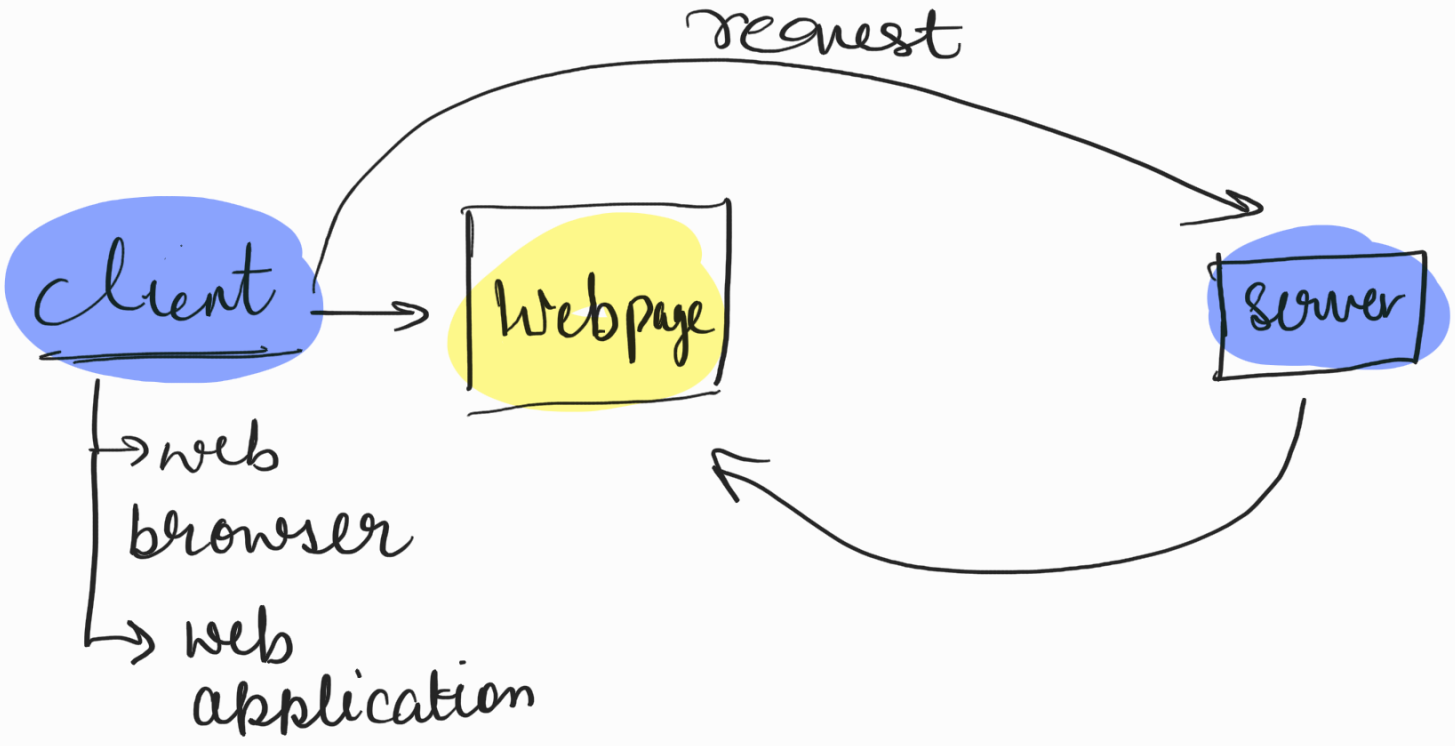
System Design

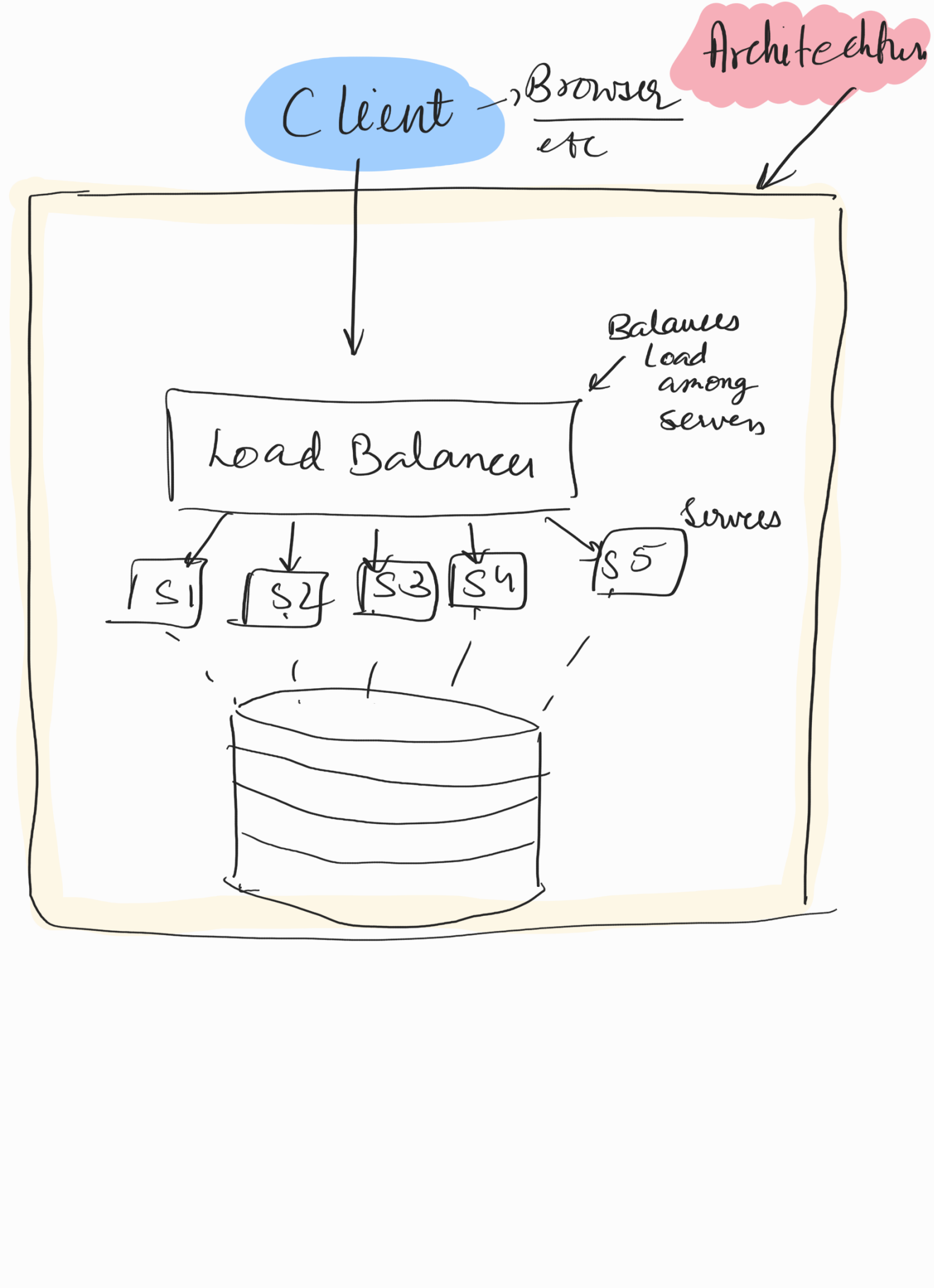
How Internet works?

