Week # 1
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Outline

• HTML Definition
• HTML Format/Structure
  – Head
  – Body
• HTML Objects
  – Header
  – Paragraph
  – Image
  – Link
  – Horizontal Line, Break Line
  – Special Characters
  – Formatting (color, text size, etc)
  – Ordered and Unordered Lists
HTML (Hyper Text Markup Language)

• A markup language to design documents for Web applications (Browsers)
• Extensions of html are .htm and .html
• Aim is to add basic document elements
  – Headers
  – Paragraphs
  – Lists
  – Images
  – Tables
  – Links
  – Flash Animations etc...
HTML (Hyper Text Markup Language)

- Employs tagging mechanism

  1. `<tag_name attribute_name = “attribute value” ...>`

     Opening tag

     CONTENT

     `</ tag_name>`

     Closing tag format

Examples:

- `<p align="center"> First Paragraph </p>`
- `<a href="2.html" target="_blank"> Next Page </a>`
2. `<tag_name attribute_name = “attribute value” ...>`

Examples:
- `<br/>` or `<br>`
- `<img src=“1.jpg” border=“0” />`
- `<hr/>`
HTML (Hyper Text Markup Language)

- To start a document, encapsulate all elements inside `<html>` tag
- Two main sections in an html document
  1. **Head Part:** (`<head> ...</head>`) place information related to document itself, such as author info, meta data, title, character encoding, language, external css, js files etc.
     - It is not displayed in the client browser
     - Example: to give a title to a html document.
       » `<title> My First HTML Page </html>`
  2. **Body Part:** (`<body> ...</body>`) the area that encapsulates all visible elements in the html document.
2. **Body Part:** (<body> ... </body>) All visible elements exists in the body part of the html document.

A skeleton of the html document:

```
<html>
  <head>
    <title> My title goes here </title>
  </head>
  <body>
    .
    .
    .
  </body>
</html>
```
1. **Headers:** to add/display header information in a document, use `<h#>` tag. There are 6 levels for headers. `<h1>` is the top level.

`<h1> Introduction to HTML Programming</h1>`

A sub-header:

`<h2> Aim of HTML </h2>`
By default, browsers display headers in a big font size and in a bold fashion.

Smaller number results in bigger font size.

Align property can be used for headers, it takes any value of center, left, right. Default value is left.

<h1 align="center"> Introduction to HTML Programming </h1>
Headers are block level elements.

Two visual properties:

1. **Block Level**: It displays the content in a new line, and the objects after a block level objects also move to the next line.

2. **Inline Level**: It does NOT move any elements. Displays side-by-side.
Two important points:

1. The order of tags has an impact on the layout of the document.

**Ex:**

```html
<html>
  <body>
    <h1>header1</h1>
    <h2>header2</h2>
  </body>
</html>
```

- Browser displays in source code order
- Header 1
- Header 2

Header 2 is displayed in the next line since it is block level
Two important points:

2. Format of the source code does NOT change the output.

   `<h1>header1</h1> <h1>header2</h1>`

   • Although they are side by side in the source code, it does not display so.
   • Indentation is not important for the result.
   • Even, one can write whole html codes in a single line.
   • Indentation is recommended to increase *readability* and *maintainability* of html codes.
HTML Objects (Elements)

- **Paragraph Object:**
  - `<p>` tag is used to add a paragraph (logically connected sentences) to the document.
  - `align` is also a property/attribute of `<p>` tag.
  - Paragraph is a block level element.
HTML Objects (Elements)

An example html source code:

```html
<html>
  <head>
    <title>My title is in the title bar</title>
  </head>
  <body>
    <h1>Introduction to HTML</h1>
    <h2>The Objective:</h2>
    <p>Write your paragraph here...</p>
    <p align="center">Page # 1</p>
  </body>
</html>
```
HTML Objects (Elements)

- **Link Object (Anchor):**
- used to redirect a browser to a given resource.
  - Image file (.jpg, .png extension)
  - Html page (.html, .htm)
  - Sound file (.mp3, .wav)
  - Data file (.pdf, .zip, .rar, .txt)
  - Animation (.swf, .avi, .mov)
**HTML Objects (Elements)**

- **Link Object (Anchor):**
- **URL (Unified Resource Locator)**
  - Format to locate/refer a resource in the Internet (www)
  - Protocol://ip_address/folder/file or resource name
  - [http://www.one.net/images/profile.jpg](http://www.one.net/images/profile.jpg)
  - [ftp://139.179.33.12/images/profile.jpg](ftp://139.179.33.12/images/profile.jpg)
HTML Objects (Elements)

- **Link Object (Anchor):**

  - If you refer to a resource in another computer, you have to use the url format.
  
  Ex: [http://www.bilkent.edu.tr/ann/welcome.pdf](http://www.bilkent.edu.tr/ann/welcome.pdf)

  - Otherwise, use folder and resource name only.
  
  Ex:
  
  - `img/back.gif` → this means that back.gif is in the `img` folder which locates in the same folder with the current page.
  - `Page2.html` → refers page2.html which is in the same folder with the current page.
HTML Objects (Elements)

- **Link Object (Anchor):**
- `<a>` tag with `href` attribute is used to create a link.
- Link is an inline level object.
- `<a href="http://www.bilkent.edu.tr">`

Go to Bilkent University

This content is displayed on the browser. When the user clicks this text, browser redirects to
HTML Objects (Elements)

- **Link Object (Anchor):**
- Content can be text, image, table; in short, any html object.
- By default, the current active browser redirects to given URL.
- Target property is used to determine the browser to redirect.
  - target="_blank"  → opens a new browser
  - `<a href="my_picture.jpg" target="_blank"> Picture # 1 </a>`
- For URL, it is allowed to write `mailto:admin@mysite.com`
- Browser automatically launches the default mail program (outlook etc...)
HTML Objects (Elements)

- **Image Object (Img):**
  - To insert pictures or images in a document, `<img>` tag is used.
  - Single tag (no closing tag)
  - Inline level (It does not move to next object to the next line)
  - `src` property is provided to indicate the URL address of image
  - `alt` property is used to give an alternative or descriptive text. If the user moves the mouse pointer on the image for a while, a descriptive text label pops up.
HTML Objects (Elements)

- **Image Object (Img):**
  - `width` and `height` attribute can be used to change the default / original image. (this is not recommended!!)
  - `<img src="img/next.gif" alt="next page" />
  - To make an image as a link object.
    `<a href="next.html">
      <img src="img/next.gif" alt="next page" />
    </a>
  - Image is the content of link object, it is displayed on the browser, and one can click to redirect page to next.html
  - To remove border around the image, `border` attribute should be set to 0. ... `alt="next page" border="0"`
Break Line <br/>

- It moves the current document flow to the next line.
- Similar to \n in C Programming.
- <br/> tag is a single tag.
- <p align="center">
  My Holiday Pictures<br/>
  <img src="first.jpg" /><br/>
  <img src="second.jpg" /><br/>
</p>

All objects in the paragraph are centered.
Some characters ( >,<,&,”,etc) are reserved for the html itself.

To display those characters, special codes are used.

To display a string as if \( x>10 \) then, you have to code it in html as <p>if x&gt;10 then</p>

<table>
<thead>
<tr>
<th>Some special characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;</td>
</tr>
<tr>
<td>“</td>
</tr>
<tr>
<td>space</td>
</tr>
<tr>
<td>€</td>
</tr>
</tbody>
</table>
Horizontal Ruler <hr />

- To draw a horizontal line to separate the document into logical sections.
- Single tag.
- Align, size and width properties are available for this tag. However, CSS is recommended to change those properties.

```
<hr align="center" size="5px" width="50%" />
```

- Height of the line in pixel
  - Absolute size.
- Half of available width
  - Relative size (%).
Formatting (deprecated)

• To change the appearance of html objects.
• CSS will be used for formatting purpose instead.
• Know those tags but do not use in your html codes.
• <i>: italic, <b>: bold, <u>: underline
Formatting (deprecated)

• `<font>`:
  – Three attributes/properties to change text
    1. Color: three ways to change color
       a) Use color name such as red, blue, black, etc...
       b) Use color codes, each color is composed of three fundamental colors (red, green, blue)
          • rgb (red amount, green amount, blue amount)
          • color="rgb(125,12,30)"
          Between 0 and 255
       c) Hex color codes, color amounts are between 00 and FF
          • color="#F1123A"   Hex color code
Formatting (deprecated)

- Three attributes/properties to change text
  2. Size: indicates the font size between 1 and 7 for absolute size. +2 is relative size, 2 amount bigger than the current font size.
    - <font size="3" color="#12753A"> Hello World </font>
  3. Face: to select font family.
    - Font names can be Arial, times new roman, courier, Tahoma, Verdana...etc
Formatting (deprecated)

Example:

<p>There are <b>three</b> ways to change the appearance of text in <i>html</i> <br/>
<font color="#FF3333">1.Color</font><br/>
<font size="6">2.Size</font><br/>
<font face="verdana">3.Font Family</font><br/>
But, they are <b><i>depricated</i></b> tags. <u>Do not use them at all</u></p>
**HTML Objects (Elements)**

- **List Object (ul or ol):**
- **Unordered List:**
  - It pretends a bullet to list items
  - `<ul>` tag is used as a container for list items.
  - List items are added one by one using `<li>`
  - **Ex:**
    ```html
    <ul type="disc">
    <li>item # 1</li>
    <li>item # 2</li>
    <li>item # 3</li>
    </ul>
    ```
    Bullet type can be *circle, disc* or *square*
  - By default, `<li>` is block level, this is why items are listed one under another.
HTML Objects (Elements)

- **List Object (ul or ol):**
- **Ordered List:**
  - **Ex:**
    `<ol type="a">`
    `<li>`item # 1`<;/li>`
    `<li>`item # 2`<;/li>`
    `<li>`item # 3`<;/li>`
    `</ol>`
  - By default, `<li>` is block level, this is why items are listed one under another.

Bullet type can be `1,a,` or `i`