HTML

What is HTML???

- HTML or HyperText Markup Language is designed to specify the logical organization of a document, with important hypertext extensions.
- HTML instructions divide the text of a document into blocks called elements.
- These can be divided into two broad categories:
    - Those that define how the BODY of the document is to be displayed by the browser, and
    - Those that define information about the document, such as the title or relationships to other documents.
- The detailed rules for HTML (the names of the tags/elements, how they can be used) are defined using another language known as the SGML (Standard Generalized Markup Language).
- HTML is a set of special codes that can be embedded in text to add formatting and linking information.
- HTML is the language interpreted by a Browser.
- The HTML file must have an extension ".htm" or ".html".
- Any text editor can be used to create HTML file.

Versions of HTML

HTML 2.0
- It set the standard for core HTML features based upon current practice in 1994.

HTML 3.2
- W3C's first Recommendation for HTML which represented the consensus on HTML features for 1996.
- HTML 3.2 added widely-deployed features such as tables, applets, text-flow around images, superscripts and subscripts, while providing backwards compatibility with the existing HTML 2.0 standard

HTML 4.0
- First released as a W3C Recommendation on 18 December 1997.
- A second release was issued on 24 April 1998 with changes limited to editorial corrections.
- This specification has now been superseded by HTML 4.01.

HTML 4.01
- HTML 4.01 is the current official standard.
- It includes support for most of the proprietary extensions, plus support for extra features (Internationalized documents, support for Cascading Style Sheets, extra TABLE, FORM, and JavaSctipt enhancements), that are not universally supported.
- This is the last version of HTML.
- After this XHTML was released which stands for eXtensible HyperText Markup Language.

HTML 5.0

- This is the new version of HTML with many exciting new features. This version is still under development.

HTML Elements/Tags

- The HTML instructions, along with the text to which the instructions apply, are called HTML elements.
- The HTML instructions are themselves called tags, and look like <element_name> -- that is, they are simply the element name surrounded by left and right angle brackets.
- The content in the web-page is written after the starting tag, and closed with the end tag.
  - E.g: <element_name> text to be written HERE </element_name>
- The end tag has slash character in front of it.
- HTML tags are not case sensitive; <b> means same as <B>.

Empty Elements

- Some elements are empty -- that is, they do not affect a block of the document in some way.
- These elements do not require an ending tag.
  - An example is the <HR> element, which draws a horizontal line across the page.

HTML Tag Attributes

- Many elements can have arguments that pass parameters to the interpreter handling the element.
- These arguments are called attributes of the element.
- An attribute is a customizable option for a tag.
- In other words, attributes are used to define the properties of a tag.
  - Example: <p align = "left"> Trial Example </p>.
  - In the above example the align attribute allows you to specify how text in a paragraph is arranged on the page.
- Not all tags support attributes.
- Some tags support multiple attributes, and the attributes are listed one after another in the start tag, seperated by space.
- Attributes are always set to the opening tag.

HTML Tags Lists

TITLE	TAG	DESCRIPTION
Basic Elements		
Document Type	<HTML> </HTML>	document root element, beginning and end of file
Title	<TITLE> </TITLE>	document title, must be in header
Header	<HEAD> </HEAD>	descriptive info, such as title
Body	<BODY> </BODY>	bulk of the page, notes body of document
Formatting		
Bold	<B> </B> or 	bold text style
Italic	<I> </I>	italic text style
Underline	<U> </U>	underlined text (not widely implemented)
Strikeout	<STRIKE> </STRIKE>	strike-through text (not widely implemented)