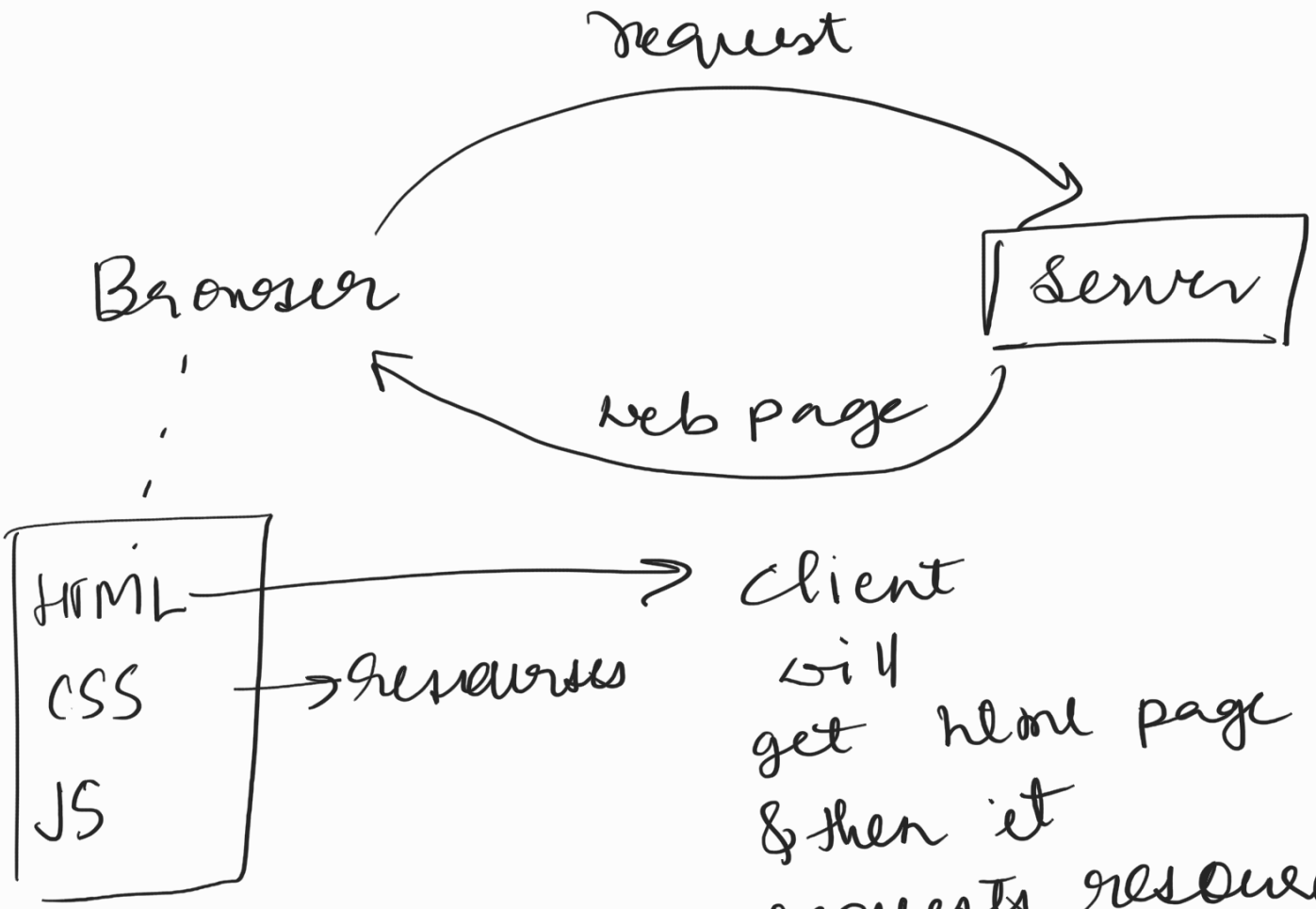
1) What is internet? → network of server

2) Server : fulfills the request.

client : User that creates a rqst




Architechture
Client
Browser
etc
Balances load among servers
Load Balancer
Servers
S1
S2
S3
S4
S5



client makes multiple requests.

cookie?

Host → server domain name

Request Methods

- GET → Read content
- POST → Modify content
- PUT → update content (password)
- DELETE → Delete (fb profile)

Response code

- 1XX → request is still in progress
- 2XX → OK
- 3XX → redirect rqst to some other server.
- 4XX → request invalid (client issue)
- 5XX → Server issues (server down)

