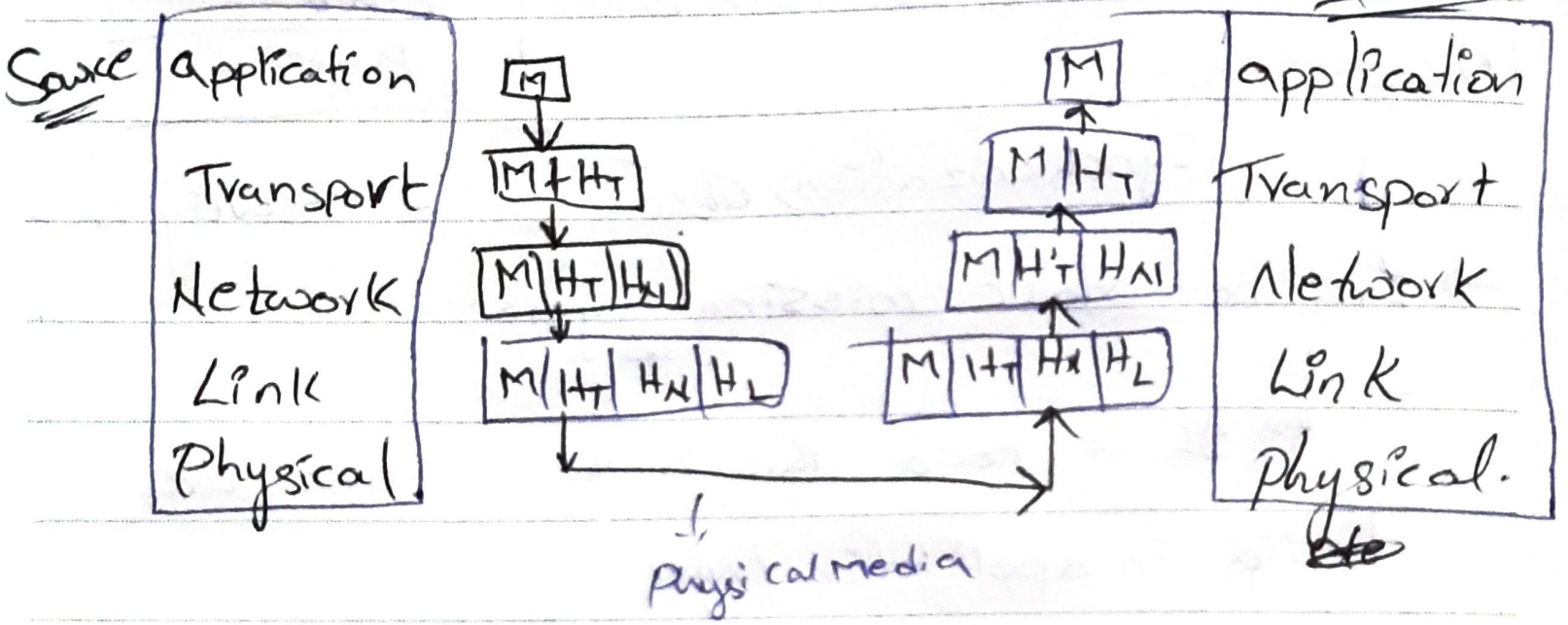
at ~~every~~ each layer there is a packet.



→ at each layer it will take data from previous layer and adds header is called Encapsulation




Network
Transfers transport layer segment from one host to other using Link layer switch
H_N H_T M
Link
Link layer transfers datagram from host to neighbouring host
H_L H_N H_T M
Network
Link


destination
Source
application
Transport
Network
Link
Physical
M
$M H_T$
$M H_T H_N$
$M H_T H_N H_L$
$M H_T H_N H_L$
$M H'_T H_N$
$M H_T$
M
application
Transport
Network
Link
Physical.
Physical media