Introduction to Computer & Applications

Imran Mujaddid Rabbani

PhD Scholar Computer Science

Instructor IT

Punjab Judicial Academy, Lahore

Brief Introduction [Education]

- ### BCS (Bachelor Of Computer Science)

  Punjab University, Lahore

- ### M Sc. Computer Science

  Punjab University [PUCIT]

- ### M. Phil Computer Science

  Govt. College University

- ### Ph. D Computer Science (Conti…)

  Dept. of CS&E, UET, Lahore

Experience

- Software House [Software Development]

- Services Hospital Lahore
  - [Head of IT Dept. For Three years (2006-2009]

- IT. Instructor
  - Since Sept 2009

- Teaching at SCCS   MSc. BCS
  - Since 2007

Course Syllabus

- Basic Introduction to Computer Systems and its Applications

- Introduction to Microsoft Windows, its Applications and usage

- Typing using Typing Master

- In page (Urdu Typing)

- Microsoft Office
  - Ms World
  - Ms Power Point
  - Ms Excel

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- # Internet
  - ## Net Surfing
    - News Websites
    - LHC website
    - Supreme Court Website
    - etc
  - ## Search Engine [Along with Searching Techniques]
  - ## Electronic Email [Yahoo / Hotmail]
  - ## Law Sites
    - Pakistan Law Site
    - International Law Site
- # Cyber Crimes

Performa Discussion

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Computer

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What is Computer?

The term "computer", in use from the mid 17th century,

literally meant

"one who computes"

"Person performing mathematical calculations"

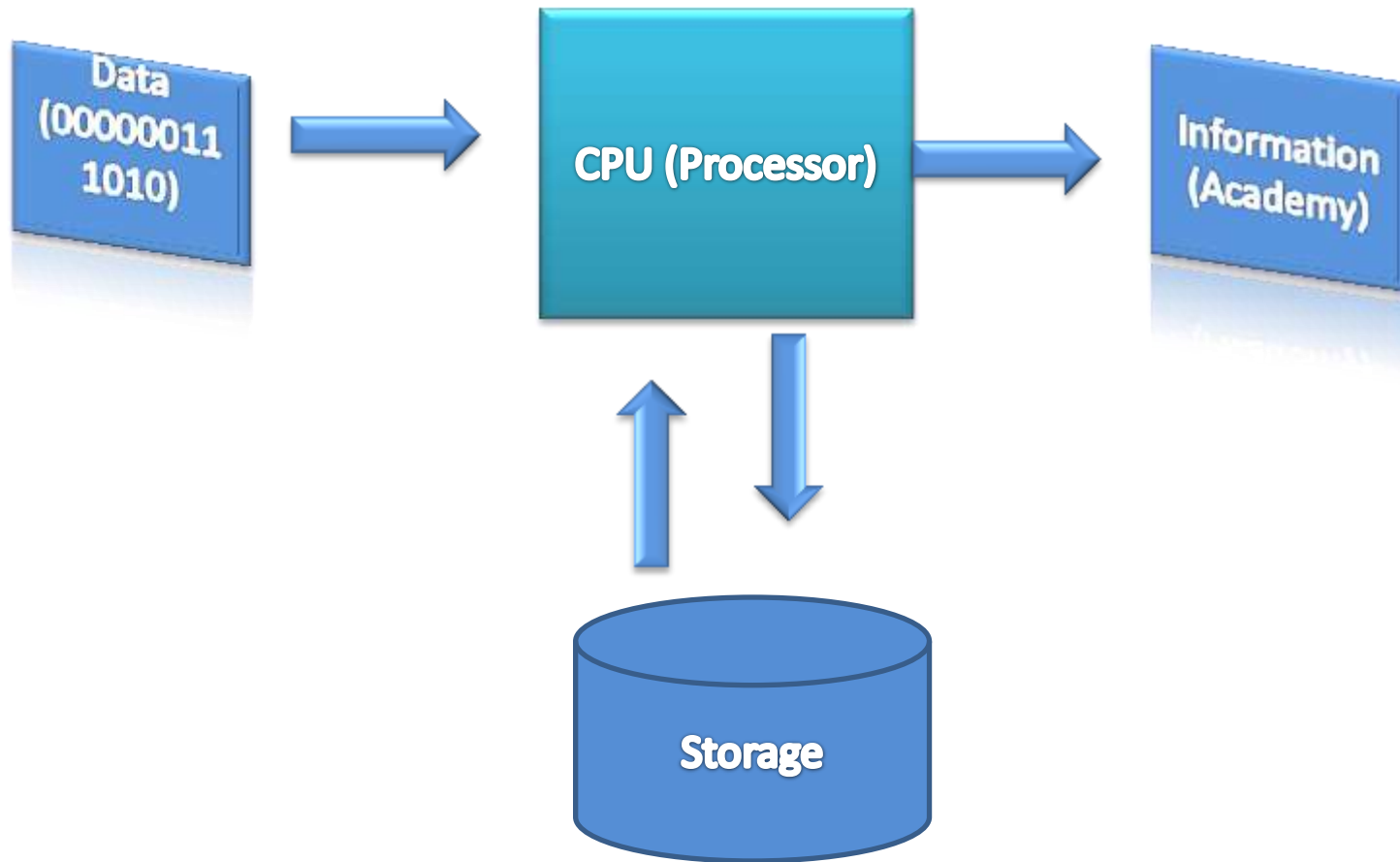"A computer is a machine that manipulates data according to a set of instructions"

"A programmable device that performs mathematical calculations and logical operations, especially one that can process, store and retrieve large amounts of <u>data</u> very quickly"

What is Modern Computer?

