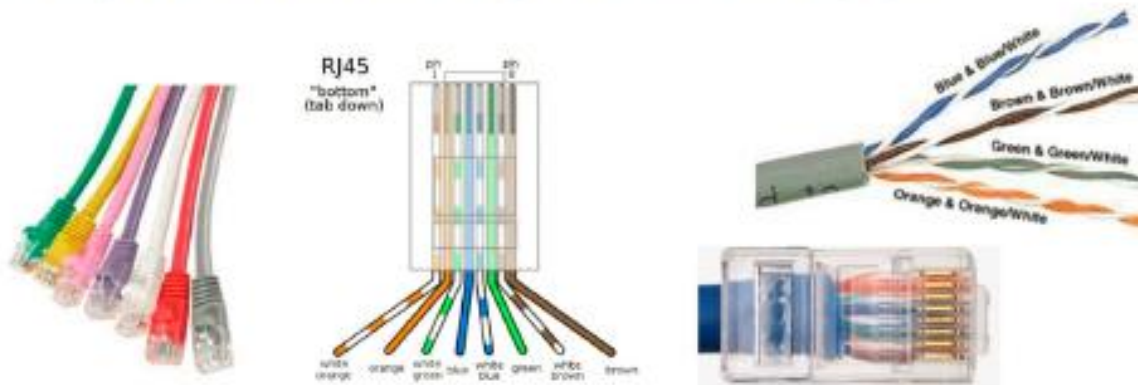


UTP cable

- Used for connecting devices within the LAN
- Support distance of maximum 100 mts
- straight or cross cables based on alignment of wires inside RJ45 jack

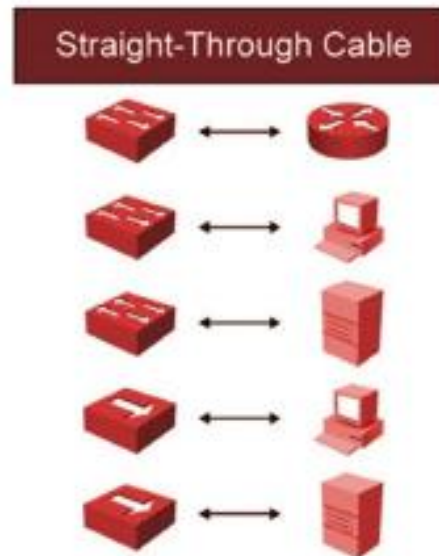


UTP straight cable color coding

White/orange	-	White/orange
Orange	-	Orange
White/green	-	White/green
Blue	-	Blue
White/blue	-	White/blue
Green	-	Green
White/brown	-	White/brown
Brown	-	brown

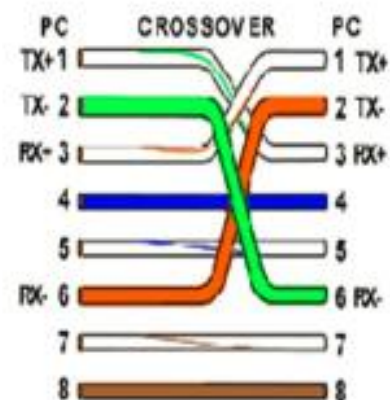
PC	STRAIGHT-THRU	HUB
TX+ 1	1	1 RX+
TX- 2	2	2 RX-
RX+ 3	3	3 TX+
4	4	4
5	5	5
RX- 6	6	6 TX-
7	7	7
8	8	8