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Strikeout	<S> </S>	strike-through text (not widely implemented)
Subscript		subscript numbers like footnotes
Superscript		superscript numbers like cross - reference numbers
Pre formatted	<PRE> </PRE>	pre formatted text (display text spacing as-is)
Center	<CENTER> </CENTER>	centers text and images
Blinking	<BLINK> </BLINK>	blinking text, Netscape only
Font Size	<FONT SIZE=?> </FONT>	local font size(ranges from 1-7)
Change Font Size	<FONT SIZE="+|-?"> </FONT>	controls font size rendered
Font Color	<FONT COLOR="#$$$$$$"> </FONT>	controls font color rendered
Select Font	<FONT FACE="***"> </FONT>	the style of the text, such as Times New Roman
Marquee	<MARQUEE> </MARQUEE>	scrolling text (IE only)
Links		
Link Something	<A HREF="URL"> </A>	links text or graphic to another URL
Link to Location	<A HREF="URL#***"> </A>	links text or graphic an anchor in an other document
Link to Location in Current Page	<A HREF="#***"> </A>	links text or graphic an anchor in current document
Target Window	<A HREF="URL" TARGET="***"> </A>	links text or graphic to a URL in a new browser widow
Action on Click	<A HREF="URL" ONCLICK="***"> </A>	takes effect when user clicks on the item (Javascript)
Mouseover Action	<A HREF="URL" ONMOUSEOVER="***"> </A>	takes effect when user moves pointer over item
Link to Email	<A HREF="mailto:@"> </A>	creates blank e-mail to indicated address with visitor's default e-mail client
Graphics and Sound		
Display Image	<IMG SRC="URL">	displays image from the indicated URL
Alignment	<IMG SRC="URL" ALIGN= TOP|BOTTOM|MIDDLE|LEFT|RIGHT>	aligns the image
Dimensions	<IMG SRC="URL" WIDTH=? HEIGHT=?>	the dimensions, in pixels, of the image
Border	<IMG SRC="URL" BORDER=?>	border, in pixels, around the image
Dividers		
Paragraph	<P> </P>	paragraph (closing tag often unnecessary)
Align Text	<P ALIGN=LEFT|CENTER|RIGHT> </P>	aligns paragraph
Justify Text	<P ALIGN=JUSTIFY> </P>	justify's paragraph's text
Line Break	 	a single carriage return
Horizontal Rule	<HR>	horizontal line

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Alignment	<HR ALIGN=LEFT|RIGHT|CENTER>	alignment of horizontal line
Thickness	<HR SIZE=?>	thickness, in pixels, of horizontal line
Width	<HR WIDTH=?>	width, in pixels, of horizontal line
Width Percent	<HR WIDTH="%">	width(as a percentage of page width), in pixels, of horizontal line
Solid Line	<HR NOSHADE>	horizontal line without the 3D cutout look
No Break	<NOBR> </NOBR>	prevents line breaks

Structural Elements

Heading	<H?> </H?>	document header, the ? defines 6 levels (#'s 1-6)
Strong Emphasis	<STRONG> </STRONG>	strongly emphasized text, usually displayed as bold
Address	<ADDRESS> </ADDRESS>	author information
Large Font Size	<BIG> </BIG>	uses a large text size
Small Font Size	<SMALL> </SMALL>	use a small text size

Backgrounds

Tiled Background	<BODY BACKGROUND= "URL">	causes the image to tile as the background of the page
Watermark	<BODY BGPROPERTIES= "FIXED">	static image which remains in the same location as visitors scroll
Background Color	<BODY BGCOLOR= "#$$$$$$">	solid background color of the page
Text Color	<BODY TEXT="#$$$$$$">	color of the text throughout the page
Link Color	<BODY LINK="#$$$$$$">	color of all links throughout the page
Visited Link	<BODY VLINK="#$$$$$$">	color of all links that have already been clicked on by visitor
Active Link	<BODY ALINK="#$$$$$$">	color of link while being selected

Lists

Unordered List	<UL> </UL>	list with bulleted items
List Item	<LI> </LI>	indicates an item on the list
Bullet Type	<UL TYPE=DISC|CIRCLE|SQUARE>	shape of bullet for the whole list
Bullet Type	<LI TYPE=DISC|CIRCLE|SQUARE>	shape of bullet for specific list item
Ordered List	<OL> <LI> </OL>	numbered list
Numbering Type	<OL TYPE=A|a|I|i|1>	type of numbering for the whole list
Numbering Type	<LI TYPE=A|a|I|i|1>	type of numbering for specific list item
Starting Number	<OL START=?>	starting number for list
Starting Number	<LI VALUE=?>	starting number for this & subsequent items
Definition List	<DL> </DL>	a list of definitions
Definition Term	<DT> </DT>	definition term

