

Principles of computers

First stage

Lecture

Network

By

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WHAT IS A NETWORK?

- A network is a system that connects multiple devices (computers, servers, printers, etc.) to share data and resources.
- Devices communicate over various media (wired or wireless) using established protocols.
- Networks can range in size from small home networks to vast enterprise networks.



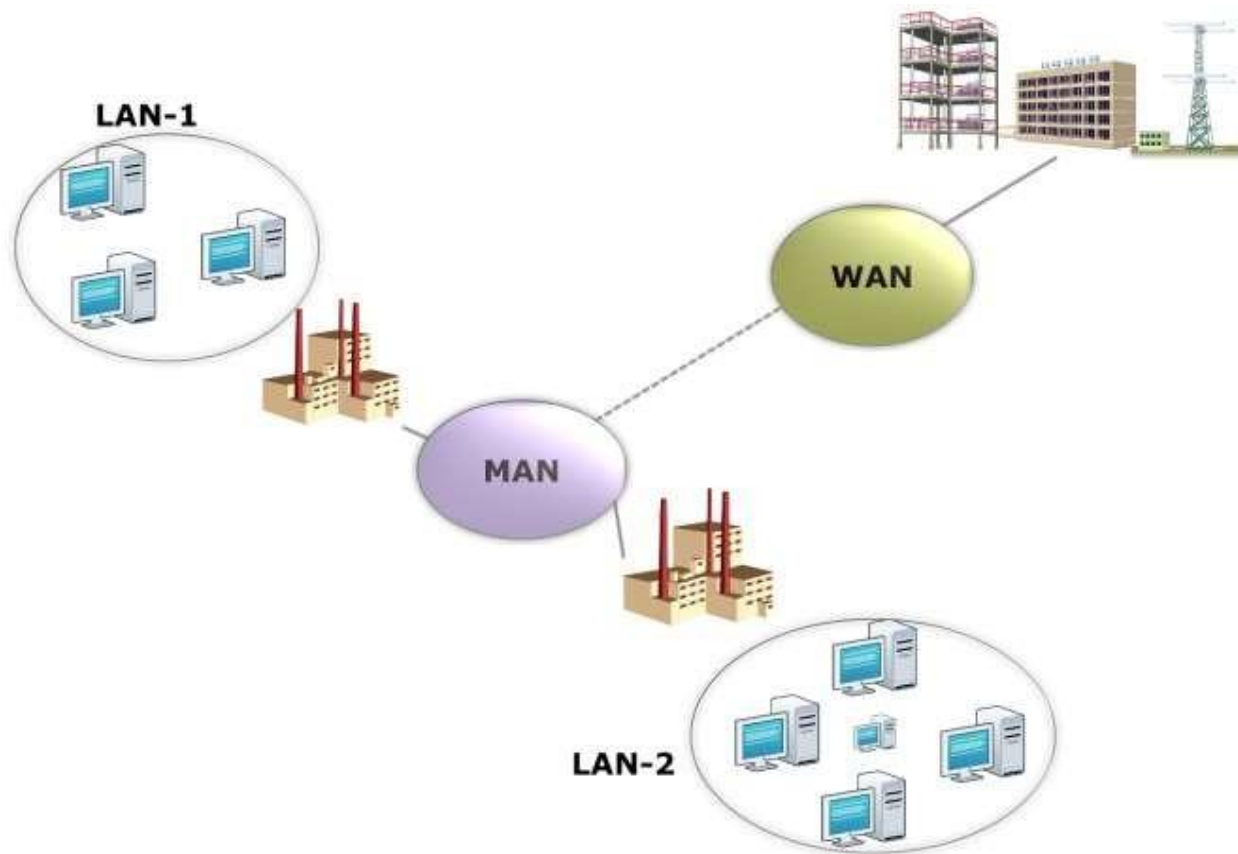
IMPORTANCE OF NETWORKS

- Why are Networks Important?
 - o Resource Sharing: Allows users to share printers, files, and internet connections.
 - o Data Management: Facilitates centralized data storage and access (e.g., cloud services).

- Improved Communication: Supports communication tools like email, instant messaging, and video conferencing.

