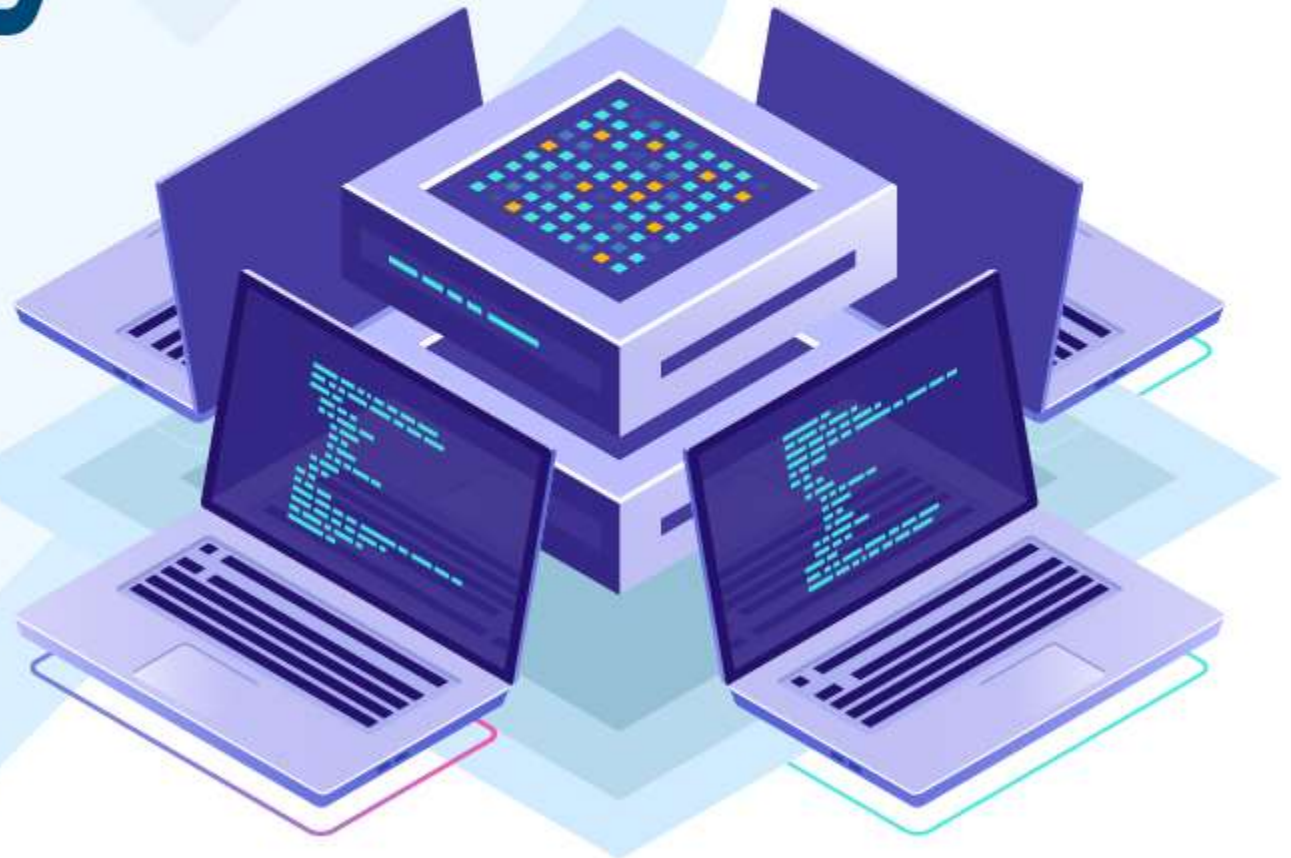


# Information Technology

Spring 20-21  
Semester 2

- » Introduction to Web
- » Dr. Rodaina Abdelsalam  
[rabdelsalam@eelu.edu.eg](mailto:rabdelsalam@eelu.edu.eg)