Definition	<DD> </DD>	definition of a term
Menu List	<MENU> </MENU>	display menu type list
Directory List	<DIR> </DIR>	directory link
Tables		
Define Table	<TABLE> </TABLE>	signals the beginning of a table
Table Alignment	<TABLE ALIGN= LEFT|RIGHT|CENTER>	aligns the table within the browser window
Table Border	<TABLE BORDER=?> </TABLE>	border of table, you can set the value (aka width)
Cell Spacing	<TABLE CELLSPACING=?>	places specific amount of space between the individual cells within a table
Cell Padding	<TABLE CELLPADDING=?>	places specific amount of space between the cells border and its contents
Desired Width	<TABLE WIDTH=?>	width of table in pixels
Width Percent	<TABLE WIDTH=%>	width of table in percentage of page
Table Color	<TABLE BGCOLOR="#$$$$$$"> </TABLE>	overall background color of table
Border Color	<TABLE BORDERCOLOR="#$$$$$$"> </TABLE>	the color of the table border
Table Row	<TR> </TR>	table row
Alignment	<TR ALIGN= LEFT| RIGHT| CENTER| MIDDLE| BOTTOM>	alignment of the table row
Table Cell	<TD> </TD>	specific table cell, must appear within table rows
Alignment	<TD ALIGN= LEFT|RIGHT|CENTER VALIGN= TOP|MIDDLE|BOTTOM>	alignment of the table cell
Columns to Span	<TD COLSPAN=?>	identifies the the number of columns the cell should span
Rows to Span	<TD ROWSPAN=?>	identifies the the number of rows the cell should span
Desired Width	<TD WIDTH=?>	width of cell in pixels
Width Percent	<TD WIDTH="%">	width of cell as percentage of table
Cell Color	<TD BGCOLOR="#$$$$$$">	background color of table cell
Header Cell	<TH> </TH>	table cell for header information (bold & centered)
Alignment	<TH ALIGN= LEFT| RIGHT| CENTER| MIDDLE|BOTTOM>	alignment of the header cell
Table Body	<TBODY>	identifies the specific body section of the table
Table Footer	<TFOOT> </TFOOT>	separates group of cells to serve as footer material for the table (must come before <THEAD>)
Table Header	<THEAD> </THEAD>	separates group of cells to serve as header material for the table
Table Caption	<CAPTION> </CAPTION>	caption for a table

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Alignment	<CAPTION ALIGN=TOP|BOTTOM|LEFT|RIGHT>	alignment for the caption of a table
Frames		
Frame Document	<FRAMESET> </FRAMESET>	creates layouts of frames (instead of <BODY>)
Row Heights	<FRAMESET ROWS=„„> </FRAMESET>	comma separated list of size of each row within the frameset (pixels or %)
Column Widths	<FRAMESET COLS=„„> </FRAMESET>	comma separated list of size of each column within the frameset (pixels or %)
Borders	<FRAMESET FRAMEBORDER= "yes|no"> </FRAMESET>	identifies if a frame has a visible border or not
Border Width	<FRAMESET BORDER=?> </FRAMESET>	width of frame border if visible
Border Color	<FRAMESET BORDERCOLOR="#$$$$$$"> </FRAMESET>	color of frame border if visible
Frame Spacing	<FRAMESET FRAMESPACING=?> </FRAMESET>	number of pixels of reserved space between frames
Define Frame	<FRAME>	specific contents of an individual frame
Display Document	<FRAME SRC="URL">	identifies the initial contents of the frame
Frame Name	<FRAME NAME="***"| _blank| _self| _parent|_top>	assigns a name to the current frame
Margin Width	<FRAME MARGINWIDTH=?>	distance between content and frame's left and right margins
Margin Height	<FRAME MARGINHEIGHT=?>	distance between content and frame's top and bottom margins
Scroll bar	<FRAME SCROLLING="YES|NO|AUTO">	controls how the window is or isn't scrolled
Not Re-sizable	<FRAME NORESIZE>	prohibits the document viewer from changing dimensions of the frame
Borders	<FRAME FRAMEBORDER="yes|no">	controls wither frame has a border
Border Color	<FRAME BORDERCOLOR="#$$$$$$">	color of border of frame

HTML Lists

- HTML provides three type of lists.
- They are listed below:
  1. Ordered List:
     - A list of multi-line paragraphs, listed separately and ordered numerically in some way.
     - The list items are marked with numbers.
     - <OL ...> creates an ordered list.
     - "Ordered" means that the order of the items in the list is important.
     - By default, the number starts with 1,2,3.......
     - An ordered list starts with the <ol> tag.
     - Each list item starts with the <li> tag.

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- **Example:**
  ```
  <ol>
  <li>Coffee</li>
  <li>Milk</li>
  </ol>
  ```
- **Here is how it looks in a browser:**
  1. Coffee
  2. Milk

2. **Unordered List:**
   - A list of multi-line paragraphs, listed separately and usually marked by a bullet or similar symbol (Unordered List)
   - <UL ...> creates an unordered list.
   - The unordered part means that the items in the list are not in any particular order.
   - The list items are marked with bullets (typically small black circles).
   - An unordered list starts with the <ul> tag.
   - Each list item starts with the <li> tag.
   - **Example:**
     ```
     <ul>
     <li>Coffee</li>
     <li>Milk</li>
     </ul>
     ```
   - **Here is how it looks in a browser:**
     - Coffee
     - Milk

3. **Definition List:**
   - A definition list is not a list of items.
   - This is a list of terms and explanation of the terms.
   - A definition list starts with the <dl> tag.
   - Each definition-list term starts with the <dt> tag.
   - Each definition-list definition starts with the <dd> tag.
   - **Example:**
     ```
     <dl>
     <dt>Coffee</dt>
     <dd>Black hot drink</dd>
     <dt>Milk</dt>
     <dd>White cold drink</dd>
     </dl>
     ```
   - **Here is how it looks in a browser:**
     Coffee
       Black hot drink
     Milk
       White cold drink

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Frames

- Frames allow displaying more than one web-page in a single browser at a same instance of time.
- HTML tags <frameset>.........</frameset> is used to divide a browser screen into two or more HTML recognizable unique regions.
- Each unique region is called frame.
- Each frame can be loaded with a different document and hence, allow multiple HTML documents to be seen concurrently.
- The disadvantages of using frames are:
    - The web developer must keep track of more HTML documents
    - It is difficult to print the entire page.
- The major advantages of using frames are:
    1) It can be given an individual URL, so it can load information independent of the other frames on the page;
    2) It can be given a NAME, allowing it to be targeted by other URLs, and;
    3) It can resize dynamically if the user changes the window's size. (Resizing can also be disabled, ensuring a constant frame size.)

The Frameset Tag

- The <frameset> tag defines how to divide the window into frames.
- Each <frameset> defines a set of rows or columns.
- The <frameset> tags require one of the following two attributes depending on whether the screen has to be divided into rows or columns.
- The two attributes are:
    1. Rows:
        - This attribute is used to divide the screen into multiple rows.
        - The each row can be set with different values depending on the required size of the row.
    2. Cols:
        - This attribute is used to divide the screen into multiple columns.
- The values for both Rows and Cols can be:
    - A number in pixels.
    - Expressed as a percentage of the screen resolution.
    - The symbol *, which indicates the remaining space.
- Example of <frameset> tag:
    <frameset rows="33%,33%,*">
        divides the browser screen into 3 equal horizontal sections.
    <frameset cols="33%,*">
        divides the browser screen into 2 different vertical sections.

