CS210 – Lecture 1

1. Introduction

1.1 What is the World Wide Web (WWW)?

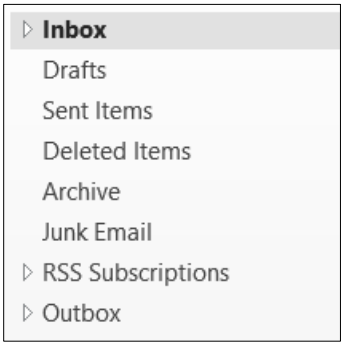
WWW is the information system that runs over the Internet

WWW is global, interactive, dynamic, cross-platform, distributed, graphical hypertext.

1.2 Hypertext

Hypertext enables you to read and navigate text and visual information in a non-linear way, based on what you want to know next.

An email system uses hypertext to present information. To get more information on a topic, you just click that topic. The topic takes you to a new screen that contains the new information.



1.3 WWW is Cross-Platform (Platform-Independent)

Cross-platform means that you can access WWW equally well from any device (Mobile phone, computer of any type: IBM, Macintosh, etc.) running any operating system (Android, Windows, Linux … etc.) using any display.

1.4 WWW is distributed

WWW is successful in providing so much information because that information is distributed globally across thousands of Web sites.

1.5 WWW is dynamic

The owner of a website can change its contents at any time. The owner of a website should make sure that information is up-to-date.

1.6 Web site

A Web site is a location on the Web that publishes information. Web site: a collection of one or more Web pages linked together.

1.7 Web page

A web page is a single element of a Web site.

Example

The website of "Faculty of Science" contains many webpages:

- A webpage for course enrollment
- A webpage for add/remove courses
- A webpage for courses- withdraw

1.8 Web Server

A web server is a computer on the Internet that stores website(s). The contents of every website are stored on a corresponding web server (either the whole server or space on it).

Note

To publish your website on the internet (to make your website available to everyone uses the internet), you need a web server or at least you need a domain.

1.9 Uniform Resource Locator

Each Web site, and each page on that site, has a unique address (www.google.com). This address is called **U**niform **R**esource **L**ocator (URL).

1.10 Web Browser

A Web browser is the program you use to view web pages on the internet. Web browsers sometimes are called Web clients. Examples: Microsoft Internet Explorer, Firefox, and Google Chrome.

1.11 Static webpages versus dynamic webpages

A static webpage contains the same content each time the page is loaded and displays the same information for all users.

A dynamic web page changes its content with one or more of the following factors:

- **The time** (ex. news webpages)
- **The user** (ex. preferences in a login session)
  Example: http://sci.p.alexu.edu.eg/Ar/Default.aspx:
  If you access the website as a student, you have specific authorities/privileges
  If you access the website as a faculty-member (academic advisor), you have specific authorities/privileges

The user interaction, ex. Online Games, when you play chess against the computer online, the next move of the computer depends on your move and vice versa.