- **Input**
- **Process**
- **Output**
- **Storage**
- **Communication**

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Konrad Zuse in 1936 first programmable machine
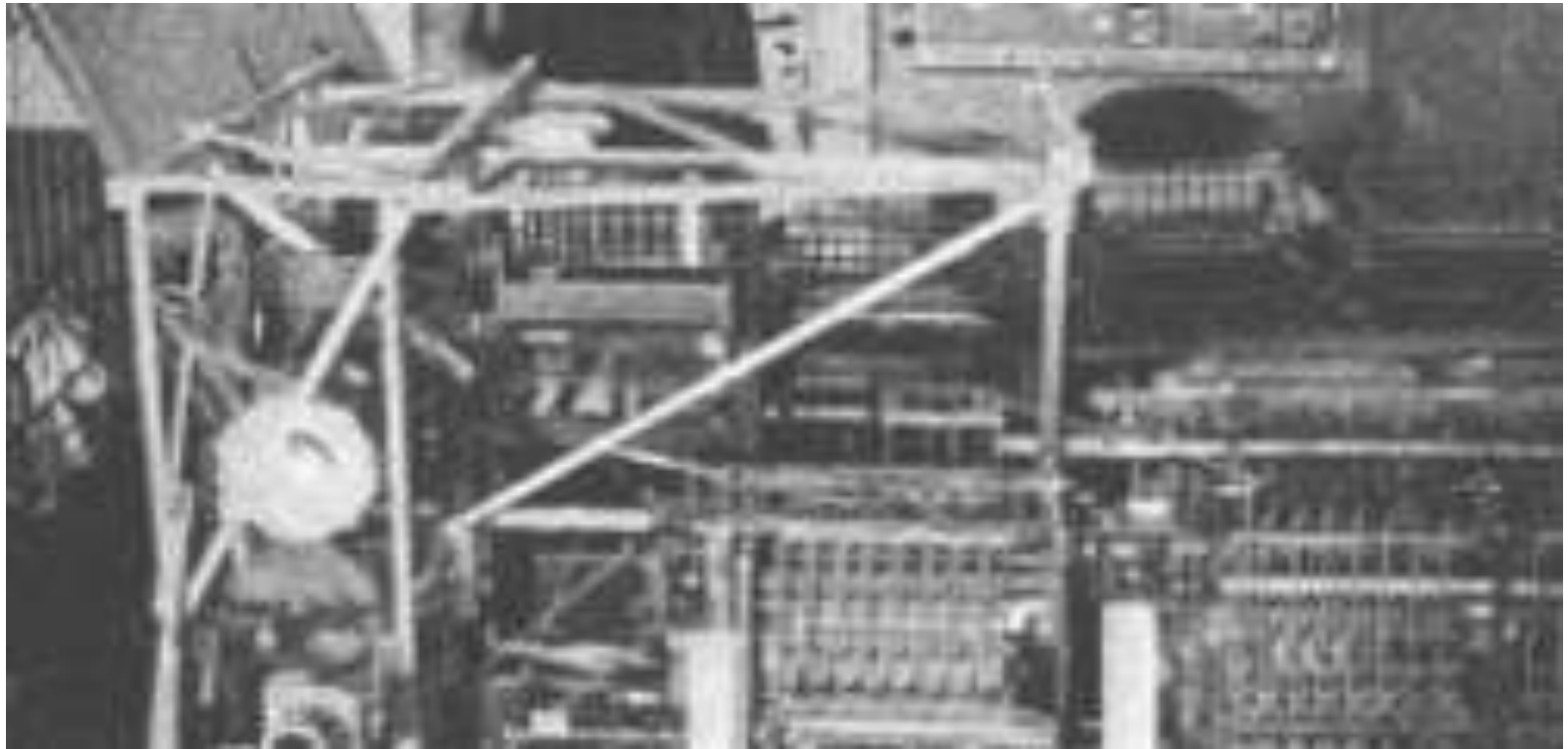
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Computer Founders?

- **Charles Babbage** [1810-20]
- **Alan Turing** [computing]
- **Ada Byron** [scientific]
- **Dennis Ritchie** [programming]

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Revolution

Vacuum Tubes

Transistor   [1956]

Micro chip   [1971]

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Processors History
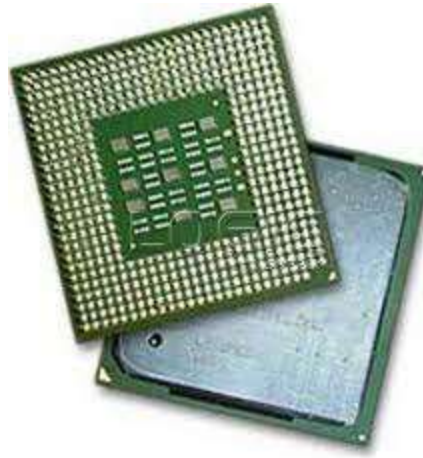
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Name	**:**	**4004**
Speed	**:**	**400 KHz**
Date of Launch	**:**	**15 November 1971**
Transistors	**:**	**2250**

Name   :   8008

Speed   :   500-800 KHz

Date of Launch   :   April 1972

Name	:	Intel 386
Speed	:	33 MHz
Date of Launch	:	Oct 1985

Name	:	Intel 486
Speed	:	50 MHz
Date of Launch	:	April 1989

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Name   :   **Pentium I**

Speed   :   **66 MHz**

Date of Launch   :   **22 Mar 1993**

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Name	**:**	**Pentium II**
Speed	**:**	**266 MHz - 400 MHz**
Date of Launch	**:**	**April 1998**
Speed	**:**	**Celeron 300-450 MHz**
Date of Launch	**:**	**June 1998**

