HTML (Hypertext Markup Language)

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HTML

HTML stands for **H**yper**t**ext **M**arkup **L**anguage, and it is the most widely used language to write Web Pages.

Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a webpage is called Hypertext.

As its name suggests, HTML is a **Markup Language** which means you use HTML to simply "mark-up" a text document with tags that tell a Web browser how to structure it to display.

Originally, HTML was developed with the intent of defining the structure of documents like headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers.

 This is a simple paragraph

Tags and Attributes

- An HTML document is based on the notion of tags. A tag is a piece of text inside angle brackets (<>). Tags typically have a beginning and an end, and usually contain some sort of text inside them.
- Tags can be of the following types:
  - Paired
  - Unpaired
  - Inline
  - Block Level
- Attributes
  - Tags are sometimes enhanced by attributes, which are name value pairs that modify the tag.

- Element

  <tag>…content…</tag>

  This is a simple paragraph

- Element with attribute

  <tag attribute = “value”>
  …content…</tag>

PAGE STRUCTURE ELEMENTS

The following elements are part of every web page.

Element	Description
<html></html>	Surrounds the entire page
<head></head>	Contains header information (metadata, CSS styles, JavaScript code)
<title></title>	Holds the page title normally displayed in the title bar and used in search results
<body></body>	Contains the main body text. All parts of the page normally visible are in the body

KEY STRUCTURAL ELEMENTS

Most pages contain the following key structural elements:

Element	Name	Description
 	Heading 1	Reserved fo strongest emphasis
 	Heading 2	Secondary level heading. Headings go down to level 6, but <h1> through <h3> are most common
 	Paragraph	Most of the body of a page should be enclosed in paragraphs
 	Division	Similar to a paragraph, but normally marks a section of a page. Divs usually contain paragraphs

HTML Formatting

HTML Formatting is a process of formatting text for better look and feel. HTML provides us ability to format text without using CSS. There are many formatting tags in HTML.

In HTML the formatting tags are divided into two categories:

Physical tag: These tags are used to provide the visual appearance to the text.

Logical tag: These tags are used to add some logical or semantic value to the text.

Element name	Description
<b>	This is a physical tag, which is used to bold the text written between it.
	This is a logical tag, which tells the browser that the text is important.
<i>	This is a physical tag which is used to make text italic.
	This is a logical tag which is used to display content in italic.
<mark>	This tag is used to highlight text.
<u>	This tag is used to underline text written between it.
<tt>	This tag is used to appear a text in teletype. (not supported in HTML5)
<strike>	This tag is used to draw a strikethrough on a section of text. (Not supported in HTML5)
<sup>	It displays the content slightly above the normal line.
<sub>	It displays the content slightly below the normal line.
<del>	This tag is used to display the deleted content.
<ins>	This tag displays the content which is added
<big>	This tag is used to increase the font size by one conventional unit.
<small>	This tag is used to decrease the font size by one unit from base font size.

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Font tag

The HTML **<font> tag** defines the font size, color and face of text in the HTML document. Since this tag was removed in HTML5, it is recommended that to use CSS properties such as font, font-family, font-size and color to format the text in the document. This tag is also commonly referred to as the <font> element.

Syntax

```
< font color="red" face="Verdana, Geneva, sans-serif" size="+1">Your formatted text goes here</font>
```

Attribute	Description	HTML Compatibility
color	Color of text in either hexadecimal (ie: #RRGGBB format) or named color (ie: black, red, white)	HTML 4.01
face	Font to use for text. Listed as one or more font names (comma separated)	HTML 4.01
size	Font size expressed as either a numeric or relative value. Numeric values range from 1 to 7 (1 is the smallest, 7 is the largest, 3 is the default). Relative values can be values such as +1 or -2, increasing by one font size or decreasing by 2 font sizes, respectively.	HTML 4.01

HTML - Lists

HTML offers web authors three ways for specifying lists of information. All lists must contain one or more list elements.

Lists may contain −

- **<ul>** − An unordered list. This will list items using plain bullets.
- **<ol>** − An ordered list. This will use different schemes of numbers to list your items.
- **<dl>** − A definition list. This arranges your items in the same way as they are arranged in a dictionary.

