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Web Designing4 Marks (1+3)

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**Introduction**

- **HTML** is a markup language used to create **web pages, websites**.
- **HTML** is an abbreviation for **Hyper Text Markup Language**.
  - **Hyper** means non linear nature of HTML code.
  - **Markup** means marking up the beginning and end of property using tags.
- **HTML** was invented by **Tim Berners Lee** in **1990**.
- Extension of HTML program is **.html** or **.htm**

**Structure of HTML program****<html>****<head>****<title>****</title>****</head>****<body>****</body>****</html>****Description of HTML program basic structure**

| Basic tag                                     | Description   |
|---|---|
| <b>&lt;html&gt;</b>                           | This indicates beginning of HTML document   |
| <b>&lt;head&gt;</b>                           | <ul style="list-style-type: none"><li>• This indicates beginning of heading section.</li><li>• This section contains the information for the browser, which is not appearing on browser window.</li></ul> |
| <b>&lt;title&gt;</b><br><b>&lt;/title&gt;</b> | <ul style="list-style-type: none"><li>• This gives a title to HTML document.</li><li>• Title is appearing on <b>title bar</b> of the browser window.</li></ul>  |
| <b>&lt;/head&gt;</b>                          | This defines the end of heading tag.  |
| <b>&lt;body&gt;</b>                           | <ul style="list-style-type: none"><li>• This defines body of the HTML document which includes text, image, links and videos.</li><li>• This content is appearing on the browser window.</li></ul>         |
| <b>&lt;/body&gt;</b>                          | This defines end of body tag.   |
| <b>&lt;/html&gt;</b>                          | This defines the end of HTML document.  |

**Basic layout of web page**

- Address box.
- Forward and back navigation buttons.
- Header of the web page with sub heading.
- Footer with license details, copy right details, images.

## Tags in HTML

Tag is a command inserted in a HTML document that specifies how the document or a portion of the document should be formatted.

Most of the tags include the following,

**Opening tag:** indicates the beginning

**Closing tag:** indicates the end

| Opening tags | Respective Closing tags |
|--------------|-------------------------|
| <html>       | </html>                 |
| <p>          | </p>                    |
| <h1>         | </h1>                   |
| <body>       | </body>                 |

**Paired tags:** The tags which have both opening and closing tag are called as paired tags.

## Text formatting tags

### a) <b> Tag

This tag defines **bold** text.

**Example:** <b> this text is bold </b>

### b) <i> tag

This tag defines *italic* text.

**Example:** <i> this text is italic </i>

### c) <sub> tag

This tag defines <sub>subscripted</sub> text.

**Example:** <sub> subscripted text</sub>

### d) <sup> tag

This tag defines <sup>superscripted</sup> text.

**Example:** <sup> superscripted </sup>

### e) <em> tag

This tag defines emphasized text

**Example:** <em> some text </em>

### f) <strong> tag

This tag defines important text

**Example:** <strong> some text </strong>

## HTML tags to resize text

### a) <h1> </h1> tag defines the most important and biggest heading.

**Example:** <h1> heading 1</h1>

### b) <h6> </h6> tag defines the least important and smallest heading.

**Example:** <h6> heading 6</h6>

### c) <font> tag

This tag is used to specify the font size, font style and color of text.

**Example:**

<font size="3" color="red"> This is some text </font>

<font face="Arial" color="green"> This is some text </font>

### d) <big> tag

Increases the font size by one.

**Example:** <big> some text </big>

### e) <small> tag

Decreases the font size by one.

**Example:** <small> some text </small>

## Tags to control Text layout

### a) <p> tag

HTML paragraphs are defined with the <p> tag

#### Example:

- 1) <p> this is paragraph </p>
- 2) <p align="right"> this is paragraph </p>  
Text is displayed on the right side.
- 3) <p align="center"> this is paragraph </p>  
Text is displayed at the center.

### b) <br> tag

This tag is used to add single line break

### c) <nobr> tag

The HTML <nobr> tag is used to instruct the browser not to break the specified text.