Remote Address

101.243.214.97 : 443

2 parts

IP address

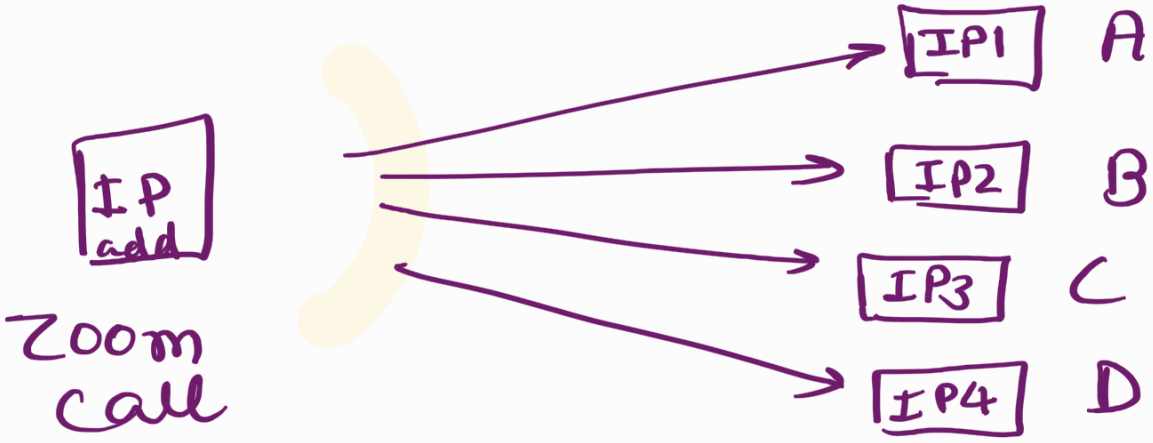
Port

Unique Identifier for every node (comp) connected to internet.

