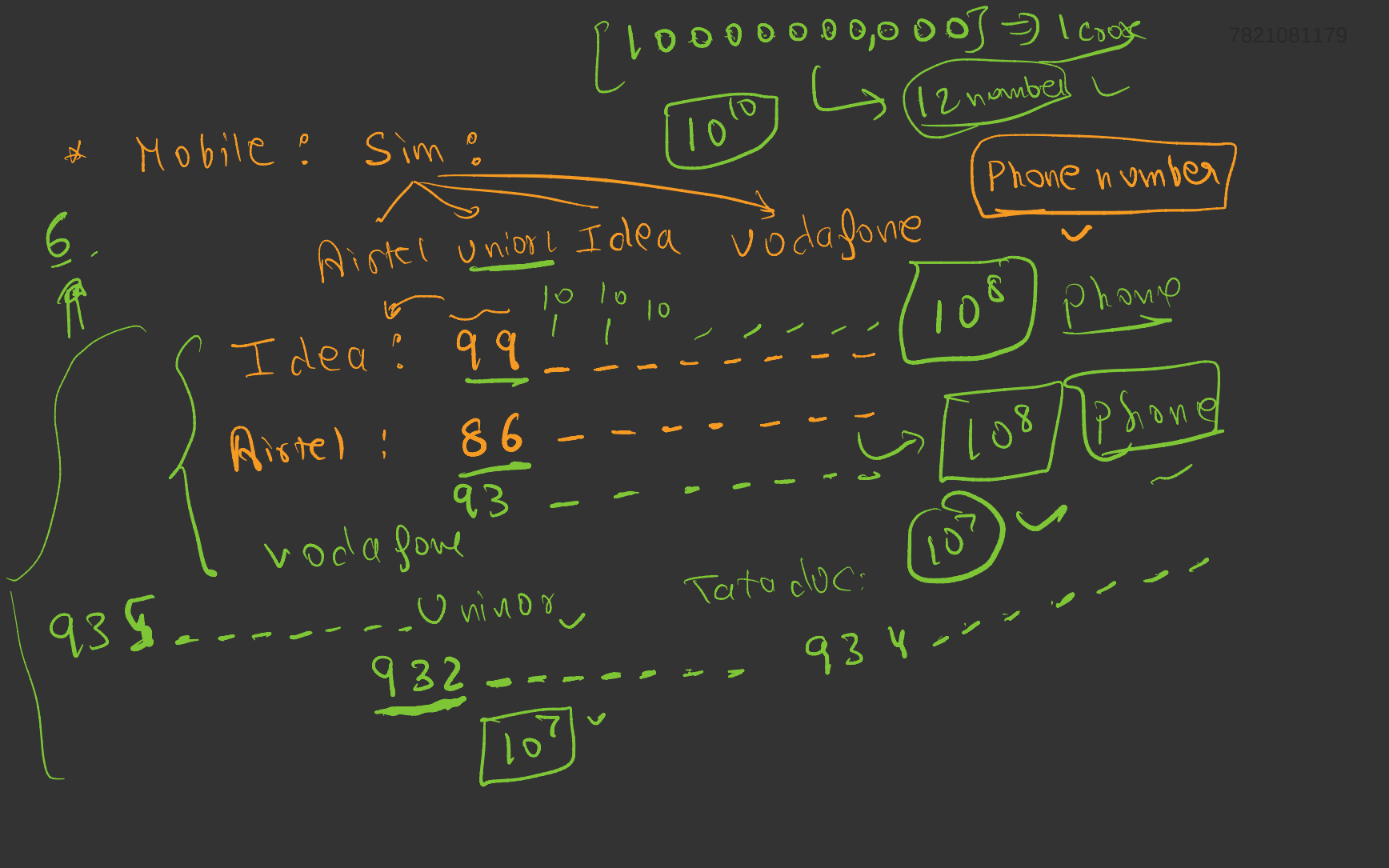
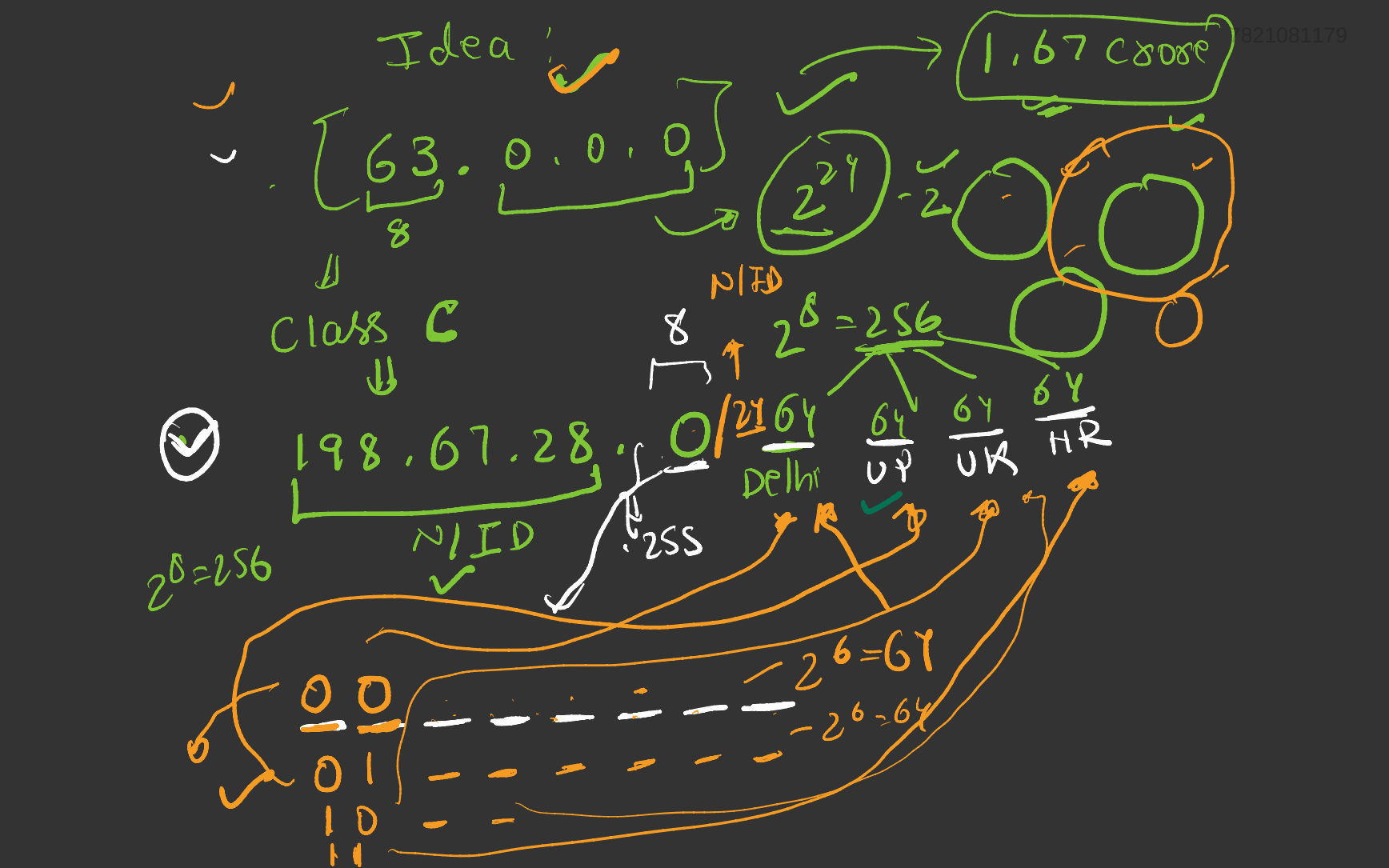
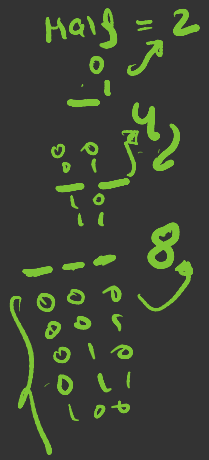