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Name	**:**	**Pentium III**
Speed	**:**	**450-500 MHz**
Date of Launch	**:**	**January 1999**
Speed	**:**	**1.00 GHz**
Date of Launch	**:**	**March 2001**
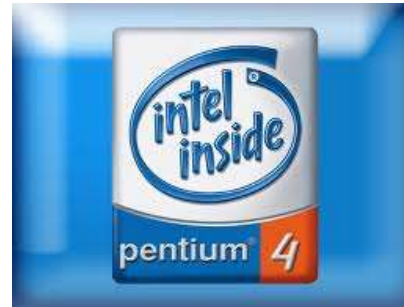
Name	:	Pentium IV
Speed	:	1.6, 1.7, 1.8 GHz
Date of Launch	:	July 2001

Speed	:	3.2, 3.4 GHz
		(55 Million Transistors)
Date of Launch	:	March 2004

Name	:	Intel Core Duo
Speed	:	1.61 – 2.0 GHz
Date of Launch	:	February 2006

Name	:	Intel Dual Core
Speed	:	1.66 – 3.20 GHz
Date of Launch	:	June 2006

Name	**:**	**Intel Core 2 Duo**
Speed	**:**	**1.8 – 2.93 GHz**
Date of Launch	**:**	**April 2007**

Name	**:**	**Intel Core 2 Quad**
Speed	**:**	**2.66 – 3.0 GHz**
Date of Launch	**:**	**July 2007**

(1.90 Billion Transactions)

Name   :   **Atom Processors**

Speed   :   **800 MHz – 1.86 GHz**
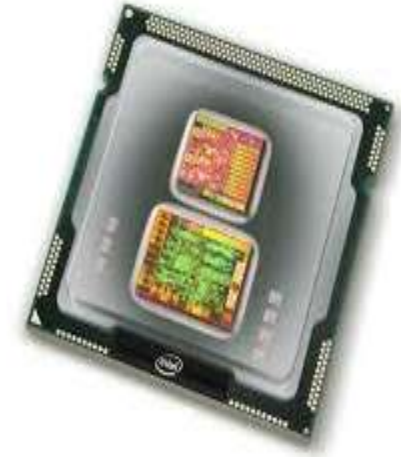
Date of Launch   :   **April 2008**

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Name	**:**	**Intel Core I3, I5, I7**
Speed	**:**	**2.66 – 3.0 GHz**
Date of Launch	**:**	**November 2008**

Processors

- ## Intel Vs Celeron
  - ☐ Low cost series
- ## Pentium Vs Atom
  - ☐ Compressed
- ## Core 2 Duo Vs Dual Core
  - ☐ More than one processor
- ## Pentium Vs Core I series

Windows?

- It is an operating system.
  - ☐ DOS

    Disk Operating System

Windows

August 24, 1995

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June 25, 1995

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Microsoft® **Windows** 2000

February 2000
Tested for 3 Months on 1500 computers

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- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010

October 25, 2001

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2006

1.5 million devices are compatible

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October, 2009
Tested on 8 million beta Testers
Selling 7 copies per Second
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Windows 8

October, 2012

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Other Operating Systems

Mac OS

LINUX POWERED

UNIX

Apple

SOLARIS

ubuntu

symbian

WHAT MAKES COMPUTER POWERFUL?

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# Information System

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"A set of interrelated information technologies that work together to process, store, collect, and distribute information"

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Information System

Elements / Parts

☐ **Software**

☐ **Hardware**

☐ **Database**

☐ **Network**

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Figure 1.1 Information System Components
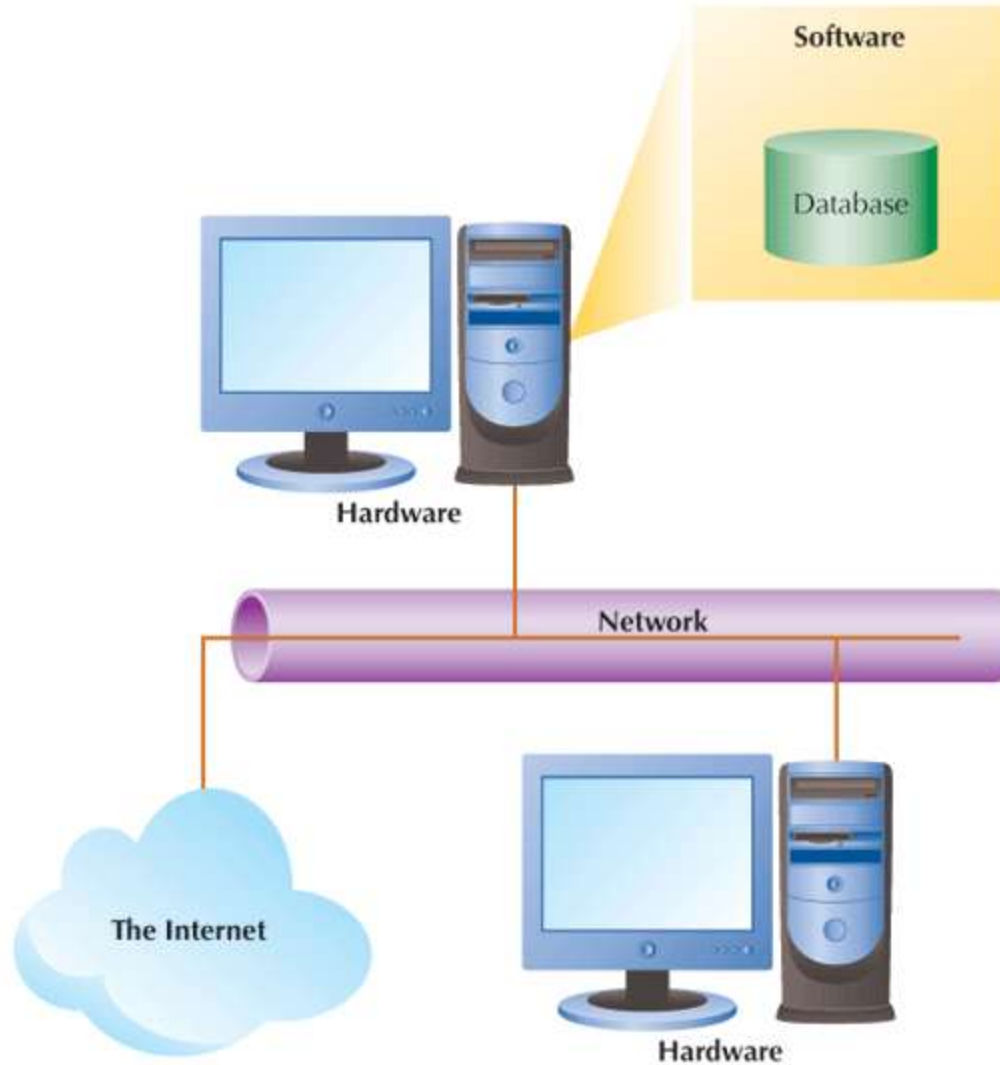
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Uses of Computers