HTML Unordered Lists

- An unordered list is a collection of related items that have no special order or sequence. This list is created by using HTML **<ul>** tag. Each item in the list is marked with a bullet.
- Each list item starts with the "li" tag. The list items are marked with bullets i.e. small black circles by default.
- There can be 4 types of bulleted list:
  - disc
  - circle
  - square
  - None
- type attribute is used to change the bullet style.

- Note: The type attribute is not supported in HTML5, instead of type you can use CSS property of list-style-type. Following is the example to show the CSS property for ul tag.

- **Example 1**

```
<ul>
 <li>HTML</li>
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ul>
```

- **Example 2**

```
<ul type="circle">
 <li>HTML</li>
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ul>
```

HTML Ordered List

- An ordered list starts with the “ol” tag.
- Each list item starts with the “li” tag. The list items are marked with numbers by default.
- We can use ordered list to represent items either in numerical order format or alphabetical order format, or any format where an order is emphasized. There can be different types of numbered list:
  - Numeric Number (1, 2, 3)
  - Capital Roman Number (I II III)
  - Small Romal Number (i ii iii)
  - Capital Alphabet (A B C)
  - Small Alphabet (a b c)
- type attribute is used to change the numbering style.
- **start attribute:**
  - The start attribute is used with ol tag to specify from where to start the list items.
  - **<ol type="1" start="5">** : It will show numeric values starting with "5".
  - **<ol type="I" start="5">** : It will show Roman upper case value starting with "V".

- **Example 1**

```
<ol>
 <li>HTML</li>
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ol>
```

- **Example 2**

```
<ol type="I">
 <li>HTML</li>
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ol>
```

HTML Description List

- A description list is a list of terms, with a description of each term.
- The <dl> tag defines the description list, the <dt> tag defines the term name, and the <dd> tag describes each term.
- The 3 HTML description list tags are given below:
  - **<dl> tag** defines the description list.
  - **<dt> tag** defines data term.
  - **<dd> tag** defines data definition (description).

- Example:

```
<dl>
  <dt>HTML</dt>
  <dd>is a markup language</dd>
  <dt>Java</dt>
  <dd>is a programming language and platform</dd>
 <dt>JavaScript</dt>
 <dd>is a scripting language</dd>
  <dt>SQL</dt>
  <dd>is a query language</dd>
</dl>
```

Table in HTML

- The **HTML <table> element** represents tabular data — that is, information presented in a two-dimensional table comprised of rows and columns of cells containing data
- At its most basic, a table is built using the <table> element and one or more, <tr>, <th> and <td> elements. Where the **<tr>** element defines a table row, the **<th>**element defines a table header, and the **<td>** element defines a table cell.

Example 1:

```
<table>
 <tr>
        <td>John</td>
        <td>Doe</td>
 </tr>
 <tr>
        <td>Jane</td>
        <td>Doe</td>
 </tr>
</table>
```

Example2:

```
<p>Simple table with header</p>
<table>
 <tr>
        <th>First Name</th>
        <th>Last Name</th>
 </tr>
 <tr>
        <td>John</td>
        <td>Doe</td>
 </tr>
</table>
```

Table Attributes

- **Border** Shows border across the table and cells
- **ALIGN** Controls table alignment (LEFT, CENTER, RIGHT)
  <TABLE ALIGN=CENTER> centers table horizontally on the page
- **BGCOLOR** Sets background color for table
  <TABLE BGCOLOR="BLUE"> the background of the entire table will be blue
- **BORDER** Sets width of table border in number of pixels
  <TABLE BORDER=3> table will have a border around it 3 pixels wide
- **CELLSPACING** Spacing between cells
  <TABLE CELLSPACING=5> will put a 5 pixel space around each cell
- **CELLPADDING** Spacing within cells
  <TABLE CELLPADDING=3> will put a 3 pixel space around all borders inside each cell
- **BGCOLOR** Sets background color for row
- **COLSPAN** Sets number of columns spanned by a cell
- **ROWSPAN** Sets number of rows spanned by a cell