[1000000000] ⇒ 1 crore
10^{10}
12 number
* Mobile : Sim :
Phone number
Airtel Union Idea Vodafone
6.
10 10 10
Idea : 99
10^8
Phone
Airtel : 86
108
Phone
93
Vodafone
10^7
Tata DOC:
935
Union
934
932
10^7


Idea
63.0.0.0
8
1.67 crore
$2^{24}-2$
Class C
198.67.28.0/24
N/ID
H/ID
8
$2^8=256$
64
64
64
64
Delhi
UP
UK
HR
255
$2^8=256$
$2^6=64$
$2^6=64$
00
01
10
11

00 0 0 0 0 0 0 0 = 198.67.28.0 → Delhi
0 0 1 1 1 1 1 1 = 198.67.28.63



198.67.28.0/26

NID → first

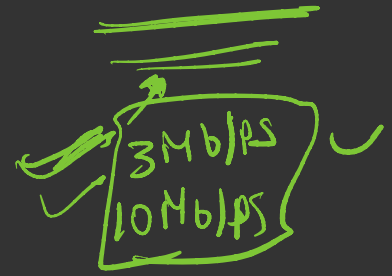
32 - 26 = 6 bit (Host ID)

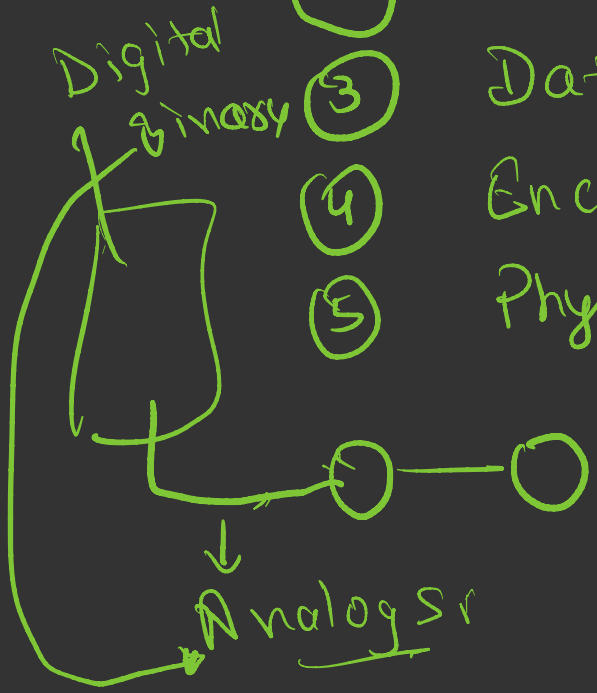
$2^6 = 64$

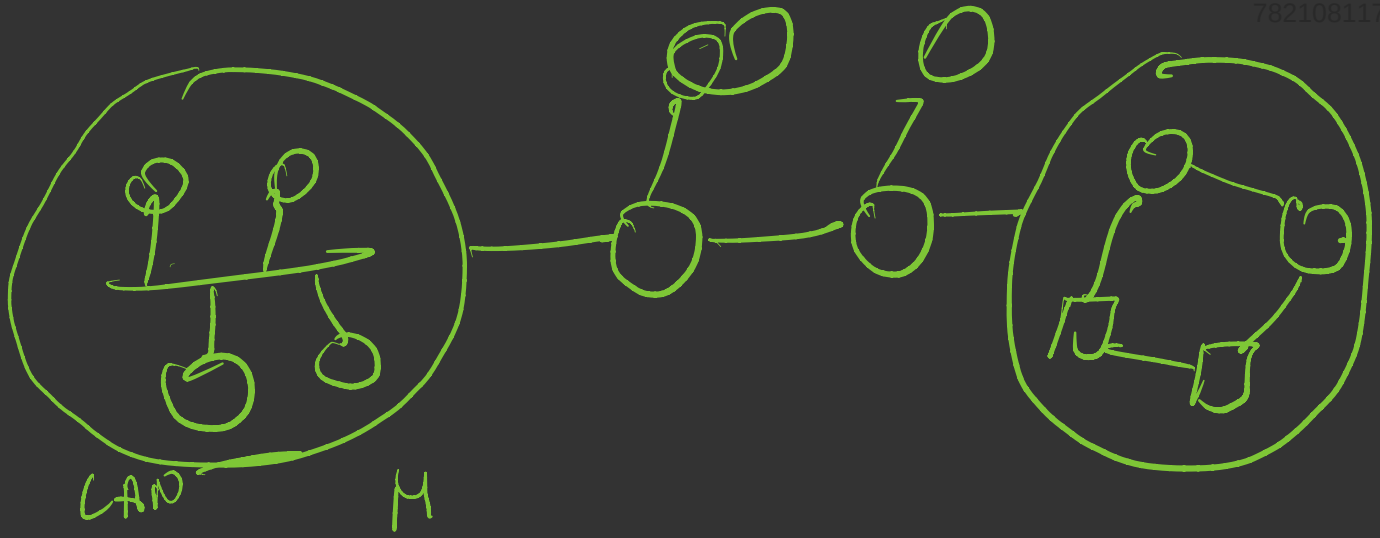
0 1 0 0 0 0 0 0 → 198.67.28.64
0 1 1 1 1 1 1 1 → 198.67.28.127