# Course Objectives

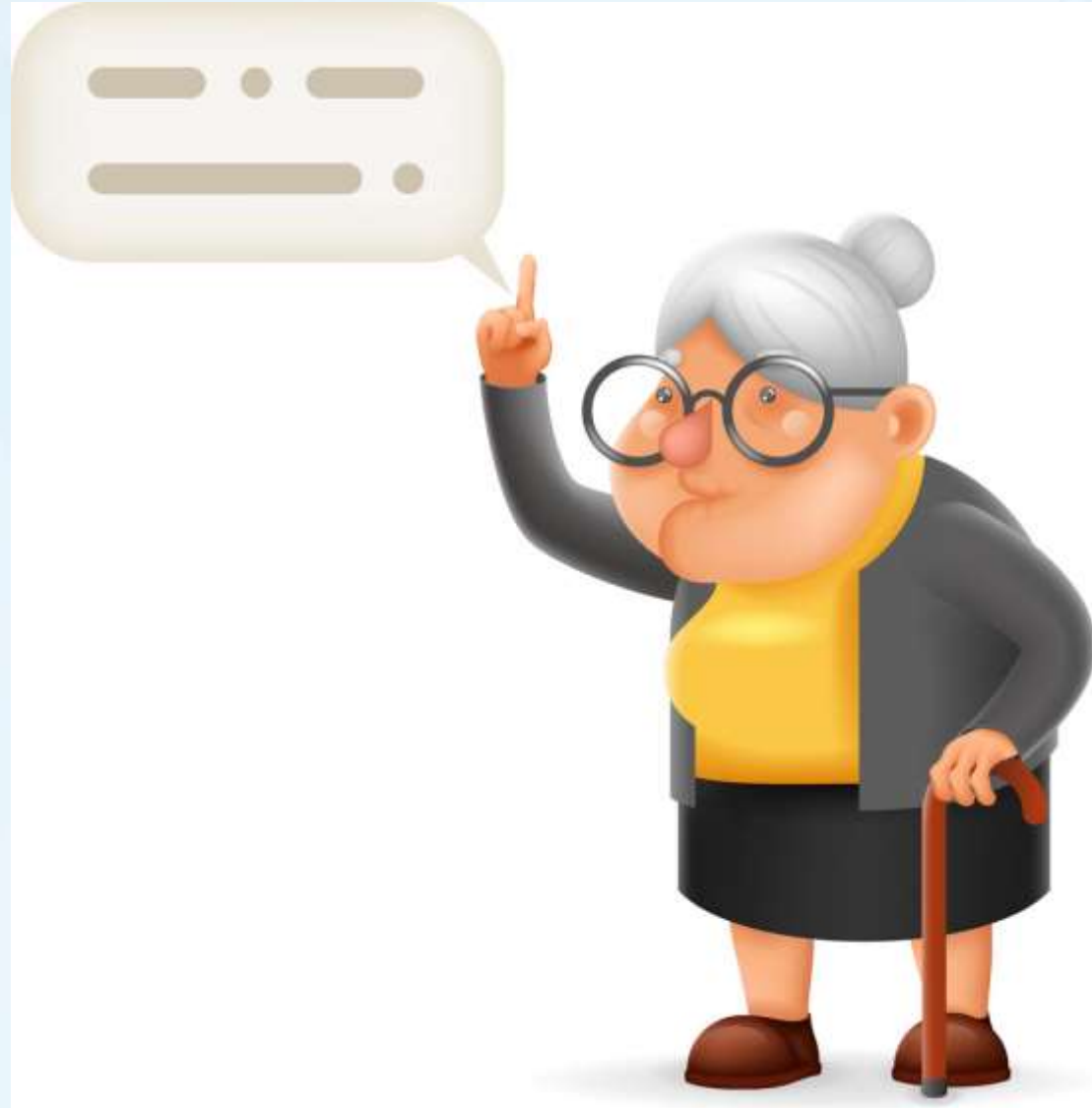
1. Basic Internet and Web Aspects
2. Architecture of the internet
3. Application of the Internet
4. Internet and Web Security
5. Societal Impact of the Web
6. Hypertext Markup Language (HTML) and Cascaded style sheet (CSS)

