# 2- IP address

set of rules to follow to have a proper communication.
The internet which is a place where everyone is connected is completely built based on *TCP/IP* protocol.
*TCP/IP* is a Standard protocol used between computers and network devices for communication
each device in a network should be assigned with an address called an *IP address*.

# I.P addresses

## I.P v4

- i.p V4 is a 32 bit address in binary
- divided into 4 octants with dots.
- for our convenience, we are going to convert actual binary format to decimal format.

| class | range |
|---|---|
| A | 0-127 |
| B | 128-191 |
| C | 192-223 |
| | |
| D | 224-239 |
| E | 240-255 |

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# Network and Host Portions

IP address id divided into Network and Host Portion

Host : a specific device in the network
Network : set of devices

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# Subnet-mask

Subnet Mask differentiates Network portion and Host Portion.

1 represents network
0 represents hosts

| Class | N/H | IP |
|---|---|---|
| Class A | N.*H.H.H* | 255.0.0.0 |
| Class B | N.N.*H.H* | 255.255.0.0 |

| Class | N/H | IP |
| --- | --- | --- |
| Class C | N.N.N.*H* | 255.255.255.0 |

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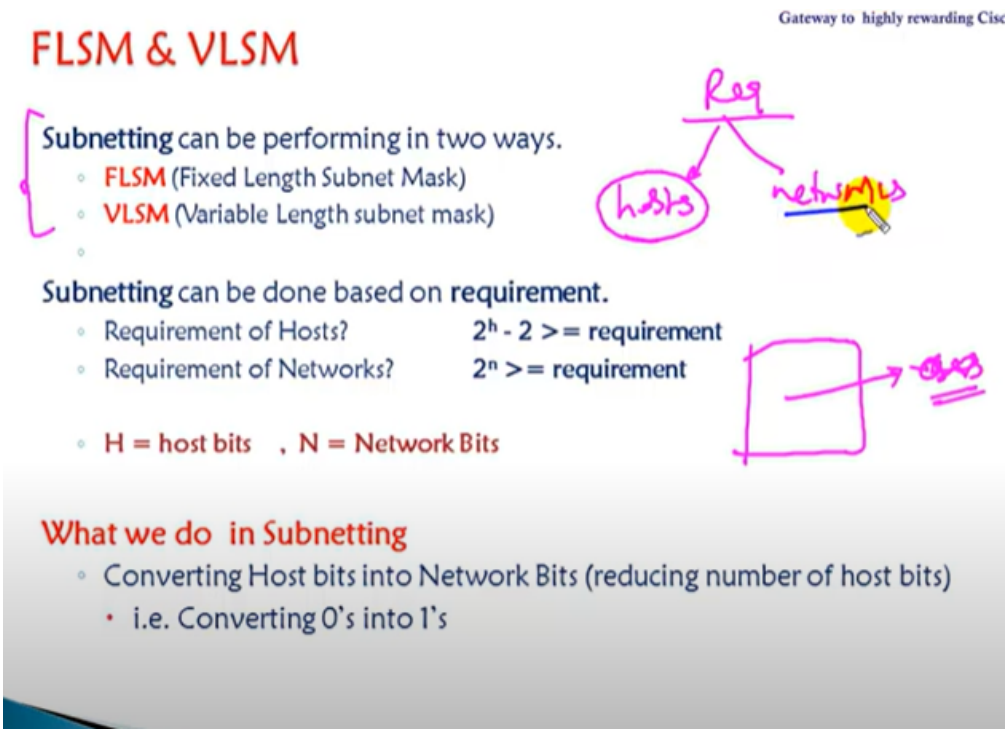
## FLSM & VLSM

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