### d) <wbr> tag (Word Break Opportunity)

This allows the browser to insert a line break at exactly given point .

#### Example:

<p> HTML is a markup language which is used to create web pages <wbr> along with <wbr> CSS, DOM. </p>

### e) <center> tag

Moves all the content to center of browser window.

**Example:** <center> this is centered txt </center>

### f) <div> tag

This tag is used to apply properties to a section in a document.

#### Example:

|                     |                    |                      |
|---------------------|--------------------|----------------------|
| <div align="right"> | <div align="left"> | <div align="center"> |
| text                | text               | text                 |
| </div>              | </div>             | </div>               |

## List in HTML

Lists are used to display content in ordered format. Following lists are available in HTML

- Ordered list
- Unordered list

### Ordered list

- An ordered list starts with the <ol> tag.
- Each list item starts with the <li> tag.
- The list items will be marked with numbers.

#### Example:

```
<ol type="1" start="3">
    <li>Coffee</li>
    <li>Tea</li>
    <li>Milk</li>
</ol>
```

#### Output:

```
3. Coffee
4. Tea
5. Milk
```

<ol> tag has the 'type' attribute which accepts following values.

| Type     | Description  |
|----------|--|
| type="1" | The list items will be numbered with numbers (default)       |
| type="A" | The list items will be numbered with uppercase letters       |
| type="a" | The list items will be numbered with lowercase letters       |
| type="I" | The list items will be numbered with uppercase roman numbers |
| type="i" | The list items will be numbered with lowercase roman numbers |

#### Example:

| HTML Code               | Example  | Output                              | Explanation   |
|-------------------------|--|-------------------------------------|---|
| <ol start="5">          | <ol start="5"><br><li> pen </li><br><li> pencil </li><br><li> eraser </li><br></ol>          | 5. pen<br>6. pencil<br>7. eraser    | starts a numbered list beginning with 5                           |
| <ol type="a">           | <ol type="a"><br><li> pen </li><br><li> pencil </li><br><li> eraser </li><br></ol>           | a. pen<br>b. pencil<br>c. eraser    | starts alphabetical ordered list beginning with 'a' in lower case |
| <ol type="I">           | <ol type="I"><br><li> pen </li><br><li> pencil </li><br><li> eraser </li><br></ol>           | I. pen<br>II. pencil<br>III. eraser | Starts Roman numbered list in upper case                          |
| <ol type="i">           | <ol type="i"><br><li> pen </li><br><li> pencil </li><br><li> eraser </li><br></ol>           | i. pen<br>ii. pencil<br>iii. eraser | Starts Roman numbered list in lower case                          |
| <ol type="I" start="3"> | <ol type="I" start="3"><br><li> pen </li><br><li> pencil </li><br><li> eraser </li><br></ol> | III. pen<br>IV. pencil<br>V. eraser | Starts Roman numbered list in upper case beginning from 3         |
| <ol type="A">           | <ol type="A"><br><li> pen </li><br><li> pencil </li><br><li> eraser </li><br></ol>           | A. pen<br>B. pencil<br>C. eraser    | starts alphabetical ordered list beginning with 'A' in Upper case |

### Heading tags

There are six different heading tags in HTML which displays heading in different size.

The different heading tags are as follows

- 1) <h1>                      </h1>                      This is the biggest heading style
- 2) <h2>                      </h2>
- 3) <h3>                      </h3>
- 4) <h4>                      </h4>
- 5) <h5>                      </h5>

6) `<h6>`                      `</h6>`                      This is the smallest heading style

## Links in HTML

- HTML links are hyperlinks.
- A hyperlink is a text or an image using which user can jump to another document.
- In HTML, links are defined with the `<a>` tag

### Syntax:

```
<a href="address of page to be opened " > link text </a>
```

href represents destination address of the link

### Example:

```
<a href="D:\web\info.html" > Click here </a>
```

The above link opens **info.html** web page when clicked on “**Click here**” hyper text

## Create a Bookmark in HTML (Links within same web page)

- In HTML, bookmarks are used to jump to specific parts of a same web page.
- Bookmarks are useful if the web page is very long.