XXX.XXX.XXX.XXX

0 - 255

max 12 digit



For communication

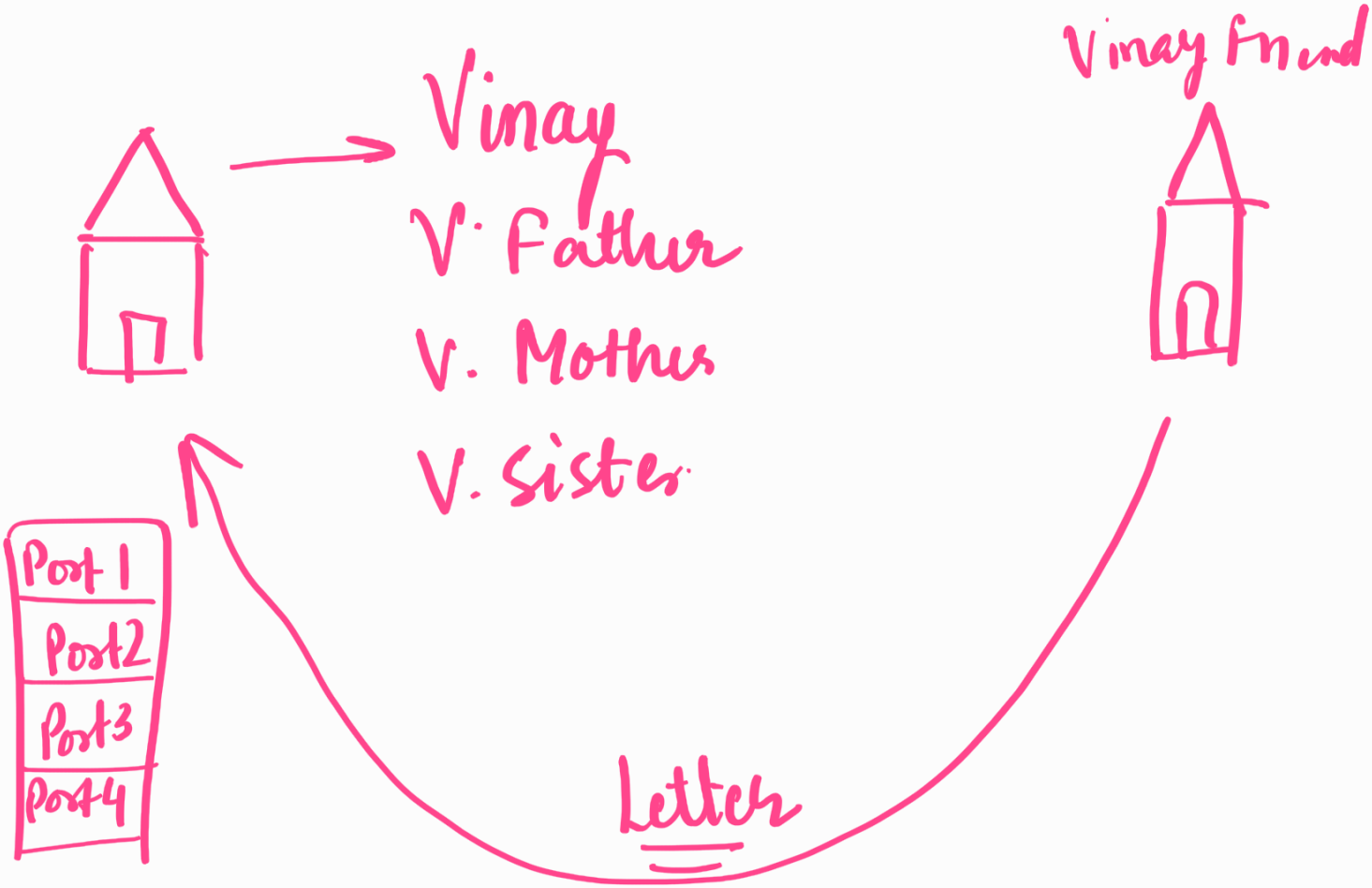
→ Name —analo.→ IP address

→ Language —do→ Protocols

Protocols

Port no

- → HTTP → 80 — Web-browser 'info' — 90 - 99%
- → HTTPS (Secure) → 443 — 90 - 99%
- → SMTP → 25 — Rest only 1%
- → SST → 22 — Rest only 1%