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Marketing

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Stock Exchange

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Banks

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Departmental Stores

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Cont…

- Hospital Administration

- Recording Medical History

- Monitoring System

- Life Support Systems

- Diagnose of Diseases

- …

Application Software

- Used to performed specific task.

- Operating System is the base software.

- Every software run on top of Operating System.

Forms of Application Software

- Packaged Software

- Custom Software

- Shareware

- Freeware

- Open Source

Business Software

- ■ Word Processing software

- ■ Spreadsheet

- ■ Database

- ■ Presentation

Internet

- Worldwide collection of networks that connects millions of computers.

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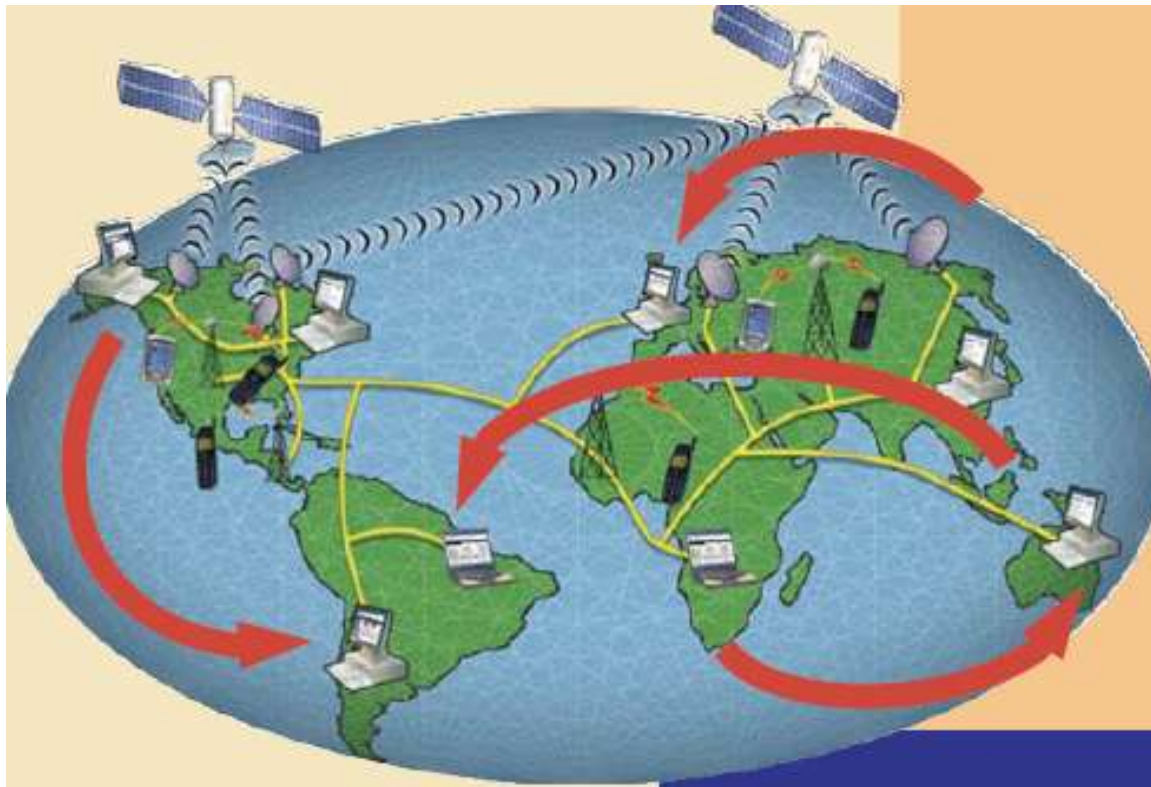
Advantages

- **Communication:**
- **Information**
- **Entertainment**
- **Services**
- **E-Commerce**
- **E-mail**

Cont…

- **Access Information**

- **Shopping**

- **Online Chat:**

- **Downloading Software**

Disadvantages

- **Theft of Personal information**

- **Spamming**:

- **Virus threat**

- **Pornography**:

INTERNET 2

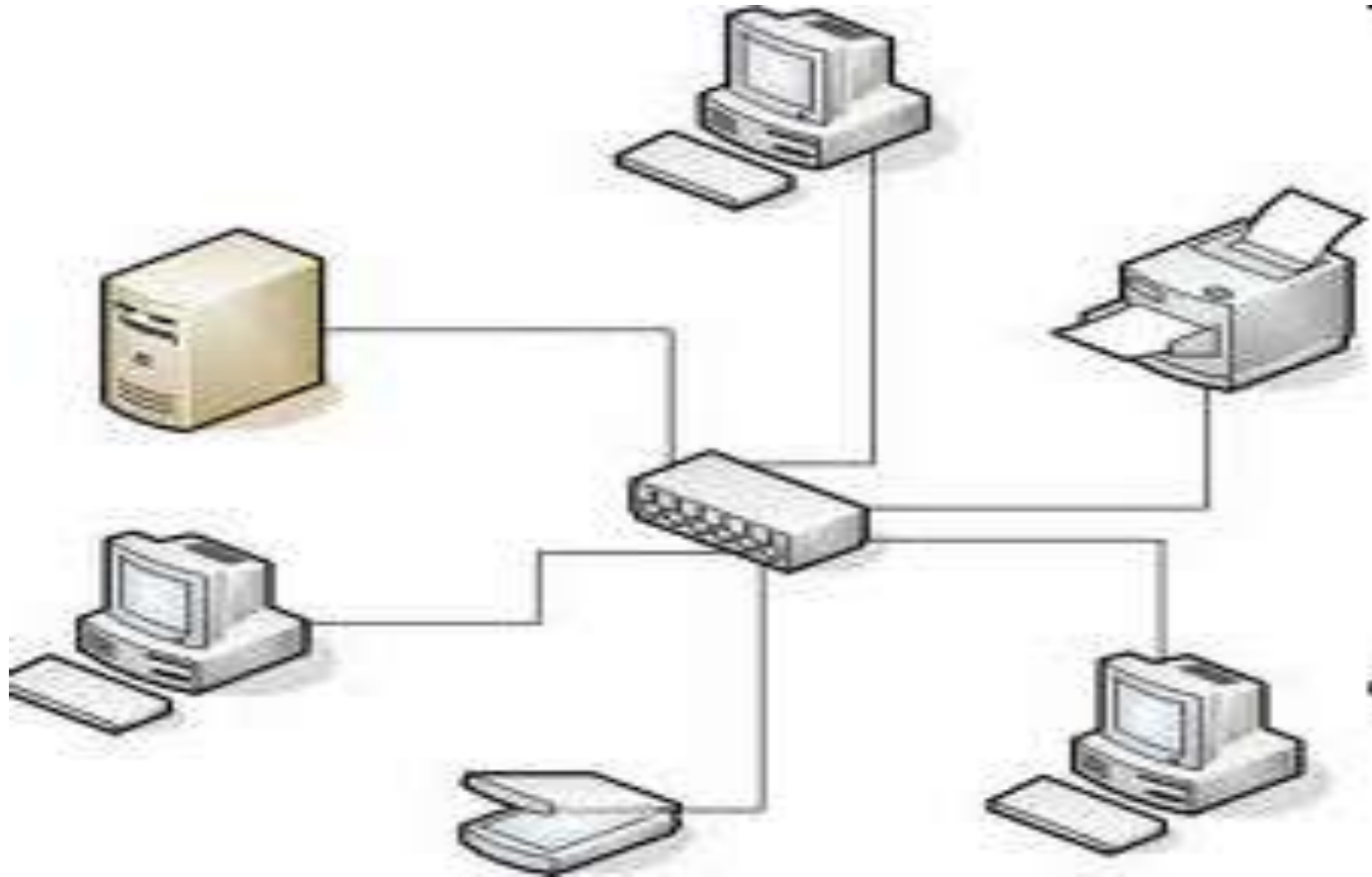IMRAN MUJADDID RABBANI
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Applications

- High Definition TVs
- Virtual Laborites
- Video Conferencing
- Digital Laborities

Education Application / Sites

Network?

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Client & Server

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- **Server**

    Manages the resources on a network.

- **Client**
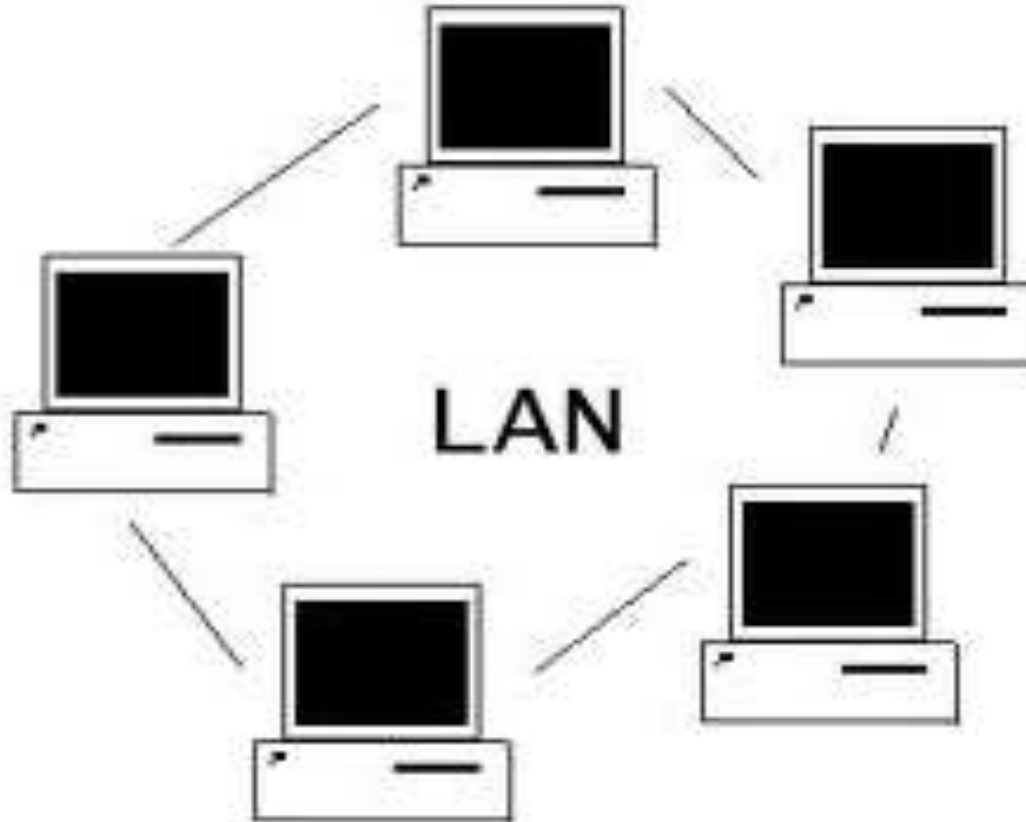
    Accesses the resources from server.

Networks Types

■ Local Area Network   [LAN]

■ Metropolitan Area Network   [MAN]

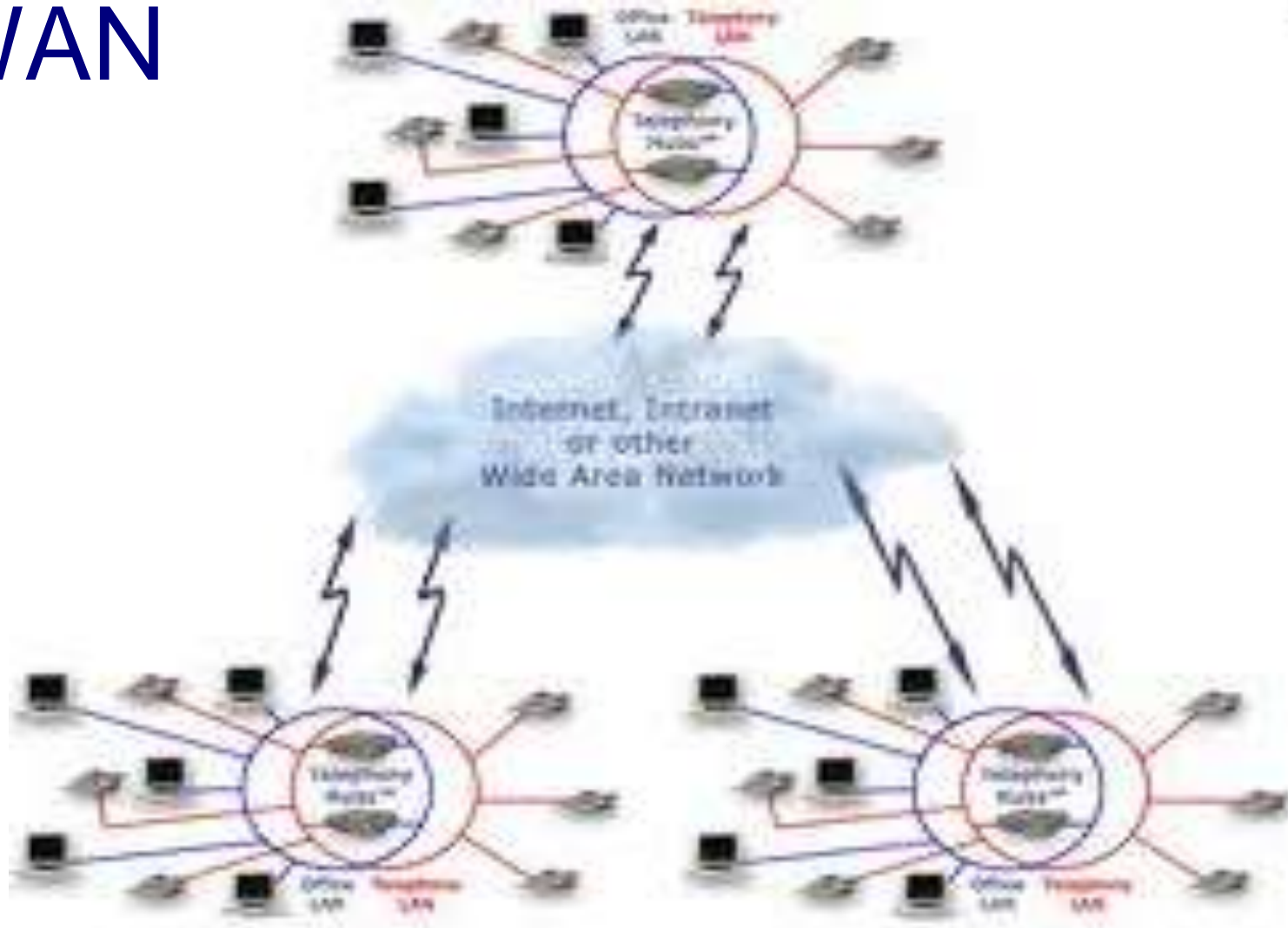■ Wide Area Network   [WAN]

LAN

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MAN

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WAN

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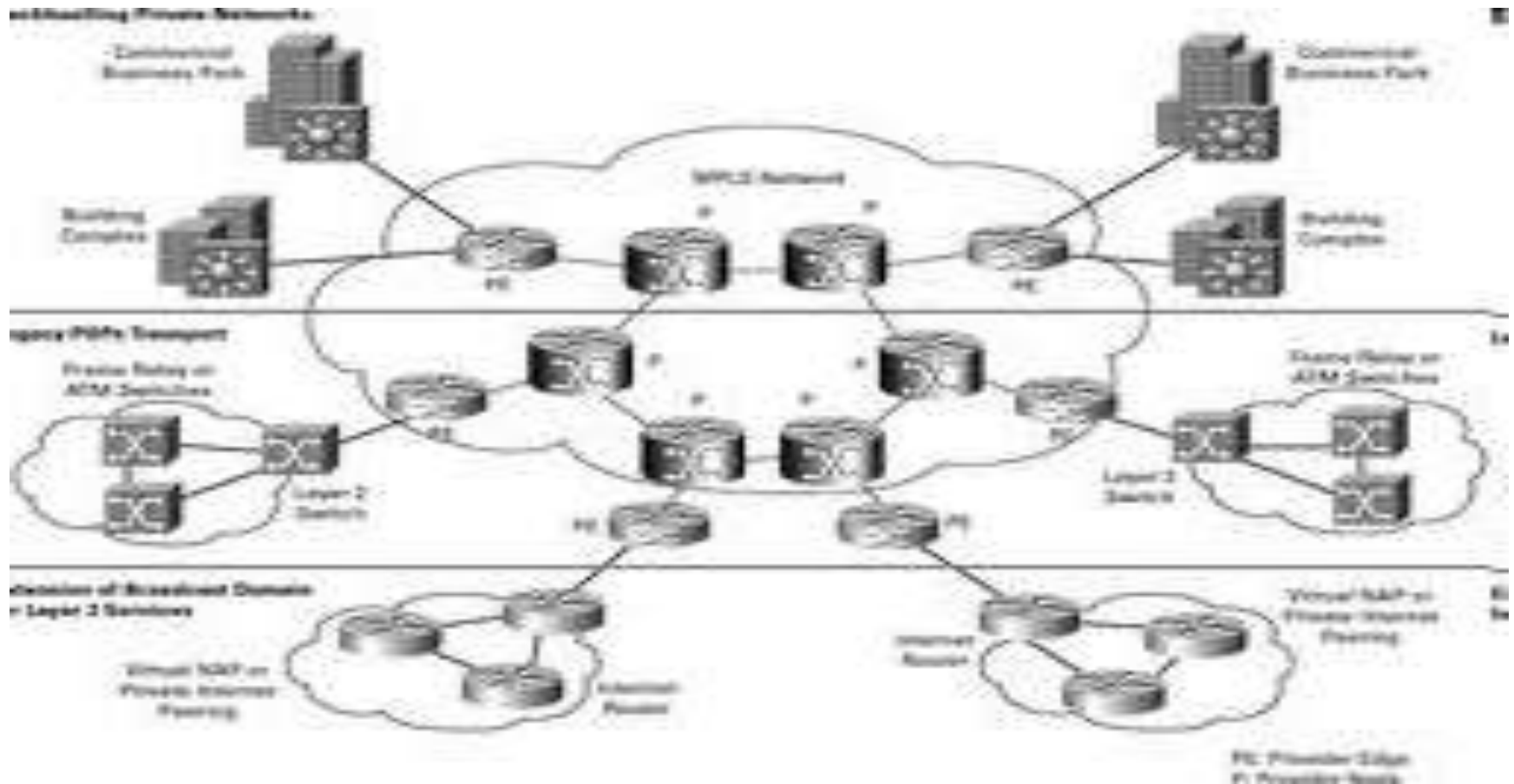
Network Attributes

Media
- Cable

  - Coaxial

  - Network

- Air
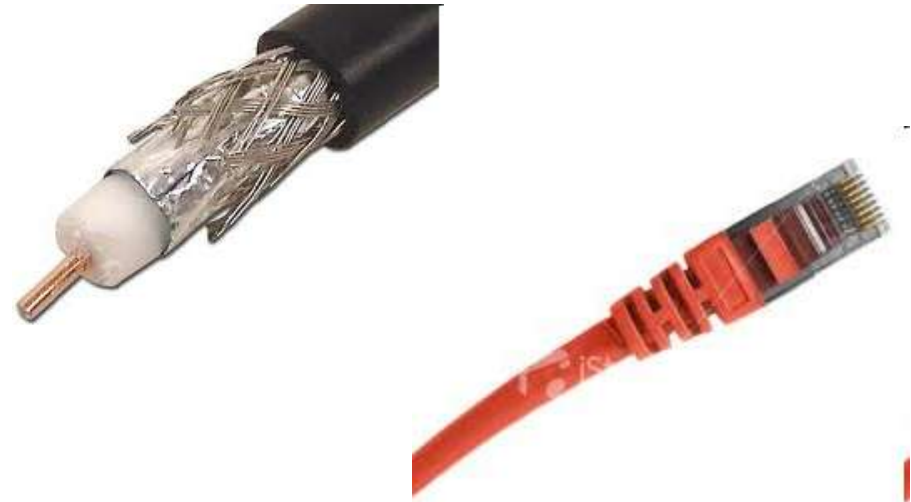
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Fiber Optic

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Devices

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Modem
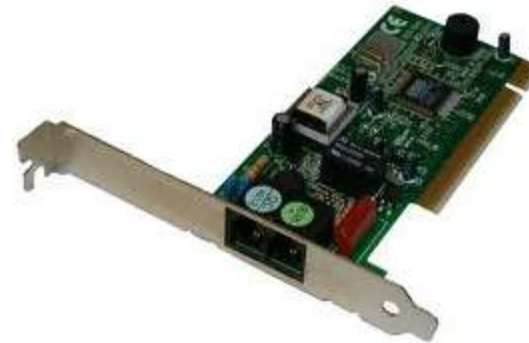
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Switch / HUB

Routers

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Ethernet

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Wireless

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Bluetooth

Bluetooth

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Infrared

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Wireless Technology
WI-FI

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- # WI-FI

Wireless & Fidelity

Run without a physical cable

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WI -FI Attributes

- Frequency   2.4 GHz

  Used by blue-tooth devices, microwave oven, cordless devices, Medical and Scientific Eqps.

- Throughput   11 Mbps

- Indoor Range   300 feet

- Outdoor Range   1400 feet

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How Network built?