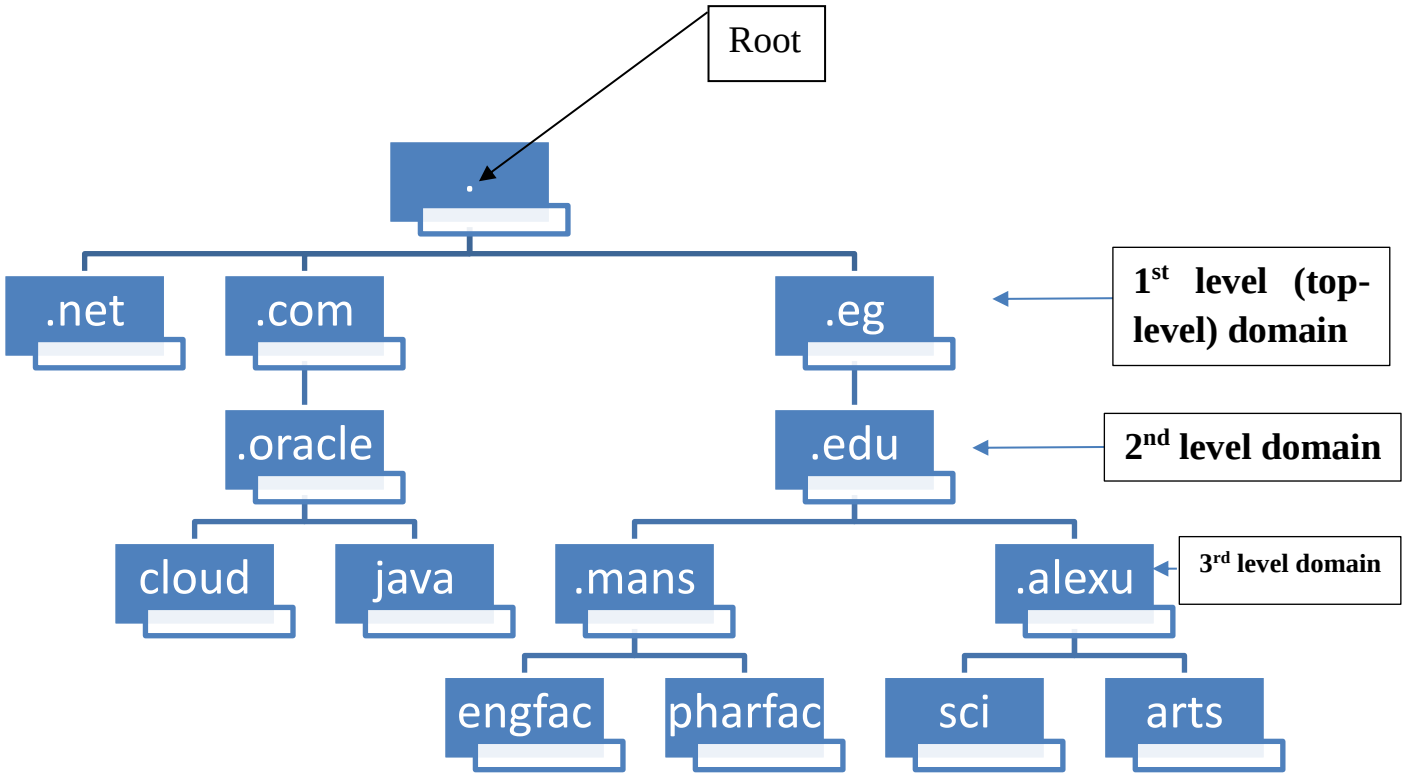
1.12 Domain

A domain is space on a server used to store a website. A domain is a server-space.

1.12 Domain Name

A domain name is a unique name that identifies a domain (ex. www.googole.com, www.hotmail.com). Having (buying) a domain means having a domain-name. If you buy a domain, then you buy a domain-name (say www.computerscience.com, no other person in the whole world can buy this domain-name).

1.14 Domains and Domain Hierarchy



Domain Name System Hierarchy

In the Domain Name System (DNS) hierarchy, domains consist of the root-level domain, followed by first-level (top-level) domains, followed by second-level domains and so on.

Example: www.cloud.oracle.com (you may NOT write www)

Top-level domain: .com

Second-Level domain: .oracle

Third-Level domain: .cloud

There are two types of top-level domains:

- Generic: such as .com, .net, .org
- Country Code: Two letter correspond to a country such as .eg, .uk, .us

2. HTML

Main Reference

https://www.w3schools.com/

2.1 What is HTML?

HTML stands for Hypertext Markup Language. A language used for creating web pages. A markup language uses a set of tags to create the components of the web page.

The general form of writing HTML code

```
<html>
<head>
        <title>        </title>
</head>
        <body>

        </body>
</html>
```

Notes

- All HTML commands go within the HTML tags <html> and </html>
- The <head> tag usually contains the <title> tag (and may contain other tags)
- The <title> tag contains the page title, which is displayed in the title bar of the webpage.
- The <body> tag contains all contents (except the title) of the web page.