- → FTP → 20, 21 (up down) — Rest only 1%
- → POP3 → 110 — Rest only 1%
- → .
  .
  .



Port no. tells me what kind of application hit server.

On Google Drive

HTTP : 80 ⟶ view a file

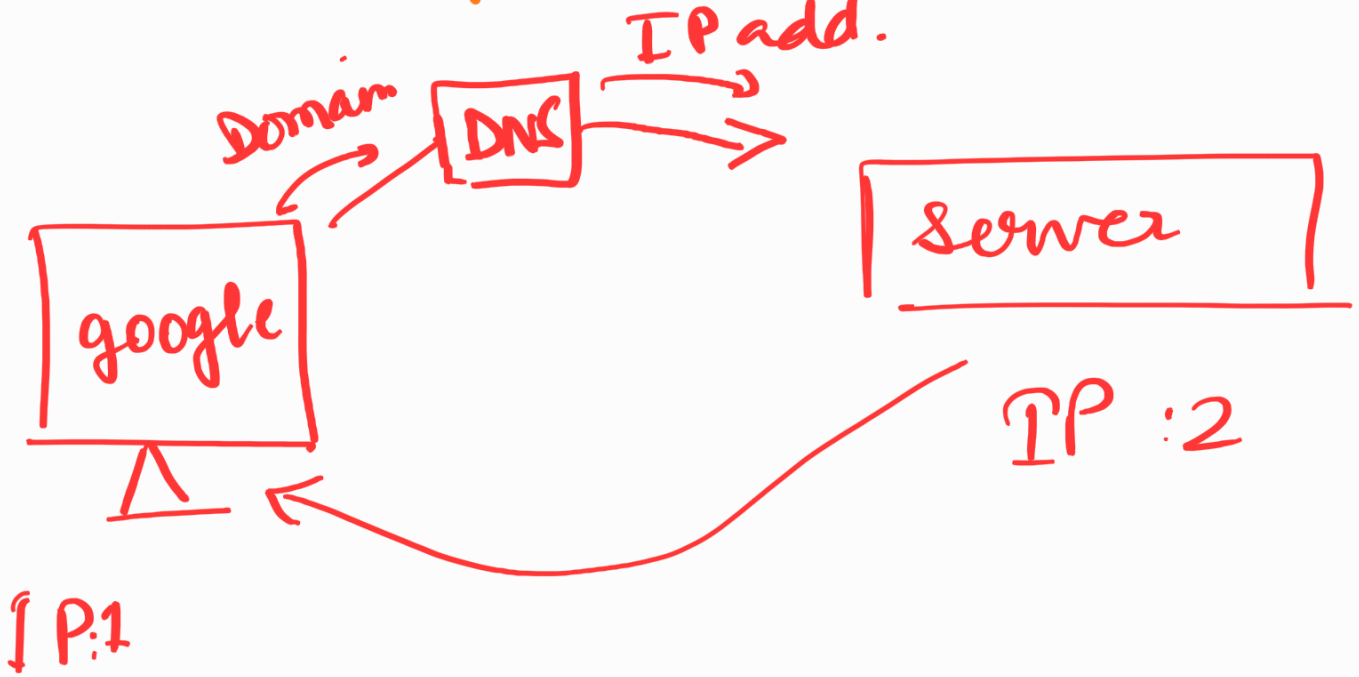
FTP : 20 ⟶ upload

Home Work

→ multiple requests handling!