UTP straight cable used to connect between **dis-similar devices**

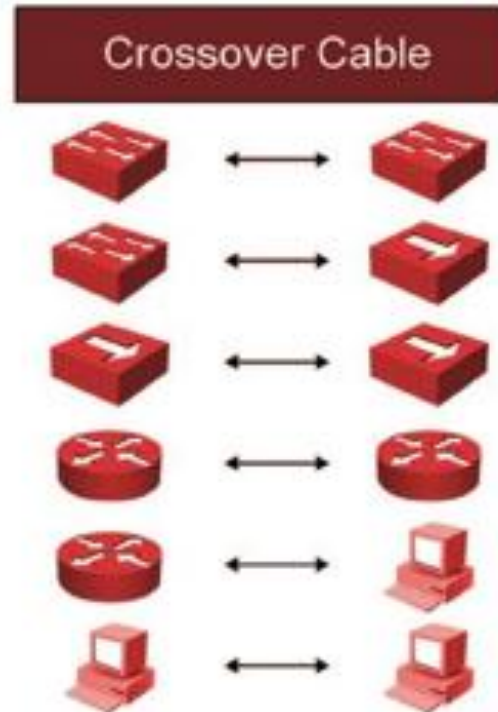


UTP cross cable color coding

White/orange	-	White/green
Orange	-	green
White/green	-	White/orange
Blue	-	Blue
White/blue	-	White/blue
Green	-	orange
White/brown	-	White/brown
Brown	-	brown

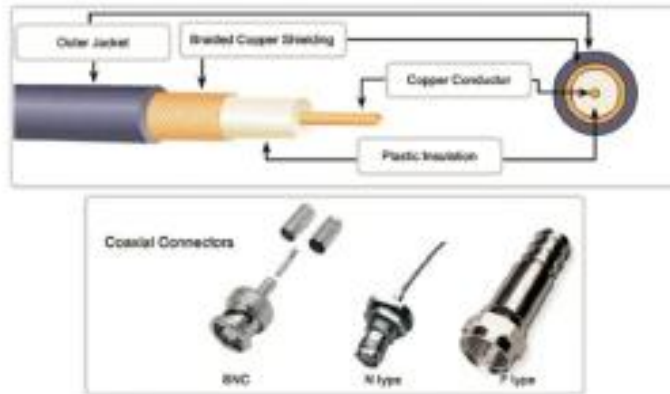


UTP cross cable used to connect between **similar devices**



Co-axial Cable

- Commonly used in television
- Also used in LAN & WAN connections
- Supports distance in between 200 – 500 mts



Fiber Cables

- Mostly used in WAN connections for longer distances.(2 – 60 Kms)
- Uses light signals
- Can send signals over longer distances and at higher bandwidths.



ST Connectors



SC Connectors



LC Connector



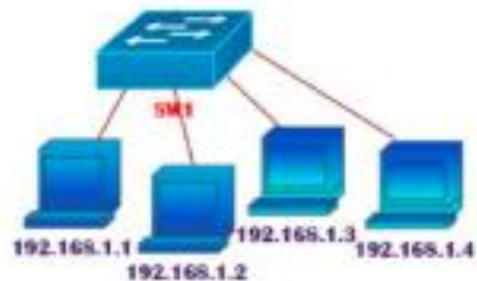
Duplex Multimode LC Connectors

Wireless LAN

- ▶ Connecting devices within the LAN Without wire
- ▶ uses RF signals



Basic LAN setup



- ▶ Connect 4 computers in the LAN using Switch
- ▶ Configure IP addressing on all PC using 192.168.1.0/24 network.
- ▶ Check Connectivity between all the PC using Ping command

Router Vendors in the market

Many companies are manufacturing Router :

- Cisco
- Juniper
- Nortel
- Multicom
- Cyclades
- Dlink
- Linksys
- 3Com



Cisco's Hierarchical Design Model

1. Access Layer Router
2. Distribution Layer Router
3. Core Layer Router



Access Layer Router

- ▶ Used at small end locations
- ▶ Can handle less traffic and less number of ports.

Router Series : 800, 1000, 1600, 1700, 1800, 1900, 2500



Cisco 800



Cisco 1700



Cisco 1841

Distribution Layer Router

- Used at main branch offices and Head offices

Router Series : 2600, 2800, 2900, 3200, 3600, 3700, 3800, 3900



Cisco 2900



Cisco 2801



Cisco 2811



Cisco 2821



Cisco 2851

Cisco 2800 Series Integrated Services Routers

Core Layer Router

- Used by service providers and at main head offices.
- Processing traffic at very high speed .

Router Series : 6400, 7200, 7300, 7400, 7500, 7600, 10000, 12000



Cisco 7000