1 Physical Layer

1. Cable & connectors ✓
2. Repeaters ✓
3. Data Rate control
4. Encoding
5. Physical Topology







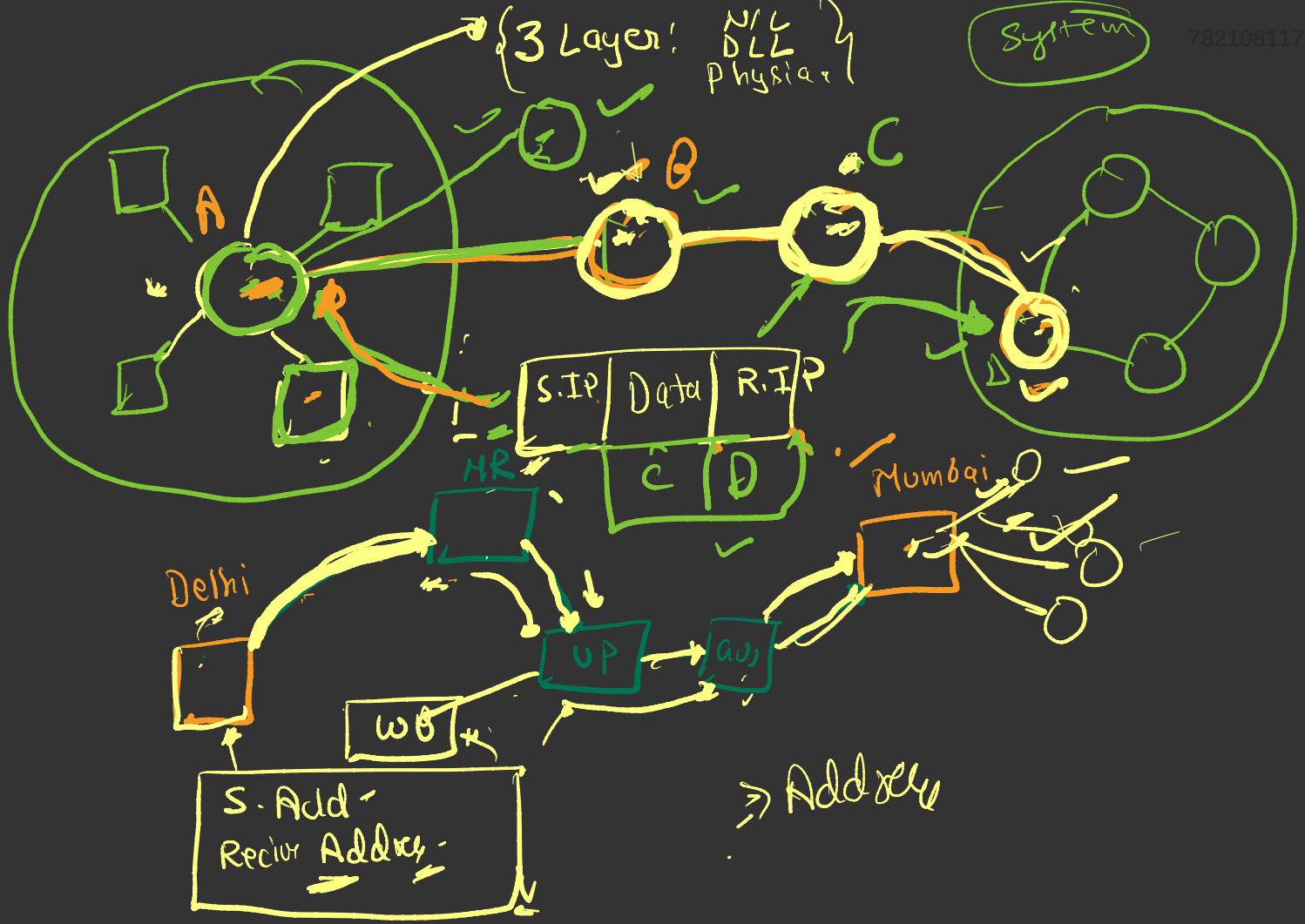
(2) Data link Layer.