(Sir will give link)

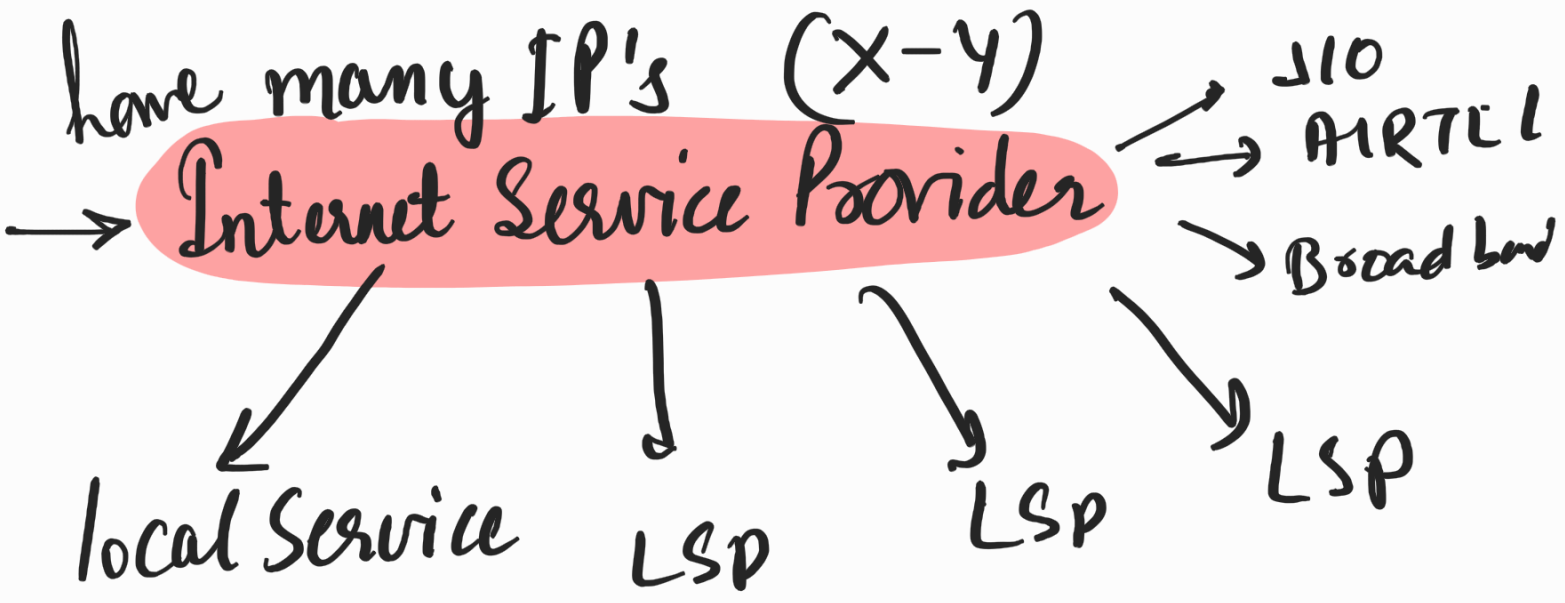
→ Server will convert it to other idk port no.



domain name are mapped to IP address

DNS → Global Repository

↳ It maps Domain : IP name



↓

university routers

↓

[x to Z]

