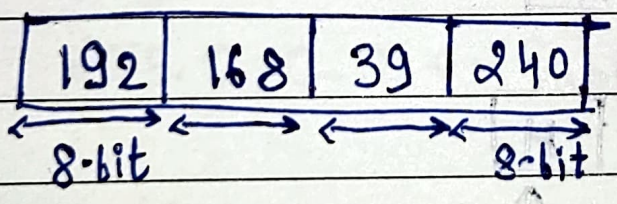
Addressing

- Physical addressing
  - MAC address
    - 48 bits
- Logical addressing
  - IPv4
    - Public IP
    - Private IP
  - IPv6

IPv4 :- 32 bit logical address
4 Octet { 0 - 255 }

IP address → Network ID + Host ID



Classes → Class A → 1.0.0.0 to 126.0.0.0
Class B → 128.0.0.0 to 191.255.0.0
Class C → 192.0.0.0 to 223.255.255.0
Class D → 224 - 239 → Multicasting
Class E → 240-255 → Research

* How to Find Class of IP

137 . 0 . 20 . 10

↓

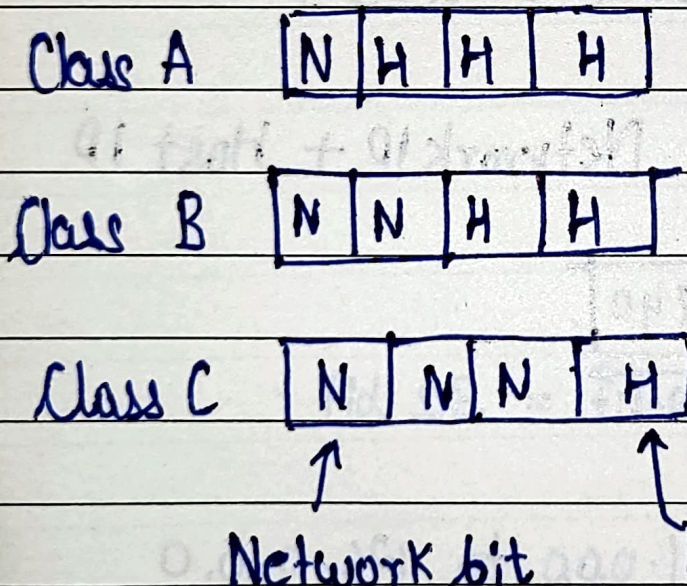
Class B

201 . 100 . 10 . 0

↓

Class C

* How to Find network Id



Eg. 115 . 10 . 0 . 15

↓

Class A → 115.0.0.0 ← Network Id

196.10.10.10

↓

Class C ⟶ 196.10.10.0 — NId

Subnet mask →

Eg 115.10.10.20

↓

Class A

↓

11111111.00000000.00000000.00000000

↓

Convert to decimal

↓

255.0.0.0 ← Subnet mask

Private IP

Class A → 10.0.0.0

Class B → 172.16.x.x - 172.31.x.x

Class C → 192.x.x.x

Eg 150.10.20.30

N/W Id = ?

Broadcast Id = ?

no. of usable host = ?

150.10.0.0 ← N/W Id

150.10.255.255 ← Broad Cast Id

(2 Host) → (2×8)

$2^{16} - 2 = 65,534$