# Student assessments + Assessment Grades

- 10% Attendance and Project
- 20% Quizzes
- 20% Midterm Exam
- 50% Final Exam

# GPA

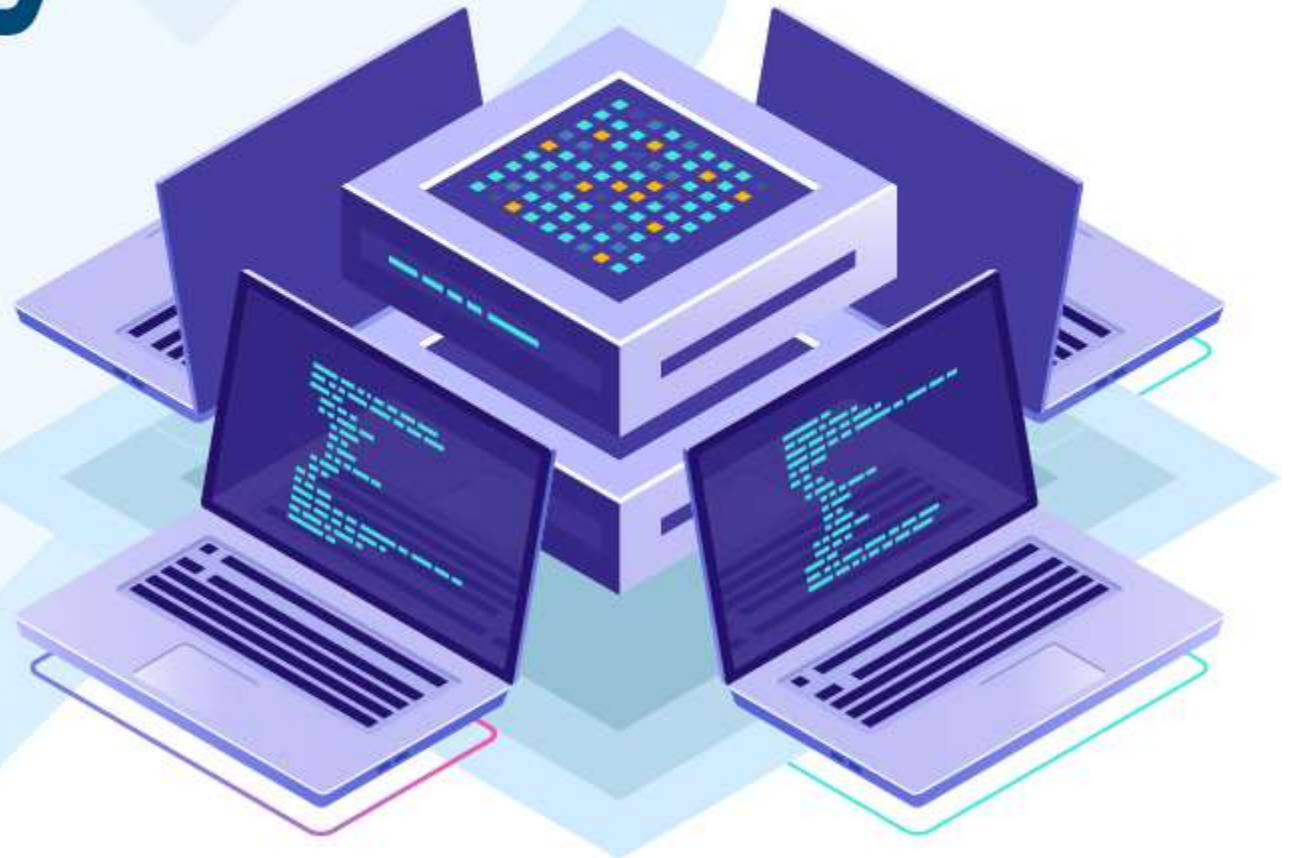
Grade		Grade points	Description
A+	95 - 100	4.00	Excellent
A	90 - < 95	3.8	
A-	85 - < 90	3.6	
B+	80 - < 85	3.4	Very Good
B	75 - < 80	3.2	
B-	70 - < 75	3.0	Good
C+	65 - < 70	2.8	
C	60 - < 65	2.6	Pass
C-	55 - < 60	2.4	
D+	52.5 - < 55	2.2	
D	50 - < 52.5	2.0	
F	< 50	0	Fail





# Information Technology

- » Module 1
- » Basic Internet and Web Aspects



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THE EGYPTIAN E-LEARNING UNIVERSITY

# Outline

- Internet definition and history
- World Wide Web (WWW)
- Internet vs. World Wide Web

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- **Internet definition and history**
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# Introduction

- Since 1950s important technological developments have created a global environment that is drawing the people of the world closer and closer together.
- Currently, we are in the information age, where magnifying the computation power is an essential goal.
- When computers are networked together, they allow us to generate, exchange, share and manipulate information in an uncountable number of ways.