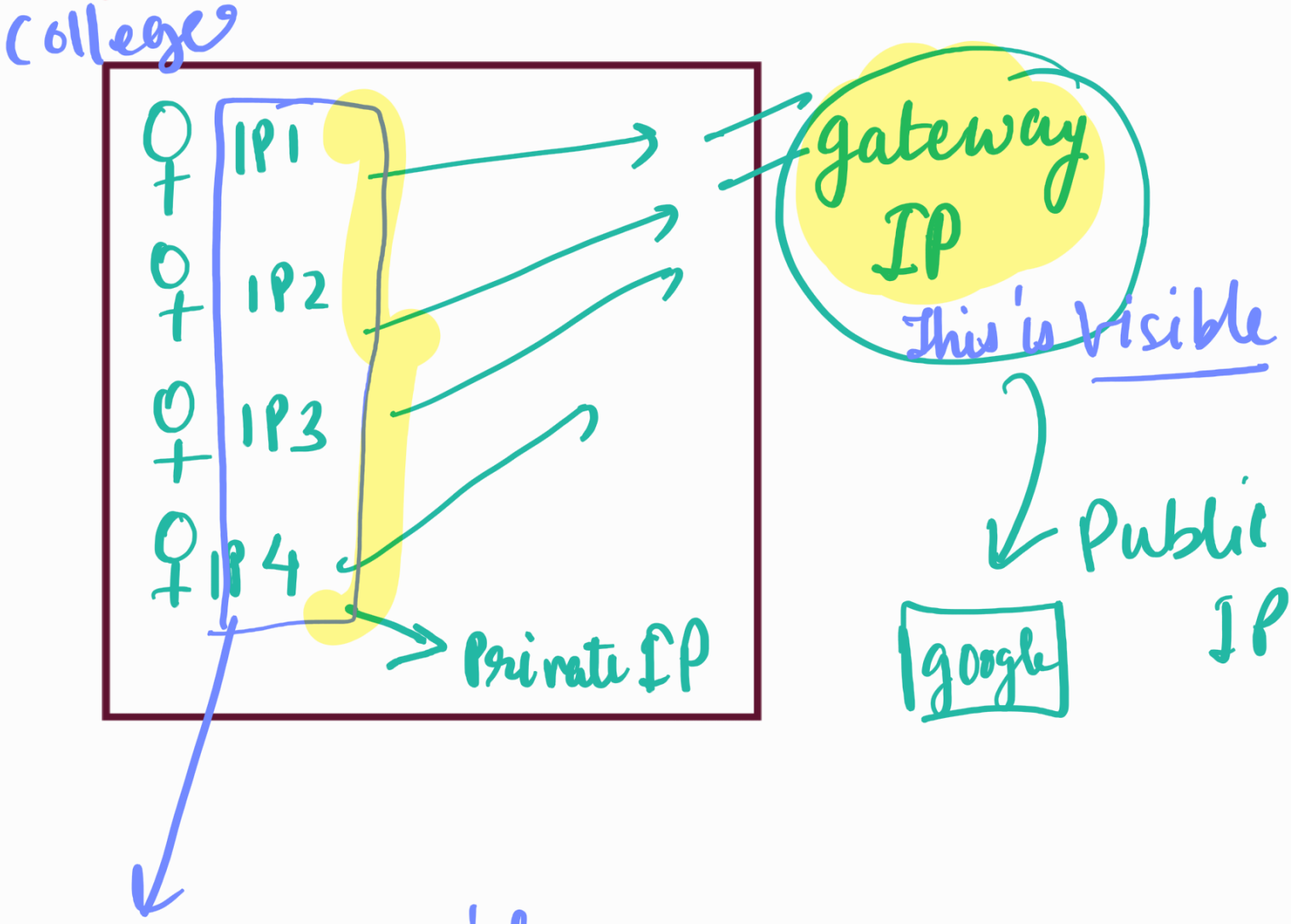
university provides one of IP's from pool of IP

→ IP is construct of network

It changes with network

→ Mac Address Unique device.

The allocation of IP's completely depends on code written in router



These can exist in different private clusters.

A public IP is always unique

IPV4 → has a upper limit

IPV6 → xxxxxx.xxxxxx.....

↳ getting adopted now.

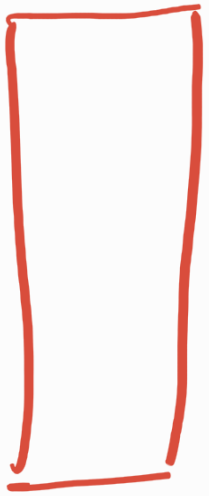
Server

Domain : IP ← not server

↓

ELB

Elastic load Balancer.



