Net/Host ID by Class

|	
A	0nnnnnnn.HHHHHHHH.HHHHHHHH.HHHHHHHH
B	10nnnnnn.nnnnnnnn.HHHHHHHH.HHHHHHHH
C	110nnnnn.nnnnnnnn.nnnnnnnn.HHHHHHHH
D	1110XXXX.XXXXXXXX.XXXXXXXX.XXXXXXXX
E	1111XXXX.XXXXXXXX.XXXXXXXX.XXXXXXXX

Subnetting

|	Binary form	Dot-decimal notation
IP address	11000000.10101000.00000101.10000010	192.168.5.130
Subnet mask	11111111.11111111.11111111.11000000	255.255.255.192
Network prefix	11000000.10101000.00000101.10000000	192.168.5.128
Host part	00000000.00000000.00000000.00000010	0.0.0.2

Network Topology
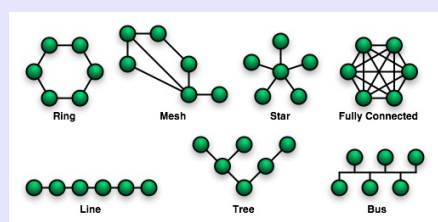
Examples of differents networks topologies.

Three way handshake
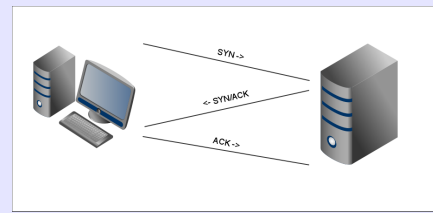
Illustrates the three way handshake used for TCP connections.

IP Frame
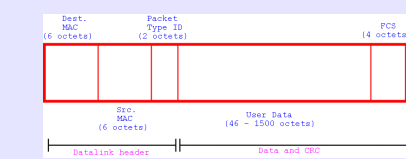
TCP/IP - Class ranges

Class	Range	Private
Class A	0.0.0.0-127.255.255.255	10.0.0.0/8
Class B	128.0.0.0-191.255.255.255	172.16.0.0/12
Class C	192.0.0.0-223.255.255.255	192.168.0.0/16
Class D (multicast)	224.0.0.0-239.255.255.255	nope
Class E (reserved)	240.0.0.0-255.255.255.255	nope

IEEE 802

802.3 - Ethernet
802.11a/b/g/n - Wifi
802.8 - Fiber Optic
802.15.1 - Bluetooth
802.16 - WiMAX

OSI - Protocol - Device

7 Application	FTP,HTTP,DNS,SSH,DHCP...	
6 Presentation	SMB,ASCII,AFP	Router
5 Session	TCP,UDP	Switch
4 Transport	ARP,IP,ICMP	Hub
3 Network	HDLC,PPP	
2 Link	ARP,Ethernet,Token Ring, irDA	
1 Physical	ADSL, LDSL, USB	

DHCP

Client	Server
DHCP Discover -->	
	<-- DHCP Offer
DHCP Request -->	
	<-- DHCP Acknowledgement