### Example:

```
<h2 id="C4"> Chapter 4 </h2>
```

CREATING BOOKMARK USING **id** ATTRIBUTE

```
<a href="#C4">Jump to Chapter 4</a>
```

CREATING LINKS TO BOOKMARK FROM SAME WEB PAGE

```
<a href="html_demo.html#C4">Jump to Chapter 4</a>
```

CREATING LINKS TO BOOKMARK FROM ANOTHER WEB PAGE

## Inserting images

`<img>` tag is used to include images in web page.

### Syntax:

```

```

**Example 1:** ``

The above example is used when the image to be displayed and the web page in which image is displayed are in different folders.

**Example 2:** ``

The above example is used when the image to be displayed and the web page in which image is displayed are in same folder.

## Resizing the images

It is possible to change the size (dimensions) of an image using style attribute which uses width and height properties.

### Example:

```

```

## Adding border to the image

Border can be added to an image using border attribute.

### Example:

```

```

### Images as hyperlinks

Images can also be used as hyperlinks instead of plain text.

**Example 1:** `<a href="info.html">  </a>`

**Example 2:** `<a href="info.html">  </a>`

Above example is used to remove border to hyperlinked image.

**Example 3:** `<a href="info.html">  </a>`

Above example is used to display a text when the image is not available using 'alt' attribute.

### <body> tag

- The <body> tag defines the document's (web page) body.
- This tag has the attribute background which specifies a background image for a document.

**Syntax:** `<body background="image path">`

**Example:** `<body background="hills.jpg" bgproperties="fixed">`

- bgproperties attribute let the back ground be fixed even when browser window is scrolled.
- <body> tag has another attribute "bgcolor" which specifies a background color for a document.

**Example:** `<body bgcolor="green">`

### Tables in html

<table> tag is used to add table to web page. This tag has the following sub tags

<tr> table row

<th> table header

<td> table data

<table> tag has the following attributes

| Attribute   | Value                                | Description   |
|-------------|--------------------------------------|---|
| align       | right, left, center, justify<br>char | Visual alignment.   |
| bgcolor     | rgb(x,x,x), #hexcode, colorname      | Specifies the background color of the table.                              |
| border      | pixels                               | Specifies the border width. A value of "0" means no border.               |
| bordercolor | rgb(x,x,x), #hexcode, colorname      | Specifies the border color of the table.                                  |
| cellpadding | pixels or %                          | Specifies the space between the cell borders and their contents.          |
| cellspacing | pixels or %                          | Specifies the space between cells.  |
| width       | pixels or %                          | Specifies the width of the table.   |
| background  | Image path                           | Adds images to the table background                                       |
| rowspan     | number                               | The rowspan attribute specifies the number of rows a cell should span.    |
| colspan     | number                               | The colspan attribute specifies the number of columns a cell should span. |

|                 |   |  |
|-----------------|---|--|
| nowrap          | Accepts no values                               | It specifies that the content inside a cell should not wrap. |
| frame           | void, above, below, lhs, rhs, hside, vside, box | Used to display border in different methods.                 |
| bordercolordark | Border shadow                                   | Display dark color   |

## Frames in HTML

<frameset> tag is used to divide browser window into many sections so that each section can be loaded with different web pages.

**Example:**     <frameset cols="25%,75%">  
                   <frame src="file1.html">  
                   <frame src="file2.html">  
                   </frameset>

This divides the browser screen into two columns. First column is loaded with file1.html file and second section is loaded with file2.html.

## Forms in html

HTML forms are used to collect user input. Form elements are different types of input elements, checkboxes, radio buttons, submit buttons, and more.