# What is the Internet?

- The Internet : is a collection of local, regional, national, and international computer networks that is linked together to exchange data and distribute processing tasks.



# What is the Internet?

- internet backbone : The main routes that data travels over the internet
- TCP/IP (Transmission Control Protocol/Internet Protocol) : is the standard set of rules for electronically addressing and transmitting data over the internet.

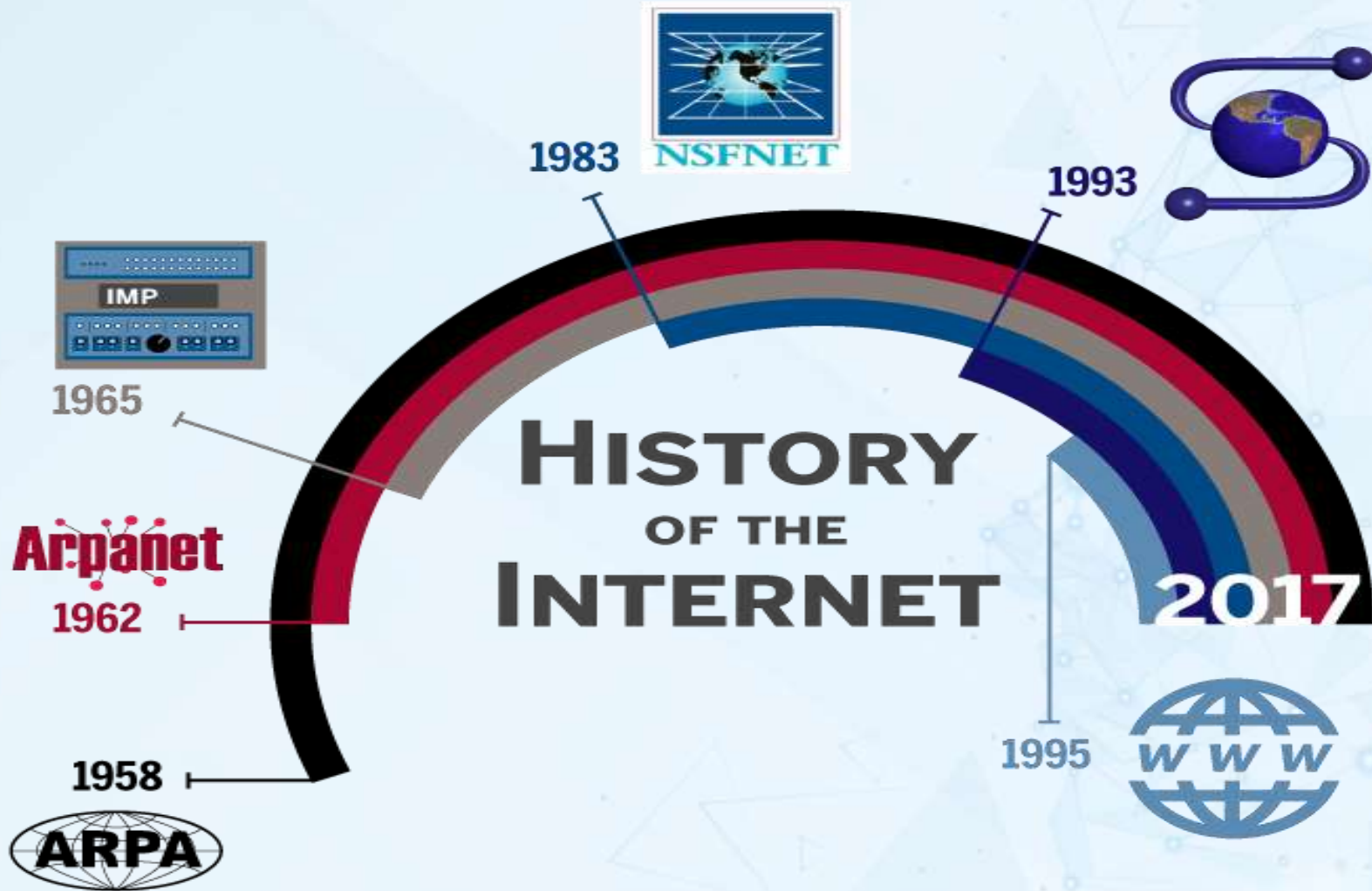


# Who owns the Internet?

- There is no single “owner” of the Internet but rather each of the networks comprising the internet has its own owner such as an Internet Service Provider (ISP), a government, an enterprise or a university.



# History of the Internet





# Evolution of the Internet

- The concept of a network connecting computers was under development by both government and university researchers looking for a better means to communicate and share research.
  - The military at the time relied in part on microwave transmission technology for communications. An unexpected attack on some of these towers demonstrated how susceptible the technology was to failure of even small portions of the transmission path. This led the military to seek a method of communicating that could withstand attack.
  - At the same time, university researchers were trying to share their work between campuses, and were struggling with similar problems when their transmissions suffered drops in signal.

# Evolution of the Internet

- Parties from both groups ended up at the same conference with presentations, and decided to collaborate in order to further their work.

# Evolution of the Internet

- At the time, computers were far from what we know them as today.
- A single computer was a large, immobile assortment of equipment that took up an entire room.
- Data entry was done by using punched cards of paper, or the newest method of the time, magnetic tapes.
- Interacting with the computer meant reserving time on the equipment and traveling to where it was.
- Most machines were owned by universities, large corporations, or government organizations due to the staffing demands, size, and cost to acquire and maintain them.

# Evolution of the Internet

- **The United States Department of Defense (DoD)** began to seek additional methods of transmitting information to supplement existing methods.
- They sought something that was decentralized, allowing better resiliency in case of attack, where damage at one point would not necessarily disrupt communication.
- Their network, Arpanet, connected the DoD and participating universities together for the first time.
- In order to *standardize the way networked systems communicated*, the **Transfer Control Protocol/Internetwork Protocol (TCP/IP) was created**.
- As various network systems migrated to this standard, they could then communicate with any network using the protocol.
- The Internet was born.



# Evolution of the Internet





# Evolution of the Internet

## From ARPANET to Internet

- The roots of the internet began with an experimental project called ARPANET (Advanced Research Projects Agency Network).
- The internet we know today is the result of the evolution of the ARPANET and the creation of the World Wide Web.

# Evolution of the Internet

- Email was soon to follow, as users of the networks were interested in the timely transmission and notification of messages.
- This form of messaging fit one of their initial goals.
- As time progressed, additional protocols were developed to address particular tasks, like FTP for file transfers and UDP for time-sensitive, error-resistant tasks.

ARPANET **was created** to achieve two main goals:

- To allow scientists at different locations to share information and work together on military and Scientific projects.
- To function even if part of the network were disabled or destroyed.

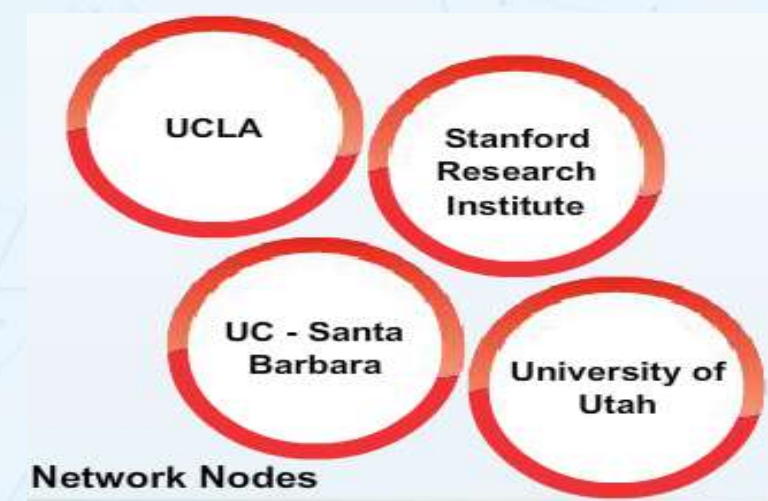
# Host node or node

- **Initially, ARPANET connected four nodes.**

- UCLA (University of California, Los Angeles)
- UC – Santa Barbara (University of California, Santa Barbara)
- Stanford Research Institute
- University of Utah

- **Node is defined as:**

1. Any computer (super computer in this case) that directly connects to a network.
2. Often stores and transfers data and messages.
3. Provides network connections for other computers.



# How has this network grown?

- As the network grew, hundreds of college and university networks were connected to ARPANET.
- These networks consisted of a mixture of DOS- based and Windows-based computers, Apple Macintosh computers, and UNIX workstations.
- Later, protocols were developed for tying this mix of computers and networks together.
- **The first networking protocol** used on **the ARPANET** was the Network Control Program. In 1983 it was **replaced with** the **TCP/IP protocol** developed by Robert Kahn, Vinton Cerf, and others, which quickly became the most widely used network protocol in the world.



# What is NSF net?

- NSF net stands for : National Science Foundation's network.
- NSF net connected five supercomputer centers to ARPANET in 1986.
- In 1990, the ARPANET was retired and transferred to the NSFNET.
- The NSFNET was soon connected to the CSNET, which linked Universities around North America, and then to the EU net, which connected research facilities in Europe.

# Who is Structuring and Controlling The Internet?



# Who is Structuring and Controlling The Internet?

- **Currently, Internet structure is provided by the following Entities:**
  1. Networks from corporations, commercial firms, and other companies.
  2. Telephone companies.
  3. Cable companies.
  4. Satellite companies.
  5. Government.

# Who controls the internet?

- The Internet is a **public, cooperative, and independent network**.
- No single entity controls or owns the Internet.
- Several non-profit organizations advise and define standards for internet such as.
  - Internet Corporation for assigned names and numbers (ICANN).
  - Internet 2.
  - World Wide Web Consortium (W3C).

# Uses of The Internet

- To communicate with people all around the world instantly. The messages sent over the internet can reach any part of the world in just a few seconds.
- To get the latest information on current events. Many leading news channels use the internet as the medium to provide updated news.
- To search for information on any specific topic, such as history of computers.
- To take many courses and register for online certification exams over the internet.
- As a source of entertainment; listen to music, play games, watch movies, or share pictures.
- To buy and sell products, such as books and electronic goods, over the internet. Also pay for these goods online by specifying the credit card details.
- To perform banking transactions, such as viewing details of bank account and transferring money from one account to another.



# Outline

- Internet definition and history
- **World Wide Web (WWW)**
- Internet vs. World Wide Web

# WWW Basics

- The [World Wide Web \(WWW\)](#) : is a collection of millions of documents that are **accessible through the internet** and that are distributed on millions of computers.
- Each document on the Web is referred to as a [Web page](#).
- Each web page can contain text, graphics, sound, or video. Each document can contain connections to other documents.
- These connections are called [hyperlinks](#).
- [Hyperlink](#) : is a reference to another document or to a specific element within the same document.
- **Hypertext** is text with [hyperlinks](#).

# WWW Basics

- Web documents are formatted in a markup language called **HTML** (HyperText Markup Language)
- A **Web browser** : is a software application for retrieving, presenting, and traversing web pages on the World Wide Web.
- A **Web site** : is a collection of related Web pages.

# HTML and Web Browsers/GUI

- HTML : is a language that includes a set of **tags attached to text**. These tags describe the relationship between text elements.
- HTML supports links to other documents, as well as graphics, audio, and video files.

## Web Browser/GUI (Graphical User Interface)

- Web Browser or GUI can be defined as : a software program that allows you to access and view Web pages.

# HTML and Web Browsers/GUI

- These pages are written in the hyper-text markup language, have “links” that allows the user to quickly move from one document to another, even when the documents are stored in different computers.
- **Currently there are many Web browsers available, the most popular are:**
  - Internet Explorer
  - Firefox
  - Opera
  - Google Chrome
  - Safari





# Web browsers



# The History of web browser (10 of 10)

- When all versions of Internet Explorer are put together, IE is still most popular.





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## THANK YOU FOR WATCHING

### QUESTIONS?