2.2 Creating Your First HTML Page

To write HTML code, you do NOT need a Web server, or an internet connection. All you need is a text editor (Notepad or WordPad) to create HTML files and a web browser to view them.

For example, you may use the following link to download a program called **PHP Editor**

https://php-editor.en.uptodown.com/windows/download

To create a simple HTML page, do the following steps:

Step 1

Run your text editor, write your HTML code:

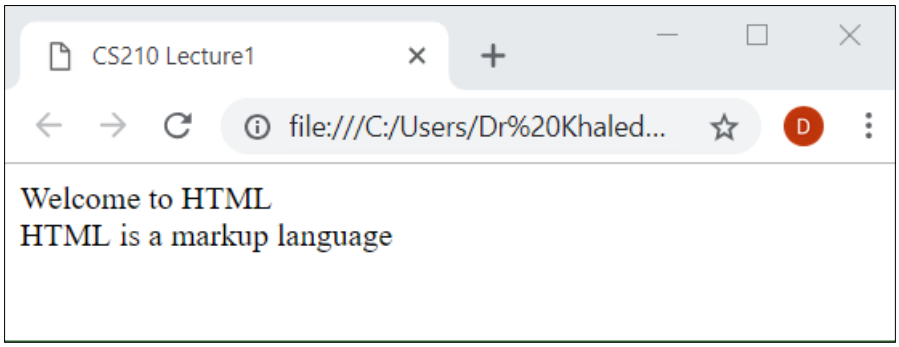
Step 2

Save the file with extension *.html or .htm*, for example "*myfile.html*" or "*mypage.htm*".

After saving the HTML file, open it, it will be opened using the Web browser.

Exercise 1

Write HTML code that generates the following webpage:

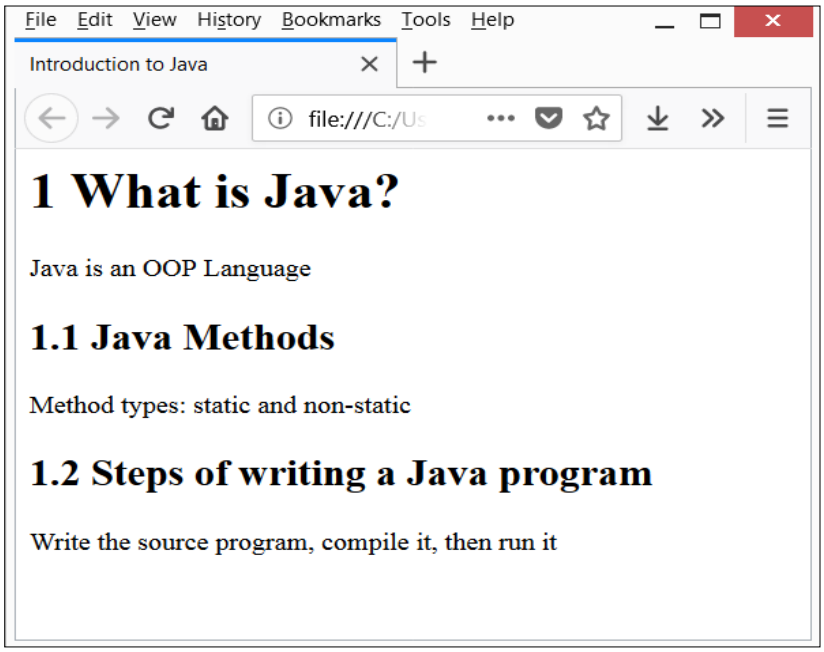


2.3 Headings

You use headings to divide sections of text. HTML defines six levels of headings: h1 through h6.

Exercise 2

Write an HTML code that generates the following webpage:



2.4 Tables

A table divides contents into rows and columns.

- <table>…</table> specify the entire table
- The *border* attribute is used to specify table border; by default, no borders are created.
- The *width* attribute specifies the width of the table relative to the webpage. By default, the table is sized to fit the data.
- <th> … </th> specify table headings.
- <tr>…</tr> specify a row in the table
- <td>…</td> specify row elements

Exercise 3

Write HTML code that generates the following webpage: