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CSE347

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Lab:01

- HTML

HTML

- Hyper Text Markup Language (HTML) is the publishing language of the World Wide Web, the standard used to create web pages.
- HTML is a markup language that defines the structure of information by using a variety of tags and attributes that are designed to display text and other information on a screen and provide hyperlinks to other Web documents.
- Document name with .htm or .html extension

HTML Syntax

- HTML tags are mark up codes used for formatting ASCII (text) files, which is interpreted by the browser when displaying a web page.
- HTML tags basically include the tag name enclosed by angle brackets (< >). for example <HTML>
- Most tags are used in pairs, a begin tag and an end tag, for example <TITLE>…</TITLE>. The back slash on the tag signifies it as the end tag. Some tags do not require end tags.

HTML Syntax (Cont..)

- In coding HTML tags you can use capital letters, lower case, or a combination of both. For easy editing it is recommended that you use lower case letters for most purposes and capital letters for special cases.
- Browsers treat white spaces in HTML documents as a single blank space; defining the layout of your web page with the necessary white space requires the use of the appropriate tags.
- When you save an HTML file, you can use either the .htm or the .html file extension.

Basic structure of HTML

- **<HTML> … </HTML>** - All web pages should have this tag. With the closing tag for browsers to identify them as HTML documents. The beginning **<HTML>** and closing **</HTML>** it is often called the *root element,* as it is the root of an inverted tree structure containing the tags and content of a document.

Basic structure of HTML

- **<HEAD> … </HEAD>** - The head of an HTML document is like the front matter or cover page of a document. This tag contains all information about the HTML document.
- The following elements are related to the <HEAD> element:
  - **<BASE>** Allows the base address of HTML document to be specified
  - **<LINK>** Indicates relationships between documents
  - **<META>** Specifies document information usable by server/clients.
  - **<STYLE>** Specifies styles within the document when used by browsers that support use of style sheets
  - **<TITLE>** Specifies the title of the document
  - <SCRIPT> Specifies the script

Basic structure of HTML

- **<BODY> … </BODY>** - The body of an HTML document, as its name suggests, contains all the text and images that make up the page, together with all the HTML elements that provide the control and formatting of the page. The format is

<BODY>

The rest of the document included here

</BODY>

Example

```
<html>
    <HEAD>
        <TITLE>My First HTML Page</TITLE>
    </HEAD>
    <body>
        <h3>Welcome to My Site</h3>
    </body>
</html>
```

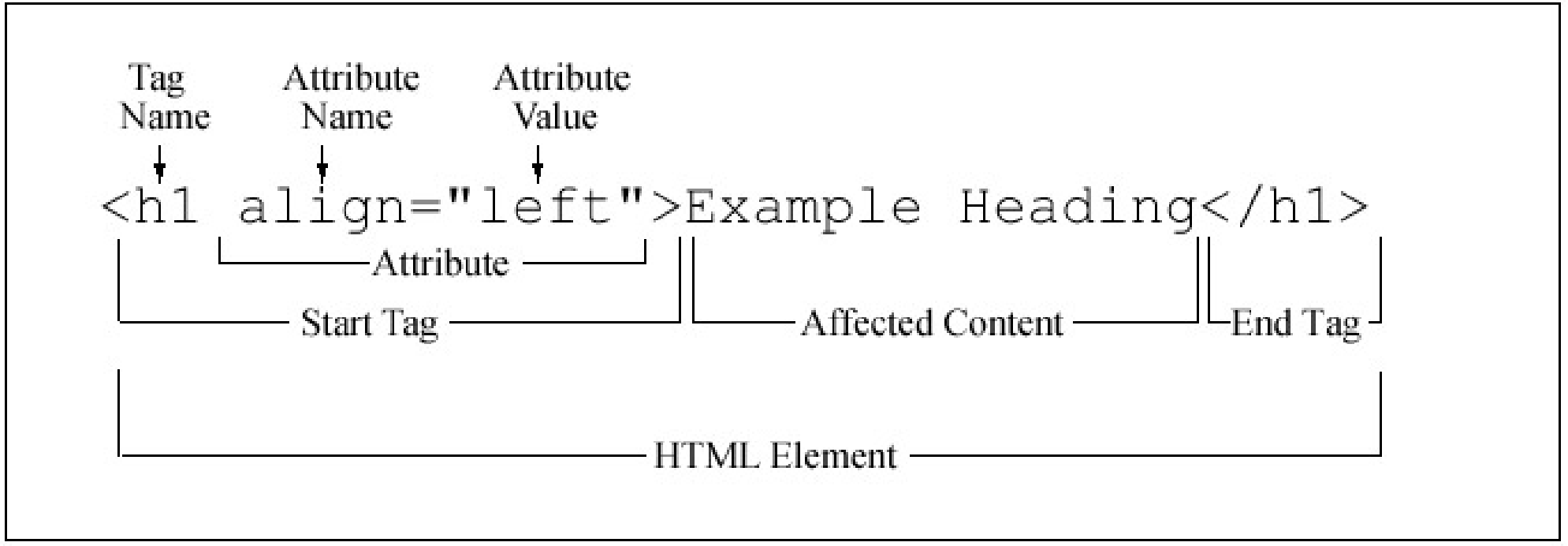
Elements

- HTML documents are defined by HTML elements.
- An HTML element is everything between the start tag and the end tag.
- The start tag is often called the opening tag.
- The end tag is often called the closing tag.
- All the arguments and values within an opening and closing tag are called an element.
- An element may include attributes, values, object, reference etc.
- There are many types of elements are in the body of a Web documents such as *block-level elements, Inline elements* etc.

Attribute and Values

- **Attribute**
  - The attribute further defines the properties of the HTML tag.
  - For example, the <table> tag has several attributes including align, border, height, width, etc.
- **Values**
  - A value is a string that provides description or characteristics of an element or attribute of an element.

Example


Tag Name
Attribute Name
Attribute Value
<h1 align="left">Example Heading</h1>
Attribute
Start Tag
Affected Content
End Tag
HTML Element

Rules of HTML

- **HTML is not case sensitive, XHTML is**

  <B>Go boldly!</B>

  <B>Go boldly!

  Go boldly!</B>

  Go boldly!

- **HTML/XHTML attribute values may be case sensitive**

  <img src="test.gif"> and <img src="TEST.GIF"> are not necessarily referencing the same image

Rules of HTML

- **HTML/XHTML is sensitive to a single white space character**. Consider the following markup and you will see same output.

```
<b>T e s t o f s p a c e s</b><br />
<b>T  e  s  t  o f  s p a c e s </b><br />
<b>T
e s
t o f s p       a c e s</b>
```

- **Elements Should Have Close Tags Unless Empty**

```
<p>This isn't closed.
<p>This is.</p>
<br></br>
<br />
```

Rules of HTML

- **Unused Elements May Minimize**

- **Attributes Should Be Quoted**
  - Although under traditional HTML simple attribute values did not need to be quoted, not doing so can lead to trouble with scripting. For example, <img src=robot.gif height=10 width=10 alt=robot>
  - But XHTML does enforce quoting, so all attributes should be quoted like so

XHTML: The Rules Enforced

- You must have a doctype indicator and conform to its rules. For example, <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/ xhtml1/DTD/xhtml1-transitional.dtd">
- You must have <html>, <head>, and <body> tag.
- <title> must come first in the <head> element.
- You have to quote all your attributes, even simple ones such as <p align= "left">.

XHTML: The Rules Enforced

- You must nest your tags properly, so is okay , but is not .
- You cannot omit optional close tags, so cannot stand alone; you must have and .
- Empty tags must close, so tags such as <hr> become <hr />.
- You must lowercase all tags and attribute names.

Core HTML Attributes

- **Id:** The id attribute is used to set a unique name for an element in a document. For example, using id with the paragraph tag, ,

  *<p **id="FirstParagraph">***

  *This is the first paragraph of text. *

- **Class:** The **class** attribute is used to indicate the class or classes that a tag might belong to. Like **id**, **class** is used to associate a tag with a name, so

  *** ***

  This is the first paragraph of text.

  *** ***

Core HTML Attributes

- **Style:** The **style** attribute is used to add style sheet information directly to a tag.

```
<p style="font-size: 18pt; color: red;">
  This is the first paragraph of text.
</p>
```

- **Title:** The **title** is used to provide advisory text about an element or its contents.

```
<p title="Introductory paragraph">
This is the first paragraph of text.
</p>
```

Basic Text Formatting

- Block formatting elements are used for the formatting of whole blocks of text within an HTML document, rather than single characters. They should all (if present) be within the body of the document (that is, within the <BODY>...</BODY> elements).

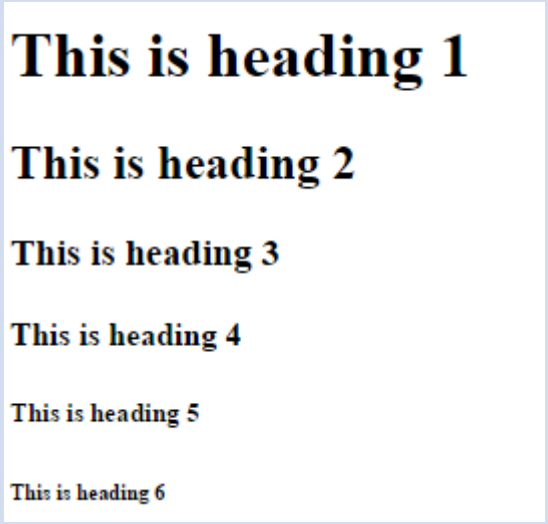
Header Tag: <Hx>...</Hx>

- HTML defines six levels of heading.
- A Heading element implies all the font changes, paragraph breaks before and after, and white space necessary to render the heading.
- The highest level of headings is <H1>, followed by <H2>...<H6>.

Header Tag: <Hx>...</Hx>

- <H1>...</H1> Bold, very-large font, centered. One or two blank lines above and below
- <H2>...</H2> Bold, large font, flush-left. One or two blank lines above and below
- <H3>...</H3> Bold, large font, slightly indented from the left margin. One or two blank lines above and below
- <H4>...</H4> Bold, normal font, indented more than H3. One blank line above and below
- <H5>...</H5> Bold, normal font, indented as H4. One blank line above and below
- <H6>...</H6> Bold, indented same as normal text, more than H5. One blank line above and below

Example

Code for Heading	Appearance at the browser
<html> <body> This is heading 1 This is heading 2 This is heading 3 This is heading 4 This is heading 5 This is heading 6 </body> </html>	

Paragraphs: <P>...</P>

- The paragraph element indicates a paragraph of text.
- Browsers automatically add some white space (a margin) before and after a paragraph.

Code for paragraph	Appearance at the browser
<html> *<body>* * In coding HTML tags you can use capital letters, lower case, or a combination of both. For easy editing it is recommended that you use capital letters for most purposes and lower case letters for special cases. * * Browsers treat white spaces in HTML documents as a single blank space; defining the layout of your web page with the necessary white space requires the use of the appropriate tags. * *</body>* *</html>*	In coding HTML tags you can use capital letters, lower case, or a combination of both. For easy editing it is recommended that you use capital letters for most purposes and lower case letters for special cases. Browsers treat white spaces in HTML documents as a single blank space; defining the layout of your web page with the necessary white space requires the use of the appropriate tags

< br / > Element

- Line Breaks are given Using the < br / > Element
- The line break element specifies that a new line must be started at the given point.
- Example

```
<P>
    Mary had a little lamb<BR/>
    It's fleece was white as snow<BR/>
    Everywhere that Mary went<BR/>
She was followed by a little lamb.
</p>
```

<HR> Element

- Insert a Horizontal line
- A Horizontal Rule element is a divider between sections of text such as a full width horizontal rule or equivalent graphic.
- The <HR> element specifies different horizontal rules.
  - **<HR ALIGN=left|right|center>** Set to display centered, left, or right aligned.
  - <HR COLOR=name|#rrggbb> Specifying of the hard rule color
  - <HR NOSHADE> Specify that the horizontal rule should not be shaded at all.
  - <HR SIZE=number> Specifies how thick the rule will be, in pixels
  - <HR WIDTH=number|percent> Specify an exact width in pixels

Presentational Elements

- These are used to format the text in the page like word processor.
- In the web page they are used to make text bold, italic, or underlined etc.
- The tags elements for presentation are < b >, < i >, < u >, < s >, and < tt > etc.

Presentational Elements(Cont..)

- **< b > Element**
  - Anything that appears in a < b > element is displayed in bold
  - The contents of a < b > element will be displayed in the same way as the contents of the < strong >.
- **< i > Element**
  - The content of an < i > element is displayed in italicized text.
  - It can also be performed using   element.
- **< u > Element**
  - The content of a < u > element is underlined with a simple line.
  - The < u > element is deprecated, although it is still supported by current browsers.

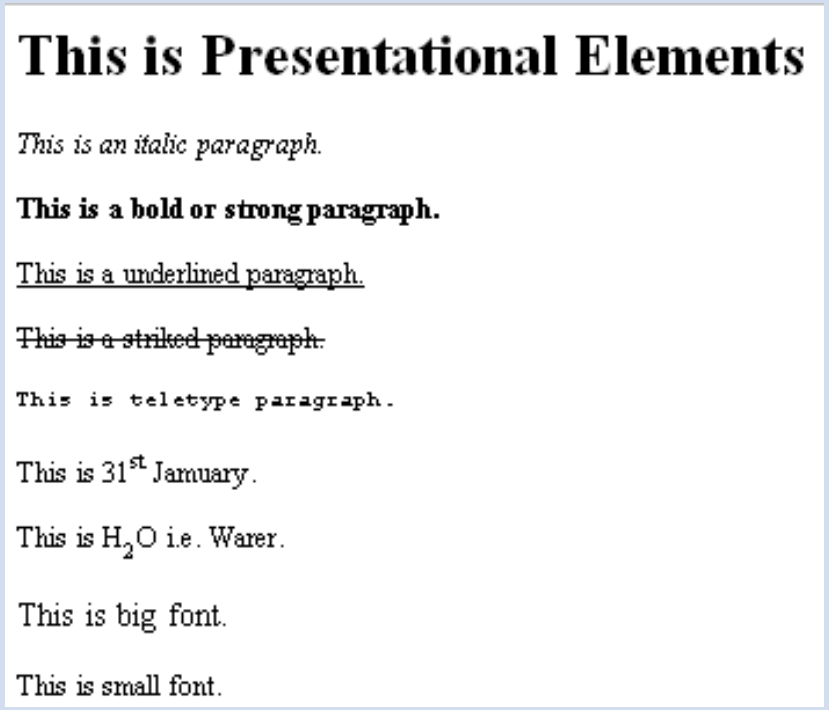
Presentational Elements(Cont..)

- **< s > and < strike > Elements**
  - The content of an < s > or < strike > element is displayed with a strikethrough, which is a thin line through the text
  - Both the < s > and < strike > elements are deprecated, although they are still supported by current browsers.
- **< tt > Element**
  - The content of a < tt > element is written in monospaced font (like that of a teletype machine).
- **< sup > Element**
  - The content of a < sup > element is written in superscript;
  - it is displayed half a character's height above the other characters and is also often slightly smaller than the text surrounding it.
  - The < sup > element is especially helpful in adding exponential values to equations, and adding the st , nd , rd , and th suffixes to numbers such as dates.

Presentational Elements(Cont..)

- **< sub > Element**
  - The content of a < sub > element is written in subscript;
  - it is displayed half a character's height beneath the other characters and is also often slightly smaller than the text surrounding it.
  - The < sub > element is particularly helpful to create footnotes.
- **< big > Element**
  - The following word should be bigger than those around it.
  - When this element is used, it is possible to nest several < big > elements inside one another, and the content of each will get one size larger for each element.
- **< small > Element**
  - The < small > element is the opposite of the < big > element, and its contents are displayed one font size smaller than the rest of the text surrounding it.

Presentational Elements Example

HTML Code	Appearance in the browser
<html> <body> This is Presentational Elements This is an italic paragraph. This is a bold or strong paragraph. <u>This is a underlined paragraph.</u> <s>This is a striked paragraph.</s> <tt>This is teletype paragraph.</tt> This is 31st Jamuary. This is H₂O i.e. Warer. <big>This is big font. This is small font. </body> </html>	

Phrase Elements

- Some of the elements in this section are displayed in a manner similar to the Presentational Elements, but they are not just for presentational purposes; they also describe something about their content.
- and < strong > for emphasis
- < cite > and < q > for quotations and citations
- < abbr >, < acronym >, and < dfn > for abbreviations, acronyms, and key terms
- < address > for addresses

Phrase Elements(Cont..)

- **< em > ... Element Adds Emphasis**
  - The content of an < em > element is intended to be a point of emphasis in your document, and it is usually displayed in italicized text.
  - The kind of emphasis intended is on words such as “must” in the following sentence: You must remember to close elements in XHTML.
- **< acronym > Element Is for Acronym Use**
  - The < acronym > element allows showing the acronym and indicates the elaboration when pointing to the acronym.

```
<acronym title = "Extensible Hypertext Markup
Language"> XHTML </acronym>
```

Phrase Elements(Cont..)

- **< q > Element is for Short Quotations**
  - The < q > element is intended to be used when you want to add a quote within a sentence, rather than as an indented block on its own.
- **< cite > Element Is for Citations**
  - If you are quoting a text, you can indicate the source by placing it between an opening < cite > tag and closing < /cite > tag.
- Example

```
<H2>Use of cite</H2>
<p>This chapter is taken from <cite> Beginning Web Development </cite></P>
<H2>Use of quotation </h2>
<p>Teacher said, <q> Close the book. </q> </p>
```

Phrase Elements(Cont..)

- **Address <ADDRESS>...</ADDRESS>**
- As its name suggests, the <ADDRESS>...</ADDRESS> element can be used to denote information such as addresses, authorship credits and so on.
- Typically, an Address is rendered in an italic typeface and may be indented, though the actual implementation is at the discretion of the browser. The <ADDRESS> element implies a paragraph break before and after

Phrase Elements(Cont..)

- *Example*

```
<address>
Written by <a href="mailto:webmaster@example.com">Jon
Doe</a>.<br>
Visit us at:<br>
Example.com<br>
Box 564, Disneyland<br>
USA
</address>
```

Written by Jon Doe.
Visit us at:
Example.com
Box 564, Disneyland
USA

Phrase Elements(Cont..)

- **Font**
  - Font tag supports different types of font, size, colors etc. its attributes are:
  - SIZE= “value”
  - FACE= “name”
  - COLOR = “color name”
- Example

```
<p><font size="5" face="arial" color="red">
This paragraph is in Arial, size 5, and in red text color.
</font></p><p>
<font size="3" face="verdana" color="blue">
This paragraph is in Verdana, size 3, and in blue text color.
</font></p>
```

The font element is deprecated in HTML 4. Use CSS instead!

Phrase Elements(Cont..)

- **Preformatted text <PRE>...</PRE>**
  - It allows the browser to show as formatted between <pre> and </pre>.
  - Example

```
<pre>
This is P   R   E  F   O   R   M   A   T   T   E   D
 T
    E
     X
       T
  SPACES     are ok!  So are
  RETURNS!
</pre>
```

Phrase Elements(Cont..)

- ** ..</ div >**
  - The tag defines a division or a section in an HTML document.
  - The tag is used to group block-elements to format them with styles.
  - The element is very often used together with CSS, to layout a web page.
  - By default, browsers always place a line break before and after the element. However, this can be changed with CSS.
  - Example

```
<div style="color:#00FF00">
  <h3>This is a header</h3>
  <p>This is a paragraph.</p>
</div>
```

Phrase Elements(Cont..)

- **..**
  - The tag is used to group inline-elements in a document.
  - The tag provides no visual change by itself. The tag provides a way to add a hook to a part of a text or a part of a document.
  - When the text is hooked in a element you can add styles to the content, or manipulate the content with for example JavaScript.
  - Example

```
<p>
    My mother has
    <span style="color:lightblue;font-weight:bold">light blue</span>
    eyes and my father has
    <span style="color:darkolivegreen;font-weight:bold">dark green</span> eyes.</p>
```

HTML Style Attribute

- The purpose of the style attribute is to provide a common way to style all HTML elements.
- styles were introduced with HTML 4, as the new and preferred way to style HTML elements.
- With HTML styles, styles can be added to HTML elements directly by using the style attribute, or indirectly in separate style sheets (CSS files).
- *It is recommended to avoid using deprecated tags and attributes in future versions of HTML and XHTML.*

HTML Style Attribute

Tags	Description
	Defines centered content
<font> and <basefont>	Defines HTML fonts
<s> and <strike>	Defines strikethrough text
<u>	Defines underlined text

Attributes	Description
Align	Defines the alignment of text
Bgcolor	Defines the background color
Color	Defines the text color

Block and Inline Elements

- All the elements that live inside the < body > element, can fall into one of two categories:
  - Block - level elements
    - **Block** - level elements appear on the screen as if they have a carriage return or line break before and after them.
    - For example, the < p > , < h1 > , < h2 > , < h3 > , < h4 > , < h5 > , < h6 > , < ul > , < ol > , < dl > , < pre > , < hr / > , and < address > elements are all block - level elements. They all start on their own new lines, and anything that follows them appears on its own new line, too.
  - Inline elements
    - **Inline**- elements can appear within sentences and do not have to appear on new lines of their own.
    - The < b > , < i > , < u > , < em > , < strong > , < sup > , < sub > , < big > , < small > , < ins > , < del > , < code > , < cite > elements are all inline elements.

Image Handling in HTML

- The Image element **<IMG….>** is used to incorporate in-line graphics (typically icons, images) into an HTML document.
- Browsers that cannot render in-line images ignore the Image element unless it contains the ALT attribute.
- The <img> tag is empty, which means that it contains attributes only, and has no closing tag.

Attributes of image element

Image element attributes	Description
SRC	Specify the URL of the image to be displayed
ALT	Specify an alternate text for an image/video, if the image cannot be displayed.
HEIGHT	Define the height of a graphics element.
WIDTH	Define the width of a graphics element.
ALIGN	Specify the alignment of images.
BORDER	control the thickness of the border around an image displayed

Links and Anchors

- Text, Images, and Forms may be used to create these links called hyperlinks that enable one to jump to a new document or a new section within the current document.
- Links are specified in HTML using the anchor **<A>** element.
- The **<A>…</A>** tag can be used in two ways:
  - To create a link to another document, by using the href attribute
  - To create a bookmark inside a document, by using the name attribute
- These connections are made using anchor tags to create links.

Links and Anchors(Cont..)

- This element needs two pieces of information:
  - the URL of the target resource page, and
  - the document content or object needed to activate the hyperlink.
- Assigning a URL value to an **<a>** tag's **href** attribute specifies the target resource like so:

  Link text.
- For example, to link to Library of Congress

  * Library of Congress *

Links and Anchors(Cont..)

- The <**a**> element has many possible attributes besides **href**
  - **HREF**: Sets the URL of the destination object for the anchor.
  - **NAME:** Names the anchor so that it can be a target of another anchor or script. Traditional HTML super ceded by id.
  - **ID:** Identifies the anchor for target by another anchor, style sheet access, and scripting exposure. HTML 4 or XHTML attribute.
  - **TARGET:** Defines the frame or window destination of the link. Values may be “_blank”, “_self”, “_parent”, “_top”
  - **TITLE:** Sets advisory text.
  - **REL:** Defines the relationship of the object being linked to.
  - **REV:** Defines the relationship of the current object to the object being linked to. In short, rev defines the reverse relationship.

Using an image as a link

```
<p>
<a href="default.asp">
<img src="smiley.gif" alt="HTML tutorial" width="32"
    height="32" />
</a></p>
<p>No border around the image, but still a link:
<a href="default.asp">
<img border="0" src="smiley.gif" alt="HTML tutorial" width="32"
    height="32" />
</a></p>
```

Linking to a mail message

```
<p>
This is an email link:
<a
    href="mailto:someone@example.com?Subject=Hello%20again">
Send Mail</a>
</p>
```

Html download link

```
<a href="http://www.tizag.com/pics/htmlT/blanktext.zip">Text
    Document</a>
```

Html- default links base

- Use the <base> tag in the *head* element to set a default URL for all links on a page to go to.
- It's always a good idea to set a base tag just incase your links become bugged somewhere down the line.
- Usually set your base to your home page.
- Example

```
<head>
        <base href="http://www.xyz.com/">
</head>
```

Images as Buttons

- One of the most important aspects of images is how they can be combined with the **a** element to create buttons.
- To make an image "press able," simply enclose it within an anchor.
- Example

  <img src="du.gif"
  alt="Dhaka University" />

Tables in HTML

- The HTML table model allows authors to arrange data -- text, preformatted text, images, links, forms, form fields, other tables, etc. -- into rows and columns of cells.
- Each table may have an associated caption that provides a short description of the table's purpose.
- A table is divided into rows, and each row is divided into cells. Table cells may either contain "header" information (TH element) or "data" (TD element).

Common HTML table elements and attributes

HTML Table Elements	Description
<TABLE>...</TABLE>	The Table delimiter.
<TR ...>...</TR>	Used to specify number of rows in a table.
<TD ...>...</TD>	Specifies table data cells
<TH ...>...</TH>	Table Header cell
<CAPTION ...>...</CAPTION>	Specifies the table Caption.
<THEAD>...</THEAD>	Specifies the Table head.
<TBODY>...</TBODY>	Specifies the Table body.
<TFOOT>...</TFOOT>	Specifies the Table footer.

<TABLE>...</TABLE>

<TABLE>...</TABLE> Attributes	Description
BACKGROUND	Specifies a background image for the table. If used in the <TABLE> element, the image in question will be tiled behind all of the table cells.
BGCOLOR="#rrggbb|color name"	Specifies the background color of the table to be specified, using either the specified color names, or a rrggbb hex triplet.
ALIGN="left|right"	It allows a table to be aligned to the left or right of the page, allowing text to flow around the table.
BORDER	Control and set the borders to be displayed for the table
BORDERCOLOR="#rrggbb|color name"	sets the border color of the table, using either the specified color names, or a rrggbb hex triplet. It is necessary for the BORDER attribute to be present in the main <TABLE> element for border coloring to work.
CELLPADDING=value	Specifies the amount of white space between the borders of the table cell and the actual cell data.

<TR ...>...</TR>

- This stands for table row.

<TR>...</TR> Attributes	Description
BGCOLOR="#rrggbb|color name"	Specifies the background color of the table row to be specified, using either the specified color names, or a rrggbb hex triplet.
ALIGN="left|center|right"	Specifies whether text inside the table cell(s) is aligned to the left, right or center of the cell.
VALIGN="top|middle|bottom|baseline"	controls whether text inside the table cell(s) is aligned to the top, bottom, or vertically centered within the cell.
BORDERCOLOR="#rrggbb|color name"	sets the border color of the table row, using either the specified color names, or a rrggbb hex triplet. It is necessary for the BORDER attribute to be present in the main <TABLE> element for border coloring to work.

<TD ...>...</TD>

- This stands for table data, and specifies a standard table data cell.
- It must appear only within table rows.
- Each row need not have the same number of cells specified as short rows will be padded with blank cells on the right.
- Internet Explorer will allows the use of <TD></TD> to specify a blank cell, that will be rendered with a border (providing a border has been set). Other browsers will require some character within a data cell for it to be rendered with a border.

<TD ...>...</TD>

<TD>...</TD> Attributes	Description
BACKGROUND	Internet Explorer supports the placing of images inside the <TD> element. If used in the <TD> element, the image in question will be tiled behind the particular data cell.
BGCOLOR="#rrggbb|color name"	Specifies the background color of the data cell to be specified, using either the specified color names, or a rrggbb hex triplet.
ALIGN="left|center|right"	Specifies text alignment inside the table cell(s).
VALIGN="top|middle|bottom|baseline"	controls whether text inside the table cell(s) is aligned to the top, bottom, or vertically centered within the cell.
BORDERCOLOR="#rrggbb|color name"	sets the border color of the data cell. Necessary for the BORDER attribute to be present in the main <TABLE> element for border coloring to work.
ROWSPAN="value"	This attribute can appear in any table cell (<TH> or <TD>) and specifies how many rows of the table this cell should span. The default ROWSPAN for any cell is 1.
COLSPAN="value"	This attribute can appear in any table cell (<TH> or <TD>) and it specifies how many columns of the table this cell should span. The default COLSPAN for any cell is 1.

<TH ...>...</TH>

- This stands for table header.
- Header cells are identical to data cells in all respects, with the exception that header cells are in a **bold font, and have a center default ALIGN**.
- <TH ...>...</TH> has the same attribute as the <TD ...>...</TD> element.

<CAPTION ...>...</CAPTION>

- This represents the caption for a table.
- <CAPTION> elements should appear inside the <TABLE> but not inside table rows or cells.
- The caption accepts an alignment attribute that defaults to ALIGN=top but can be explicitly set to ALIGN=bottom.
- Like table cells, any document body HTML can appear in a caption.
- Captions are, by default horizontally centered with respect to the table, and they may have their lines broken to fit within the width of the table.

<CAPTION ...>...</CAPTION>

- The <CAPTION> element can accept the following attributes:
  - **ALIGN="top|bottom”:** Specifies whether the caption appears above or below the table, using the top and bottom values, defaulting to top.
- Example

```
<table border="1">
    <caption align="bottom">My savings</caption>
    <tr>
      <th>Month</th>
      <th>Savings</th>
    </tr>
    <tr>
      <td>January</td>
      <td>$100</td>
    </tr>
  </table>
```

Parts of <TABLE>

- <THEAD>...</THEAD>
  - This element, which is Internet Explorer specific, is used to specify the head section of the table.
  - It does directly affect the rendering of the table on the screen, but is required if you want RULES to be set in the <TABLE> .
- <TBODY>...</TBODY>
  - This element, which is Internet Explorer specific, is used to specify the body section of the table.
  - It does directly affect the rendering of the table on the screen, but is required if you want RULES to be set in the <TABLE> .
- <TFOOT>...</TFOOT>
  - This element, which is Internet Explorer specific, is used to specify the footer section of the table. It does directly affect the rendering of the table on the screen, but is required if you want RULES to be set in the <TABLE>.

Cellpadding and Cellspacing

- The space between cells in a table is controlled by the **cellspacing** attribute for **<table>**.
- The value is measured in pixels or percentage values.
- When using tables for layout, cells should jut up next to each other, so this attribute is often set to **0**.
- It is possible to give space between cells by setting this attribute to a positive integer or percentage value.
- The padding between cell walls and the content they surround is controlled by the **cellpadding** attribute, which is also often set to **0** in tables used for layout.

Cellpadding and Cellspacing Example

```
<table border="1" cellspacing="15" cellpadding="40">
    <tr>
        <td>Element 1</td>
        <td>Element 2</td>
        <td>Element 3</td>
    </tr>
</table>
<br /><br />
<table border="1" cellspacing="0" cellpadding="0">
    <tr>
        <td>Element 1</td>
        <td>Element 2</td>
        <td>Element 3</td>
    </tr>
</table>
```

Lists

- HTML supports several mechanisms for specifying lists of information.
- In HTML there are 3 different types of lists, all of which may be nested.
- If used they should be present in the <BODY> of an HTML document.
- Common HTML list elements are:
  - <UL> : unordered list; *bullets*
  - <OL> : ordered list; *numbers*
  - <DL> : definition list; *dictionary*

<OL>...</OL>

- The Ordered List element is used to present a numbered list of items, sorted by sequence or order of importance and is typically rendered as a numbered list.
- An ordered list must begin with the <OL> element. Place the <LI> (list item) tag between your opening <OL> and closing </OL> tags to create list items.
- Example:

```
<h4 align="center">Goals</h4>
<ol>
    <li>Find a Job</li>
    <li>Get Money</li>
    <li>Move Out</li>
</ol>
```

<OL>...</OL> Cont..

- The OL element has **TYPE attribute** which allows authors to specify whether the list items should be marked with.
- It has following values:
  - <OL TYPE=a> Small letters. For example a, b, c ...
  - < OL TYPE =A> Capital letters. For example A, B, C ...
  - < OL TYPE =i> Small roman numerals. For example i, ii, iii ...
  - < OL TYPE =I> Large roman numerals. For example I, II, III ...
  - < OL TYPE =1> The default numbers. For example 1, 2, 3 ...

<OL>...</OL> Cont..

- The OL element has **START attribute** which allows authors to start at values other than 1.
- Thus START=5 would display either an 'E', 'e', 'V', 'v', or '5' based on the TYPE attribute.
- Example

```
<h4 align="center">Goals</h4>
<ol start="4" >
    <li>Buy Food</li>
    <li>Enroll in College</li>
    <li>Get a Degree</li>
</ol>
```

<UL>...</UL>

- The Unordered List element is used to present a list of items which is typically separated by white space and/or marked by bullets.
- The bullet itself comes in three flavors: squares, discs, and circles.
- The default bullet displayed by most web browsers is the traditional full disc.
- An unordered list must begin with the <UL> element, which is immediately followed by a <LI> (list item) element.

<UL>...</UL> Cont..

- The **TYPE attribute** can be used in the <UL> element to specify bullet type
  - <UL TYPE= disc>
  - < UL TYPE = circle>
  - < UL TYPE = square >

- Example:

  Try it by yourself…….

< DL>...</DL>

- Definition lists are typically rendered by browsers, with the definition term <DT> flush left in the display window with the definition data <DD> rendered in a separate paragraph, indented after the definition term.
  - <DL> - defines the start of the list
  - <DT> - definition term
  - <DD> - defining definition
- Single occurrences of a <DT> element without a subsequent <DD> element are allowed and have the same significance as if the <DD> element had been present with no text.
- The opening list element must be <DL> and must be immediately followed by the first term (<DT>).

< DL>...</DL> Cont..

Code	Result
<dl> <dt>Fromage</dt> <dd>French word for cheese.</dd> <dt>Voiture</dt> <dd>French word for car.</dd> </dl>	**Fromage** French word for cheese. **Voiture** French word for car.

Try IT…

- Example 1

- Coffee
- Tea
  - Black tea
  - Green tea
- Milk

- Example 2

- Coffee
- Tea
  - Black tea
  - Green tea
    - China
    - Africa
- Milk

HTML Iframes

- An iframe is used to display a web page within a web page.
- *<iframe src="URL"></iframe>*
- The URL points to the location of the separate page.
- The **height** and **width** attributes are used to specify the height and width of the iframe.

  <iframe src="http://www.google.com" width="200" height="200"></iframe>
- The frameborder attribute specifies whether or not to display a border around the iframe. Set the attribute value to "0" to remove the border

Forms

- HTML Forms are used to select different kinds of user input and to pass data to a server.
- A form can contain input elements like text fields, checkboxes, radio-buttons, submit buttons and more.
- A form can also contain select lists, textarea, fieldset, legend, and label elements.
- A form will take input from the viewer and depending on your needs; you may store that data into a file, place an order, gather user statistics, register the person to your web forum, or maybe subscribe them to your weekly newsletter.

Forms Cont…

- The following elements are used to create forms:
  - <FORM>...</FORM> : A form within a document
  - <input ...>...</input> : One input field
  - <OPTION> : One option within a Select element
  - <SELECT>...<SELECT> : A selection from a finite set of options
  - <TEXTAREA ...>...</TEXTAREA> : A multi line input field

<FORM>...</FORM>

- The <FORM> element is used to delimit a data input form.
- There can be several forms in a single document, but the <FORM> element **cannot be nested**.

  <FORM ACTION="_URL_" METHOD="GET|POST" EncTYPE="MIME type">
- **Form attributes**
- **The ACTION** attribute is a URL specifying the location to which the contents of the form data fields are submitted to elicit a response. The way data is submitted varies with the access protocol of the URL to which the form data is sent and with the values of the METHOD and EncTYPE attributes.
- **The METHOD** attribute specifies a method of accessing the URL specified in the ACTION attribute. Generally, the method will be either GET or POST.
  - The **GET method** is ideal for form submission where the use of the form data does not require external processing.
  - **The POST method** should be used where the form is used to provide information for example, that updates a database.
- **The EncTYPE** attribute specifies the media type used to encode the form data. The default EncTYPE is the MIME type application/x-www-form-urlencoded.

<input>

- The <input> element represents a field whose contents may be edited or activated by the user.
- Attributes of the <input> element are:
  - **The NAME** attribute assigns a name to the given field so that author may reference it later. The NAME attribute is required for most input types and is normally used to provide a unique identifier for a field, or for a logically related group of fields.
  - **The CHECKED** attribute can be used with a TYPE= CHECKBOX or TYPE=RADIO setting, this indicates that the checkbox or radio button is selected.
  - **The MAXLENGTH** attribute is used with TYPE=TEXT setting, this indicates the maximum number of characters that can be entered into a text field. This can be greater than specified by the SIZE attribute, in which case the field will scroll appropriately. The default number of characters is unlimited.

Attributes of the <input> element

- Attributes of the <input> element are:
  - **The SIZE** attribute specifies the size or precision of the field according to its type. For example, to specify a field with a visible width of 24 characters:

    <input type=”text” SIZE="24" />
  - **The TYPE** attribute determines what kind of input field it will be. Defaults value is free text. Several types of fields can be defined with the type attribute:
    - TEXT
    - PASSWORD
    - RADIO
    - CHECKBOX
    - BUTTON
    - HIDDEN
    - RESET

TYPE =TEXT

- <input type="text" /> defines a one-line input field that a user can enter text into:

```
<form>
    First name: <input type="text" name="firstname" /><br />
    Last name: <input type="text" name="lastname" />
</form>
```

- The TEXT field should be used in conjunction with the SIZE and MAXLENGTH attributes to set the maximum amount of text that can be entered.
- Explicit VALUE and NAME attributes are also required.

TYPE = PASSWORD

- <input type="password" /> defines a password field. PASSWORD is the same as the TEXT attribute, except that text is not displayed as it is entered.

```
<form>
    Password: <input type="password" name="pwd" />
</form>
```

TYPE = RADIO

- <input type="radio" /> defines a RADIO button.
- RADIO button is used for attributes that accept a single value from a set of alternatives.
- Only the selected radio button in the group generates a name/value pair in the submitted data. Radio buttons require an explicit VALUE and NAME attribute.
- VALUE - specifies what will be sent if the user chooses this radio button. Only one value will be sent for a given group of radio buttons (see *name* for more information).
- NAME - defines which set of radio buttons that it is a part of.

  <input type="radio" name="gender" value="male" /> Male
  <input type="radio" name=" gender" value="female" /> Female
- Checked is an optional attribute and can be used to specify which options are selected for initial form display.

TYPE = CHECKBOX

- <input type="checkbox" /> defines a checkbox.
- Checkboxes let a user select **ONE or MORE** options of a limited number of choices.
- The check box's NAME and VALUE attributes behave the same as a radio button. Also CHECKED is an optional attribute.

```
<input type="checkbox" name="vehicle1" value="Bike" /> I have a bike<br />
<input type="checkbox" name="vehicle2" value="Car" /> I have a car
```

TYPE = BUTTON

- This can be used to embed buttons directly into HTML documents that add functionality when used in conjunction with Script.
- The NAME attribute is used to give the button a unique name, which can be used to set its function in the script.
- The VALUE attribute specifies the text that is displayed on the button in the document

TYPE = SUBMIT

- <input type="submit" /> defines a SUBMIT button.
- A SUBMIT button is used to send form data to a server.
- The data is sent to the page specified in the form's action attribute.
- The file defined in the action attribute usually does something with the received input.
- The NAME attribute is used to give the button a unique name.
- The VALUE attribute specifies the text that is displayed on the button in the document.

TYPE = HIDDEN

- With this input type, no field is presented to the user, but the content of the field is sent with the submitted form.
- This value may be used to transmit state information about client/server interaction.

<input type="hidden" name="HiddenField" value="100" />

TYPE = RESET

- RESET is a button that when pressed resets the form's fields to their specified initial values.
- The label to be displayed on the button may be specified just as for the SUBMIT button.

HTML Input Types Example

http://www.w3schools.com/html/html_form_input_types.asp

<OPTION>

- The <OPTION> element can only occur within a <SELECT> element.
- <SELECT> is the list itself and each <OPTION> is an available choice for the user.
- <OPTION> can take following attributes:
  - ***The SELECTED*** *attribute indicates that this option is initially selected.*
  - ***The VALUE*** *attribute indicates the value to be returned if this option is chosen. The returned value defaults to the contents of the <OPTION> element.*
- The contents of the <OPTION> element are presented to the user to represent the option. It is used as a returned value if the VALUE attribute is not present.

<SELECT ...>...</SELECT>

- The <SELECT> element allows the user to choose one of a set of alternatives described by textual labels.
- Every alternative is represented by the <OPTION> element.
- Attributes used with the <SELECT> are listed in the following sections.
  - **The MULTIPLE** attribute is needed when users are allowed to make several selections, for example <SELECT MULTIPLE>.
  - ***The NAME*** *attribute specifies the name that will submitted as a name/value pair.*
  - ***The SIZE*** *attribute specifies the number of visible items. If this is greater than one, then the resulting form control will be a list.*
- The SELECT element is typically rendered as a **pull down** or **pop-up list**.

<SELECT ...>...</SELECT>

```
<form method="post" action="mailto:youremail@email.com">
    Education?
     <select name="degree">
        <option>Choose One</option>
        <option>Some High School</option>
         <option>High School Degree</option>
        <option>Some College</option>
        <option>Bachelor's Degree</option>
        <option>Doctorate</option>
    </select>
    <input type="submit" value="Email Yourself">
</form>
```

<TEXTAREA>...</TEXTAREA>

- The <TEXTAREA> element lets users enter more than one line of text.
- Forums and the like use text areas to post what you type onto their site using scripts. For this form, the text area is used as a way to write comments to somebody.
- When submitting a form, lines in a TEXTAREA should be **terminated using CR/LF**.
- **ROWS** and **COLUMNS** need to be specified as attributes to the <TEXTAREA> tag.
- **ROWS** are roughly 12pixels high, the same as in word programs.
- The value of the **COLUMNS** reflects how many characters wide the text area will be.

<TEXTAREA>...</TEXTAREA>

- Another attribute to be aware of is the **WRAP**. Wrap has 3 values.
- **WRAP=**
  - OFF : The default setting. Wrapping doesn't happen. One ongoing line. Lines are sent exactly as typed.
  - VIRTUAL : The display word-wraps, but long lines are sent as one line without new-lines. That is, the viewer will see the words wrapping as they type their comments, but when the page is submitted to you, the web host, the document sent will not have wrapping words.
  - PHYSICAL : The display word-wraps, and the text is transmitted at all wrap points. The text will appear both to you, the web host, and the viewer including any page breaks and additional spaces that may be inputted. The words come as they are.

HTML Multimedia

- Multimedia on the web is sound, music, videos, and animations.
- Modern web browsers have support for many multimedia formats.
- **HTML Helpers (Plug-ins)**
  - A helper application is a small computer program that extends the standard functionality of the browser.
  - Helper applications are also called plug-ins.
  - Plug-ins are often used by browsers to play audio and video.
  - Examples of well-known plug-ins are Adobe Flash Player and QuickTime.
  - Plug-ins can be added to Web pages through the <object> tag or the <embed> tag.

HTML Audio/ Videos

- Sounds can be played in HTML by many different methods.
  - **Using The <embed> Element**
    - The <embed> tag defines a container for external (non-HTML) content.
    - <embed height="50" width="100" src="abc.mp3">
  - **Using the <object> Element**
    - The <object> tag can also define a container for external (non-HTML) content
    - <object height="50" width="100" data="abc.mp3"></object>
- **<object>** tag is for Internet Explorer, while the **<embed>** tag is for Netscape and related to it browsers using Netscape plugin to display a flash movie

<embed> element attributes

- **align** - Determines how to align the object. It takes either *center, left or right*.
- **autostart** - Indicates if the media should start automatically. Netscape default is true, Internet Explorer is false.
- **loop** - Specifies if the sound should be played continuously (set loop to true), a certain number of times (a positive value) or not at all (false). This is supported by Netscape only.
- **playcount** - Specifies the number of times to play the sound. This is alternat option for *loop* if you are usiong IE.
- **hidden** - Defines if the object shows on the page. A false value means no and true means yes.
- **height** - Height of the object in pixels or en.
- **width** - Width of the object in pixels or en.
- **pluginspage** - Specifies the URL to get the plugin software.
- **name** - A name used to reference the object.
- **src** - URL of the object to be embedded. This can be any recognizable by the user's browser. It could be .mid, .wav, .mp3, .avi and so on).
- **volume** - Controls volume of the sound. Can be from 0 (off) to 100 (full volume). This attribute is supported by Netscape only.