The <frame> Tag

- Once the screen is divided into rows and columns, each unique section can be loaded with different HTML documents.
- This is achieved by using the <frame> tag.
- The <frame> tag defines what HTML document to put into each frame.
- The attributes of the <frame> tag are:

Attributes	Description

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SRC="url"	Indicates the url of the document to be loaded into the frame.
MARGINHEIGHT="n"	Specifies the amount of white space to be left at the top and bottom of the frame.
MARGINWIDTH="n"	Specifies the amount of white space to be left along the sides of the frame.
NAME="name"	Gives the same unique name so it can be targeted by other documents. The name given must begin with an alphanumeric character.
NORESIZE	Disables the frames resizing capability.
Scrolling	Controls the appearance of horizontal and vertical scrollbars in a frame. This takes the values YES/NO/AUTO.

- <u>Example of using <frame> tag:</u>
  ```
  <frameset cols="25%,75%">
    <frame src="frame_a.htm">
    <frame src="frame_b.htm">
  </frameset>
  ```

  - In the example above we have a frameset with two columns.
  - The first column is set to 25% of the width of the browser window.
  - The second column is set to 75% of the width of the browser window.
  - The HTML document "frame_a.htm" is put into the first column, and the HTML document "frame_b.htm" is put into the second column.

HTML Links

- A link is a connection from one Web resource to another.
- A link has two ends -- called anchors -- and a direction.
- The link starts at the "source" anchor and points to the "destination" anchor, which may be any Web resource (e.g., an image, an HTML document, an element within an HTML document, etc.).
- The text or an image that provides such linkages is called hypertext, hyperlink, or hotspot.

<u>What is Hyperlink???</u>
- A Hyperlink is a connection between an HTML element such as text, an image, or anything else on a page and other resource.
- That link might be to another web-page, an external image, or an e-mail address.

<u>Difference between Hyperlink and Normal HTML Text:</u>
- Appears in blue color.
  - The default color setting in a browser for hyperlink text or image.
  - The color can be set dynamically via HTML program if required.
- The Hyperlink text/image is underlined.
- When the mouse cursor is placed over it, the standard arrow shaped mouse cursor changes to the shape of a hand.

<u>Changing the color of Links:</u>
- To change the link color there are three attributes that can be specified with the <body> tag.
- These are:
  - LINK
  - ALINK
  - VLINK

Types of Hyperlink

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- There are three types of Hyperlinks:
  1) Inter-page Hyperlink
     - In this type of link the control flows from one-page to another.
     - Example:
       `<a` `HREF="myExample.htm"> Click for Example` **`</a>`**
     - You can specify the relative as well as the absolute path of the file that you want to call.

  2) Intra-page Hyperlink
     - Intra-page Hyperlink is a link within a same page.
     - Sometimes, a jump is required to a different location in the same document.
     - Since the jump has to be targeted to a specific location the two steps need to perform.
       a) Identify the location with a name and
       b) Jump to that location using the name.
     - Example:
       `<a` `name ="top"> The HTML text is written here` **`</a>`**
       `<a` `HREF="#top"> Goto Top` **`</a>`**

  3) Email Hyperlink
     - This type of Hyperlink is used especially to write e-mail.
     - The link does not open any web-pages but opens the outlook express for writing mail.
     - You can write the mail and send.
     - Steps:
       a) First type any text like:
          `Email: info@kcc.edu.np`
       b) Surround the email address with the anchor tags i.e. <a>, but instead linking to the web page, use the mailto command to link it to an e-mail program.
          `Email:` **`<a`** `HREF="mailto:` info@kcc.edu.np`">` info@kcc.edu.np **`</a>`**
       c) Save the page and view it in browser.

NOTE: You can also have external links like links, when clicking upon them you can jump to next web page. In such scenario you have to give the path of web page like:

      `<a` `HREF="http://www.google.com"> Goto Google` **`</a>`**

HTML Forms

{SELF STUDY}