IMPortant

- Hop to Hop delivery. ✓
- Giving physical address → Mac Address
- Error Detection & handling
- → Framing
- → Flow Control
- → Access Control

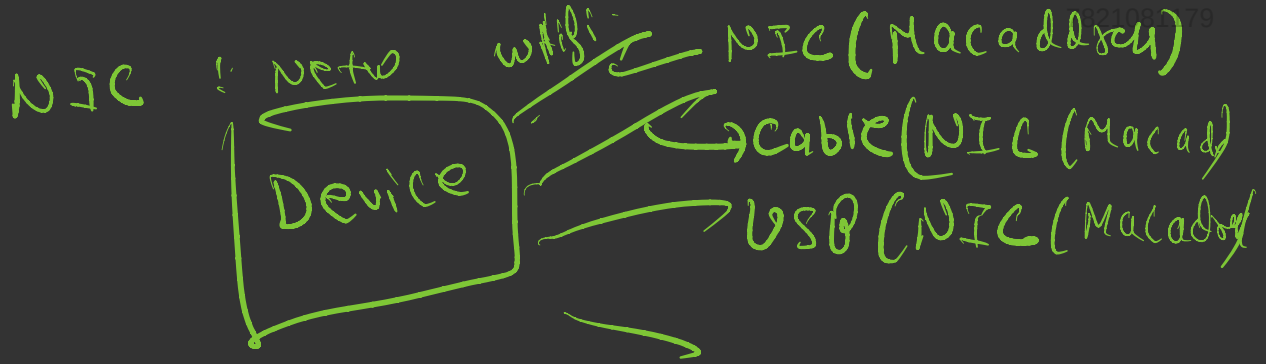
Mac Address ⇓ NIC (Network Interface Card)

NIC


3 Layer: N/L DLL Physical
System
A
B
C
R
S.IP
Data
R.IP
C
D
HR
Delhi
Mumbai
UP
WB
S. Add
Recive Addrs
=> Address

3 → Network Layer:

- → Logical address
- → Routing
- → Fragmentation & Reassembly.
- → Congestion Control.


NIC
Netw
wifi
NIC (Macaddress)
cable (NIC (Macad
USB (NIC (Macadd
Device

4 → Transport Layer

- → End to end Delivery (Port to port)
- → Segmentation & Reassembly.
- → TCP & UDP
- → Error Detection & Correction.
- → Flow Control.

(5) Session Layer.

- → session Establishment.
- → Authentication & Authorization
- → Checkpoint

6 → Presentation Layer :

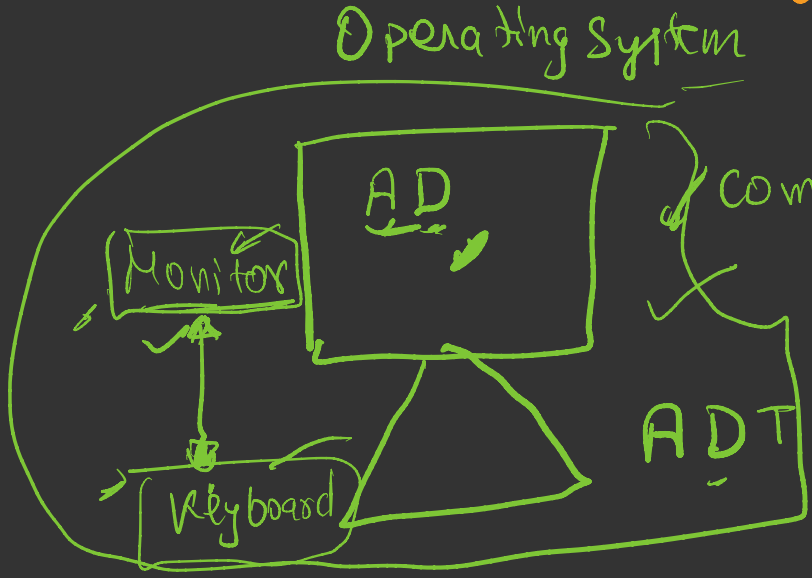
- → Encrypt | Decrypt .
- → Data Compression .
- → Data Translation .

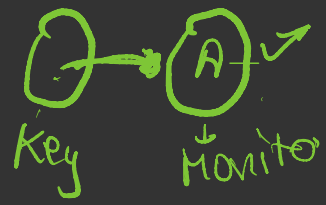
(7) Application Layer:

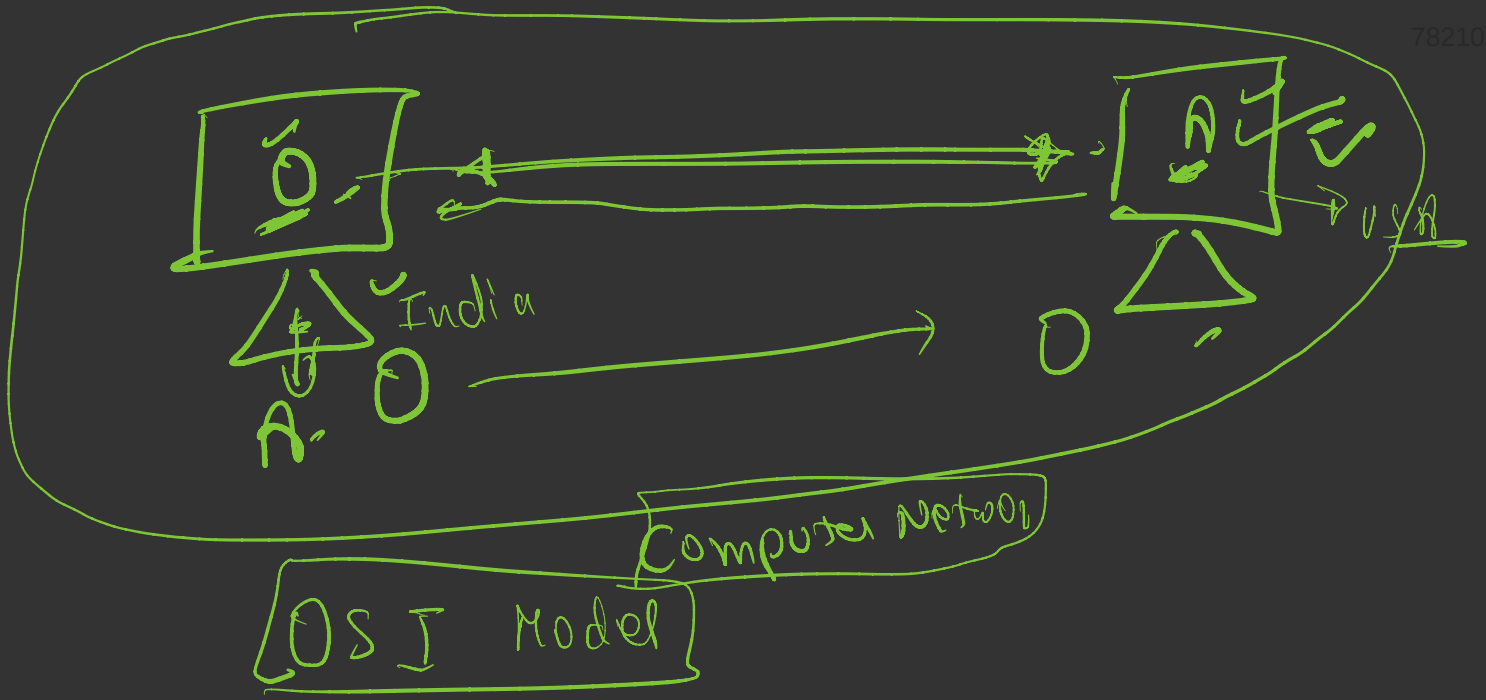
- → Providing Network Interface.
- → Application: HTTP, FTP, SMTP, HTTPS.
- → Network Transparency.