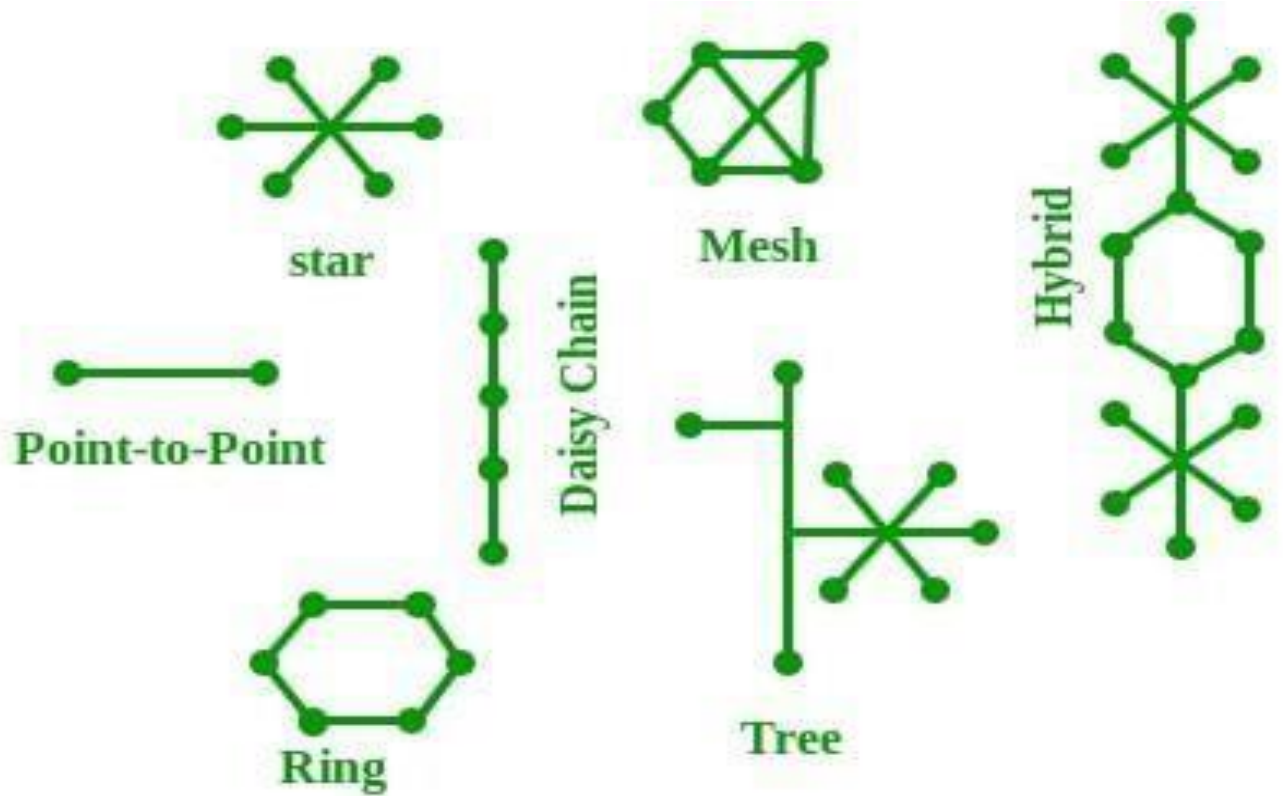
Types of network :

- o LAN (Local Area Network): Small geographical area, typically a single building or office.
- o WAN (Wide Area Network): Spans large distances, interconnecting cities or countries.
- o MAN (Metropolitan Area Network): Larger than a LAN but smaller than a WAN, typically covering a city.
- o PAN (Personal Area Network): Very limited range, typically used for personal devices like smartphones, laptops, and Bluetooth connections.
- o WLAN (Wireless LAN): A local network that uses wireless communication.
- o SAN (Storage Area Network): Dedicated to storage devices and allows block-level access to data.



NETWORK TOPOLOGIES:

- Common Topologies:
 - o Star: All devices are connected to a central hub/switch. Most common in LANs.
 - o Bus: All devices share a single communication line. Simple but can be slow.
 - o Ring: Devices are connected in a circular format. Data travels in one direction.
 - o Mesh: Devices are interconnected. Highly reliable



Advantages of Networking

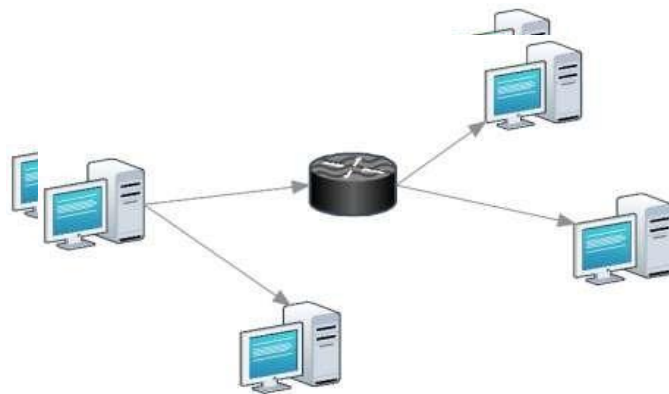
- Easy communication
- File, data and information sharing
- Resource sharing (hardware)
- Increase storage capacity
- Reduce cost
- Save time

Types of Network

1. Point to Point:



2. Multipoint:



Launching a Web Browser

- Web browser is an application that is located on a computer's disk. Once you have an internet connection, you can launch a web browser using the following methods

-Method 1

Step 1 – Go to "Start Menu"

Step 2 – From the menu opened, click on the web browser (Mozilla, Google Chrome, Internet Explorer).

-Method 2 – Alternate way is to click the shortcut icon on the taskbar or desktop.



The most popular web browsing software includes:

1. Google Chrome

Google Chrome is a web browsing software developed in the year 2008 by Google Inc. First, it was designed for windows platform, and later adopted to Linux, Macintosh, and even Android. It is written using C++, Assembly, Python, and JavaScript.

2. Mozilla Firefox

Mozilla Firefox is a web browsing software developed in the year 2002 by the Mozilla Foundation. It is designed to work on all operating systems like Windows, Macintosh, Linux, and Android. It is written using C++, JavaScript, Rust, C, CSS, XUL, and XBL.

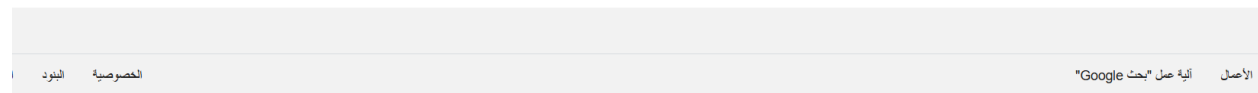
3. Opera

4. Internet Explorer

Opera & Internet Explorer are web browsing software developed in the year 1995 by Opera Software. It is designed to work on all operating systems like Windows, Macintosh, and Linux and is written using C++ language.



Search Engines



- Search Engine is an application that allows you to search for content on the web. It displays multiple web pages based on the content or a word you have typed.

The most popular search engines are listed below.