### The <input> Element

- The <input> element is the most important form element.
- The <input> element has many variations, depending on the **type** attribute which may accept following value.

| Type     | Description  |
|----------|--|
| text     | Defines normal text input                                      |
| radio    | Defines radio button input (for selecting one of many choices) |
| submit   | Defines a submit button (for submitting the form)              |
| password | Defines password text field                                    |

### a) Input Type: text (text field)

This defines a text field:

**Example:**     User name: <input type="text" name="uname">

**Output:**

User name:

### b) Input Type: radio

This defines a radio button to select one option out of many.

**Example:**

Gender: <input type="radio" name="gen1" value="male">Male  
           <input type="radio" name="gen2" value="female">Female

**Output:**

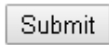
Gender: ☐ Male ☐ Female

**c) Input Type: submit**

This defines a submit button (for submitting the form).

**Example:** `<input type="submit" value="Submit">`

**Output:**

**d) Input Type: password**

Characters entered in password field are masked.

`<input type="password">` defines a password field:

**Example:** User password: `<input type="password" name="pword">`

**Output:** User password:

**e) Input Type: checkbox**

`<input type="checkbox">` defines a checkbox.

Checkboxes let a user to select ZERO or MORE available options.

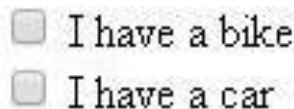
**Example:** `<form>`

`<input type="checkbox" name="vehicle1" value="Bike">` I have a bike

`<input type="checkbox" name="vehicle2" value="Car">` I have a car

`</form>`

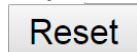
**Output:**

**f) Input Type: reset**

This defines a reset button (data entered in all form fields will be cleared).

**Example:** `<input type="reset" value="Reset">`

**Output:**

**g) input type: image**

- This defines an image as button for submitting.
- The programmer selected image works as a button.

**Example:** `<input type="image" src="submit.gif">`

**Output:**

**h) Input type: hidden**

- Define a hidden field (not visible to a user).
- A hidden field often stores a default value.

**Example:** `<input type="hidden" name="state" value="Karnataka">`



**i) <textarea>**

The <textarea> tag defines a multi-line text input control.

```
<textarea rows="4" cols="25" wrap="off">
</textarea>
```

**Output:**

Address:

space for address

**j) Drop down list**

- The <select> element is used to create a drop-down list.
- The <option> tags inside the <select> tag define the available options in the list.

**Example:**

```
<select>
  <option value="volvo">Volvo</option>
  <option value="bmw">BMW</option>
  <option value="mercedes">Mercedes</option>
  <option value="audi">Audi</option>
</select>
```

**Output:**

Volvo ▼
 

Volvo  
 BMW  
 Mercedes  
 Audi

**Attributes of text fields (settings)**

| Attribute | Explanation                                    |
|-----------|--|
| size      | Defines width of the text field                |
| maxlength | Maximum characters allowed                     |
| name      | Name of the field                              |
| value     | Characters displayed in the text box           |
| tabindex  | Define the to select text fields using tab key |
| align     | Alignment of the field                         |

**Example: A HTML program to display different form elements**

```
<html>
<head> <title>Form elements </title> </head>
<body>
<form>
First name: <input type="text" name="firstname"> <br> <br>
Last name: <input type="text" name="lastname"> <br> <br>
User password: <input type="password"> <br> <br>
Address: <textarea rows="4" cols="25"> </textarea> <br><br>
Gender: <input type="radio" name="gen1" value="male">Male
<input type="radio" name="gen2" value="female">Female <br> <br>
<input type="checkbox" name="vehicle1" value="Bike"> I have a bike
<br>
<input type="checkbox" name="vehicle2" value="Car"> I have a car <br> <br>
<select>
  <option value="Volvo">Volvo</option>
  <option value="bmw">BMW</option>
```

```
<option value="Mercedes">Mercedes</option>
<option value="Audi">Audi</option>
</select>
<br><br> <br><br> <br>
```

```
<input type="submit" value="Submit">
</form>
</body>
</html>
```

**Output:**

First name:

Last name:

User password:

Address:

Gender: ☒ Male ☐ Female

☐ I have a bike  
☐ I have a car

Volvo  
BMW  
Mercedes  
Audi

## Web hosting

Web hosting is a means of hosting web server application on a computer through which electronic content on the internet is readily available to any web browser client.