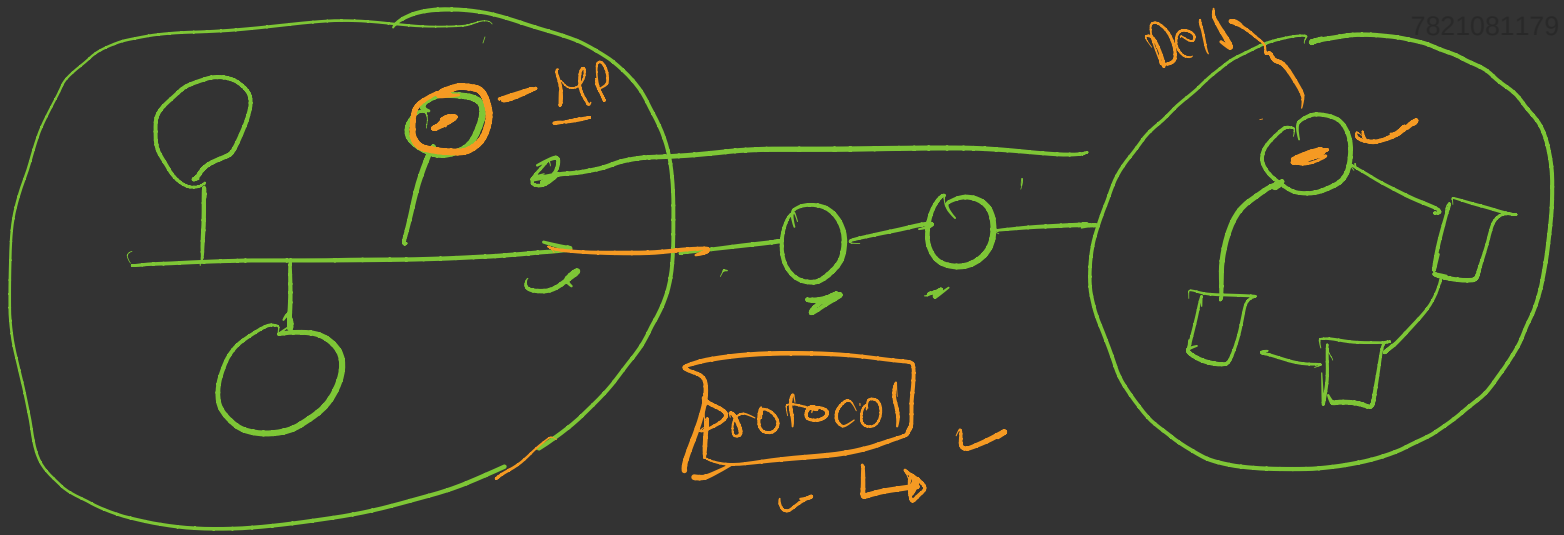
Computer Network: OSI Model.

