

Ch 5. Networking- Online class 13 (30. 09. 20)

1. **computer networking**

Computer networking is the process of connecting computers in such a way that information can be exchanged.

2. **Nodes**

A node is a device which is capable for receiving or sending data

Eg: Computer, Mobile phone, Laptop, Tablet, etc.

3. **Network**

A network is a group of nodes interconnected through some communication links using some protocols

4. **Uses of a network**

- Sharing of Resources
- Communication
- Supervision/monitoring
- Security

5. **Different types of network**

a) LAN - Local Area Network

System that interconnects computers inside a room or a building

Eg: The computer net work in your school lab

b) WAN - Wide Area Network

Computer net work that spreads over the entire country

Eg: computer networks of railways and banks

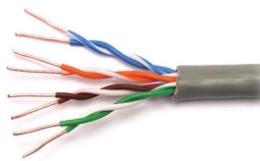
c) MAN - Metropolitan Area Network

Computer net work that spreads over the entire town

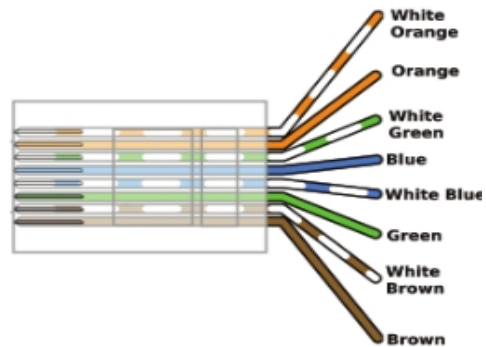
6. The devices required for computer networking

- a) Cables - required for interconnecting computers
- b) Connectors - used to connect cable to the computers
- c) Hub and Switch - required to control the exchange of data between the computers

7. UTP cable (Unshielded Twisted Pair Cable)



- ◆ 8 wires
- ◆ 4 pairs
- ◆ 8 colours



1	2	3	4
1. White orange	3. White Green	5. White Blue	7. White Brown
2. Orange	4. Blue	6. Green	8. Brown

8. Connectors

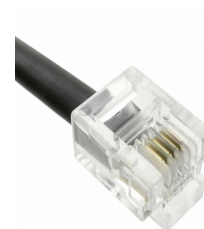
- ◆ RJ 45 connector (Registered Jack 45)

Connector used to connect UTP cable to the computer.



- ◆ RJ 11 connector

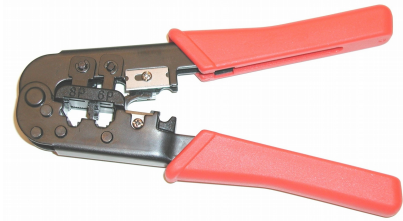
Connector used to connect telephone cable to the modem



9. Crimping

Crimping is the process of connecting the connector to the UTP cable.



The device used for this is **Crimping tool**

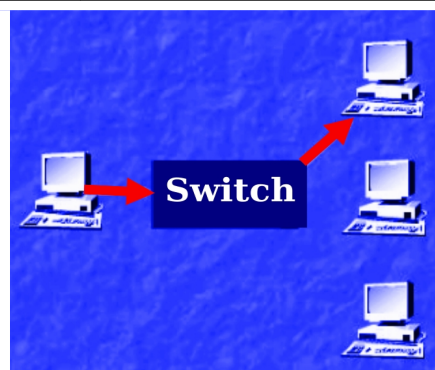
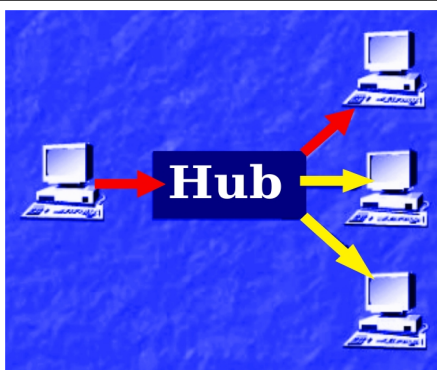


10. Hub and switch

The devices used to control the exchange of information between computers in a network

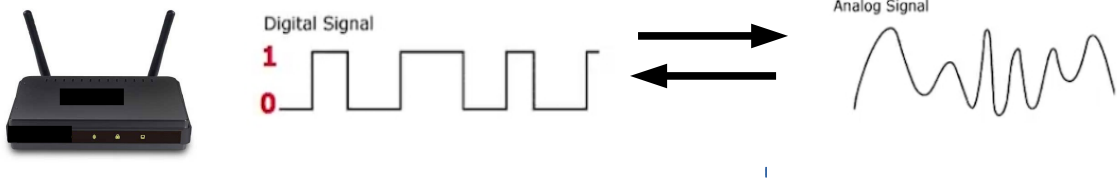
11. Difference between Hub and switch

Hub	Switch
	
Information sent from one computer to another is transmitted to all computers connected to that hub	Information sent from one computer to another only transmitted to that computer
The network will become congested	The congestion in the network is significantly reduced



12. Modem (MODulator and DEModulator)

It is an equipment that can convert digital signals to analog and vice versa.



13. **Wireless Network**

wireless network is a system that connects computers and related devices without the help of cables. Radio Frequency (RF) waves are used here



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