Various types of web hosting are as follows

- 1) Free hosting
- 2) Shared hosting
- 3) Dedicated hosting
- 4) Collocation hosting

### 1) Free hosting:

- This type of hosting is available with many sites that offer to host some web pages for no cost.
- This is suited for personal sites.
- Technical support is limited.

### 2) Shared hosting (Virtual):

- In this type many websites are hosted on single server which shares some common resources.
- This is suitable for small business and there is good technical support.

### 3) Dedicated hosting:

- In this type a company owns or rents an entire web server to host its website only.
- This option is best suited for large web sites with high traffic, and web sites that use special software.
- Dedicated hosting is very powerful and secure, with almost unlimited software solutions.

### 4) Collocation hosting:

- Collocation means "co-location". Collocated hosting lets user to place own web server on the premises (locations) of a service provider.
- The advantage is high speed connection, regulated power supply, technical support.

## Web 2.0

- Web 2.0 is the term given to describe a second generation of the World Wide Web that is focused on the ability for people to collaborate and share information online.
- Web 2.0 has added many new features to the web applications.
- Web 2.0 has revolutionized the information sharing, user oriented design on the internet.

## Domain name registration

Domain name registration is the act of registering a name on the Internet for a certain period of time.

### Steps in Domain name registration

- Select a suitable name (domain name).
- Getting an ISP and web host.
- Choose a hosting service.
- Use the availability checker.
- Domain Name Server.
- Register the web site.

## Uploading HTML files

FileZilla FTP client is one of the software used to upload HTML files to servers.

## FileZilla

- FileZilla is powerful and free software for transferring files over the internet.
- FileZilla is a very popular FTP client.

### How to use FileZilla?

- Open FileZilla, select files and click on Site Manager.
- Select New Site button, enter name of the site.
- Connect to the server using username, server name and password.
- Upload the files from client to the server.
- It is possible to see the upload progress in bottom window.
- Files related to uploaded website are kept in documents directory.
- Always terminate the connection after finishing.
- Use the site manager to connect to the server again.

## XML

It is an eXtensible Markup Language for documents containing structured information (text, pictures).

### Features of XML

- XML provides a basic syntax that can be used to share information between different kinds of computers, different applications.
- Its self-documenting format describes structure and field names as well as specific values.
- It can represent common computer science data structures: records, lists and trees.
- It is based on international standards.
- It is platform-independent.

## DHTML (Dynamic Hyper Text Markup Language)

Collection of technologies used together to create interactive and animated web sites using HTML, Scripting languages, CSS, Document Object Model (DOM).

### Features of DHTML

#### 1) Object oriented view of web page

- Each page element heading, paragraph, image, list are viewed as an object.
- W3C calls this concept as Document Object Model (DOM)

#### 2) Cascading style sheets (CSS)

- Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language.
- CSS describes how elements must be rendered on screen, on paper, or in other media.

#### 3) Scripting language

The programming languages in which scripts are written are called as scripting languages.

**Example:** VBScript, JavaScript

#### 4) Dynamic fonts

This indicates different types of font styles, sizes, colors as a part of web page.

## Web scripting

- The process of creating and embedding scripts in a web page is known as web scripting.
- Script is a list of commands that are embedded in web page and executed by scripting engine.

There are two types of scripting

1. Client side scripting
2. Server side scripting

#### 1) Client side scripting

This enables the interaction within the web page. Client side scripts are downloaded at client side and executed by the browser.

Some uses of client side scripting

- To get the data from users screen
- Online games

#### 2) Server side scripting

This enables completion and carrying out a task at the server side. PHP is server side scripting language.

Some uses of server side scripting

- Password protection.
- Form processing.
- Browser customization.
- Building and displaying pages created from a database.