Topology / Protocol

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BUS

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Star

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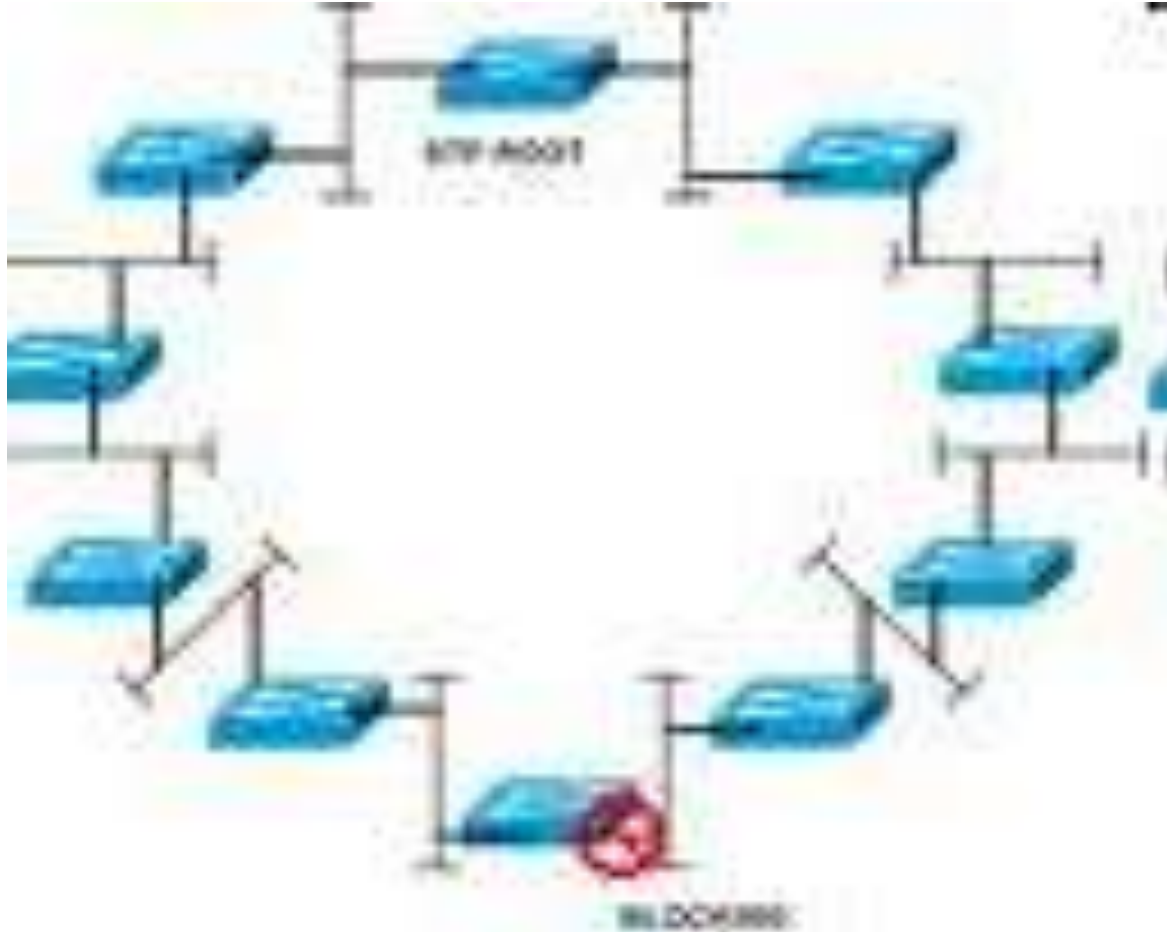Instructor IT. Punjab Judicial Academy
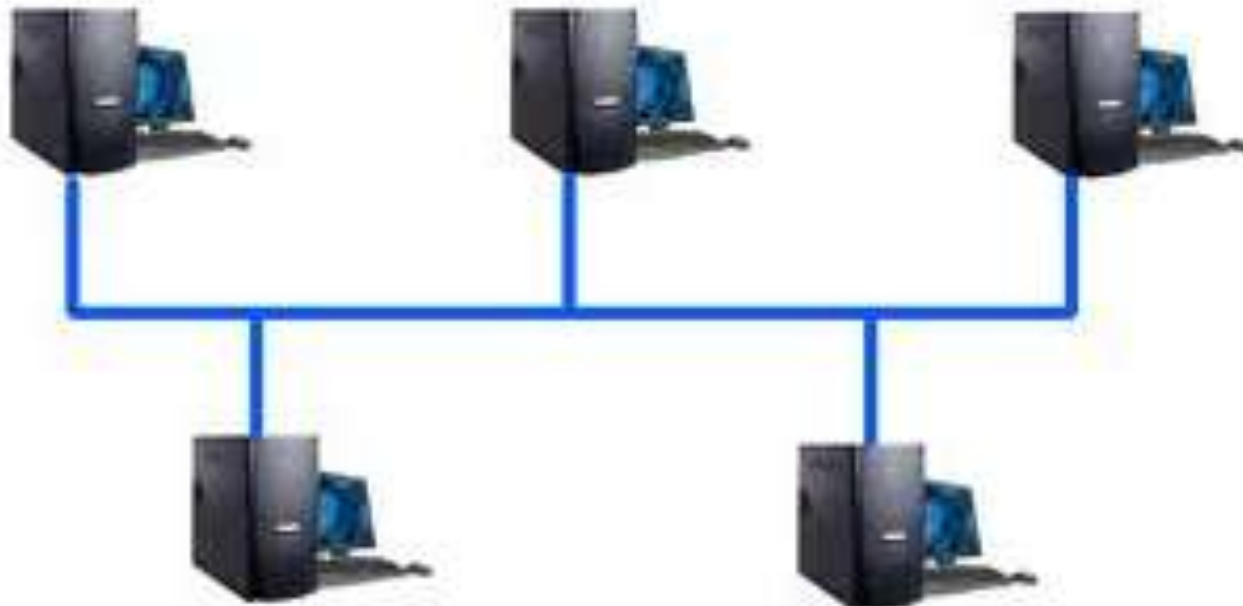
Ring

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Standards

- # IEEE 802.11 (a)

- # IEEE 802.11 (b)
  - ### Most used and available
  - ### 2.4 GHz – 11 Mbps

- # IEEE 802.11 (g)

Security

- ## Bit wise Security
  - ### 40 bits – 128 bits

- ## Secured Access
  - ### Proxy Servers
  - ### Firewalls
  - ### ISA Servers

Encryption

- Data Alteration

- Coding

- Data Encryption Standard [DES]

Hardware

- Workshop

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