→ LB1

→ LB2

→ LB3

LB

cmd

↳ Several servers

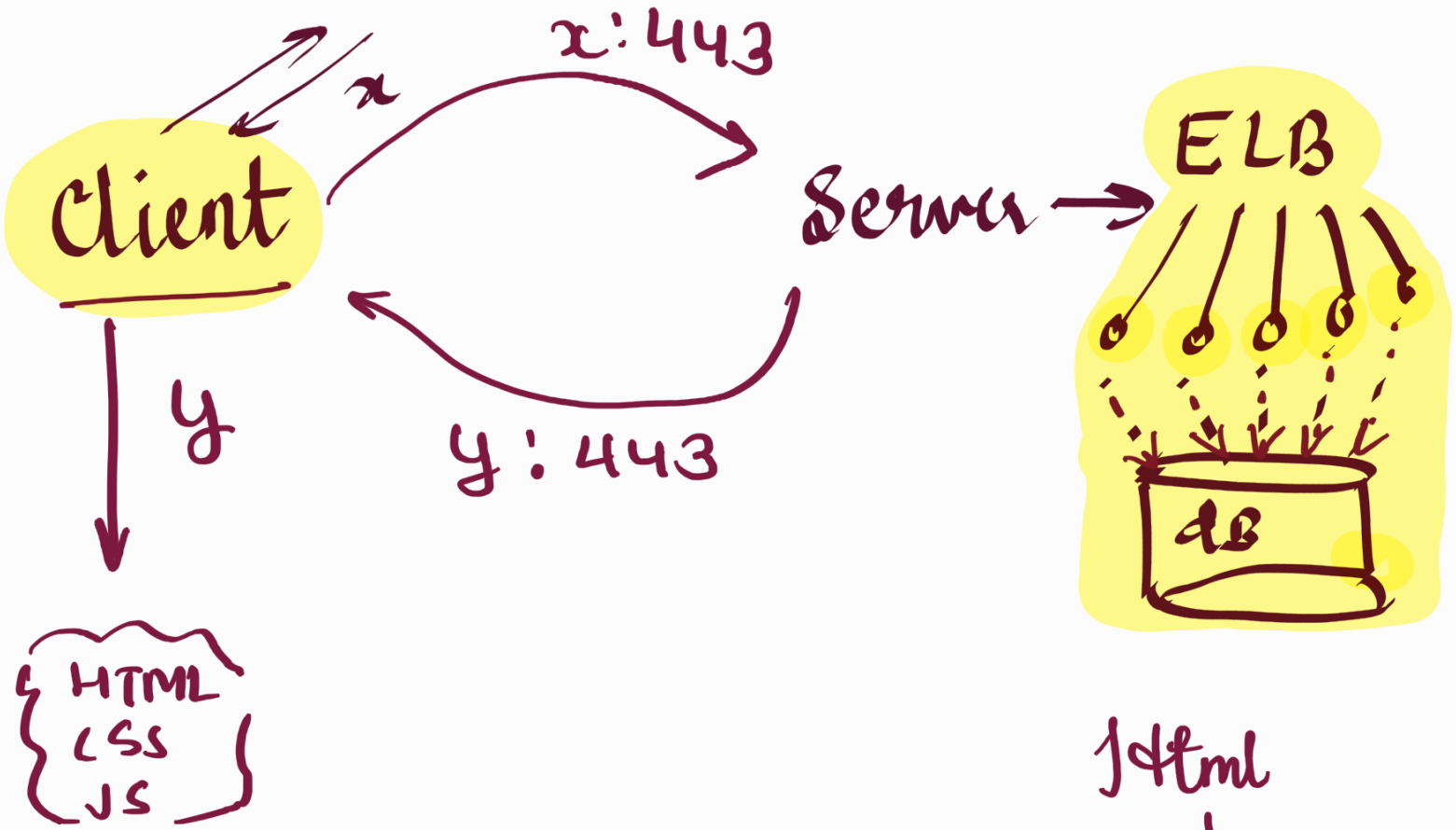
ping google.com

1 or 2 server ←

ping geeksforgeek.com

Summary

DNS



1 Html

↓

resource (CSS file)

top ←

↓

JS → end

server