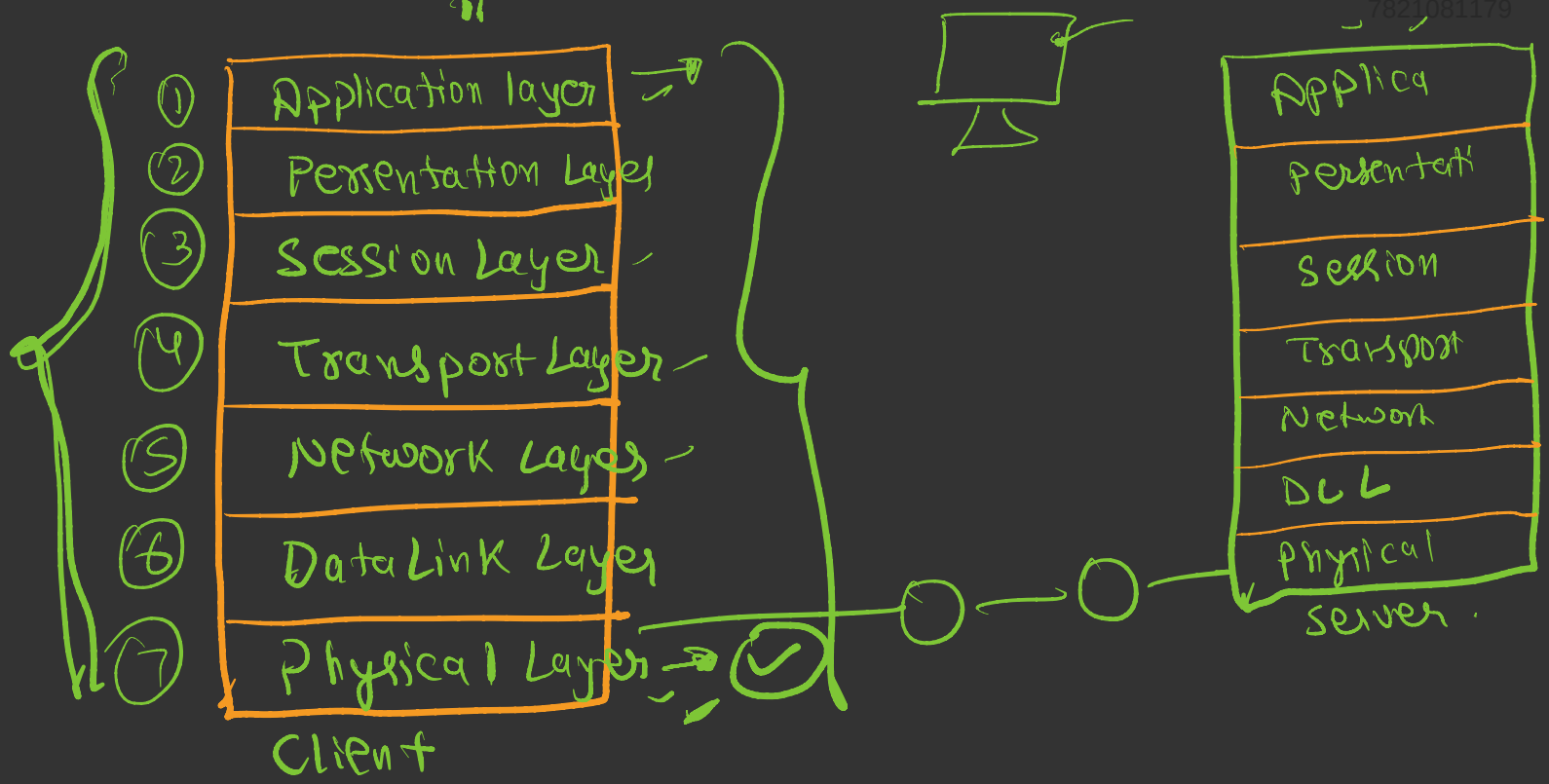
Open system Interconnection










1
Application layer
2
Presentation Layer
3
Session Layer
4
Transport Layer
5
Network Layer
6
Data Link Layer
7
Physical Layer
Client
Applica
persentati
session
Transport
Network
DLL
Physical
server.