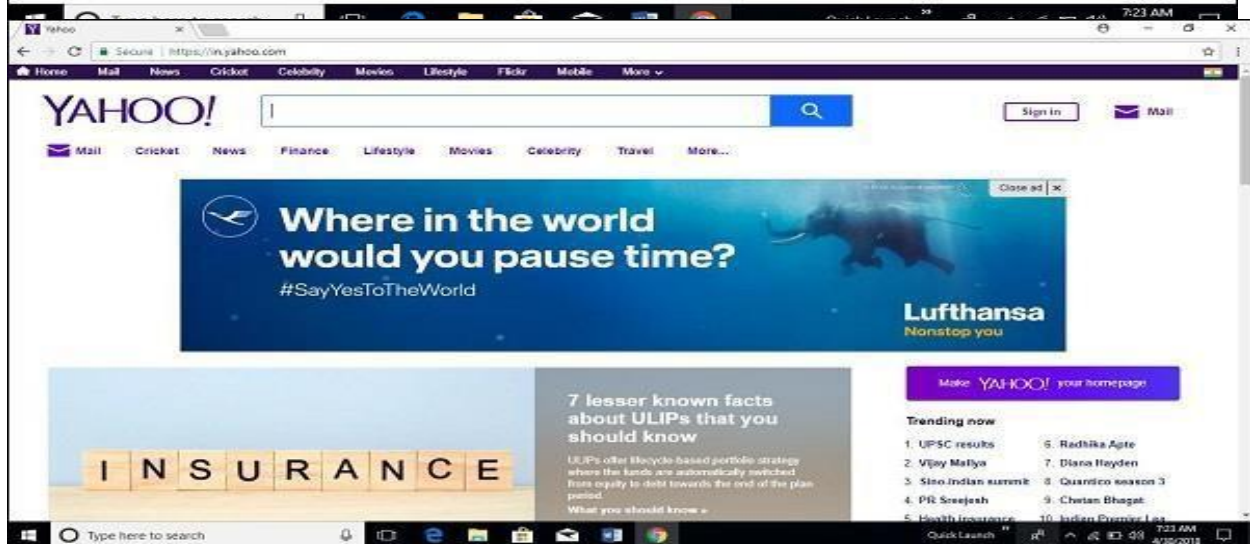
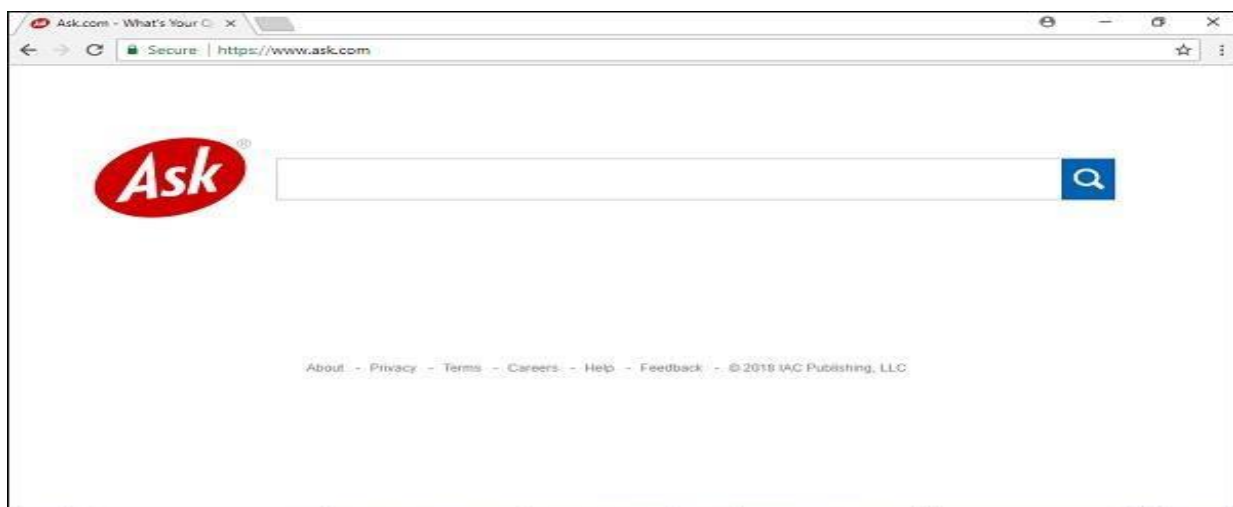
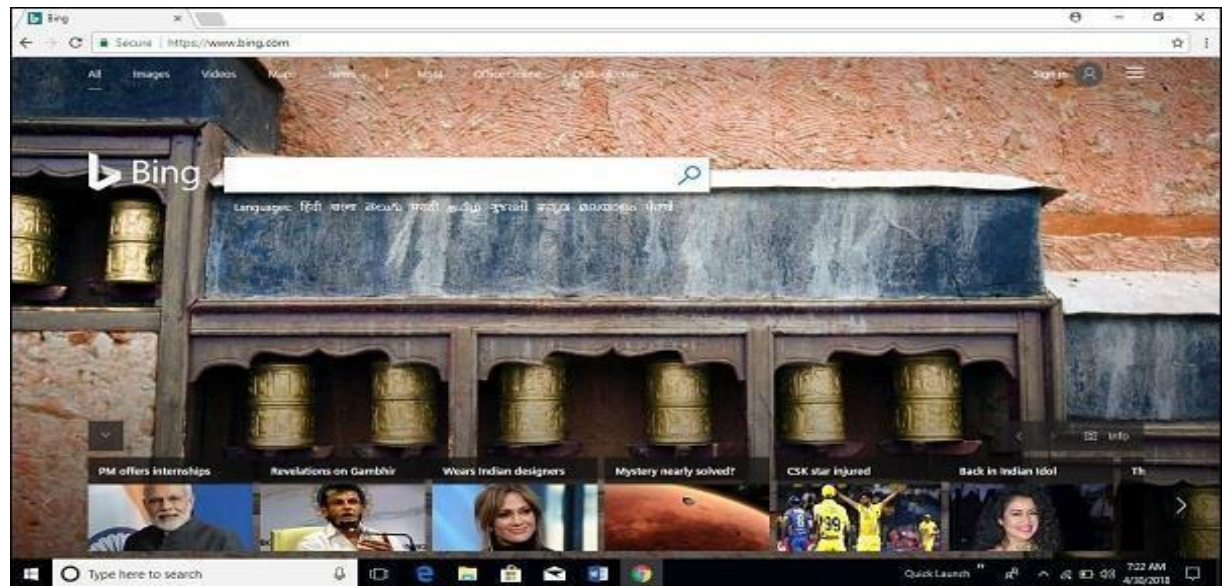
1. Google

Google is the most popular and robust search engine launched in the year 1997 by Google Inc..

Beyond searching content, it also provides weather forecasts, sports score, temperatures, area codes, language translation, synonyms, etc. Now-a-days the advancement is still more, that it displays maps in a touch.

2. Bing

3. Yahoo



Thank You!

