UNIT-01 (Web)

A) → HTML stands for Hyper text mark up language.

→ HTML is not a programming language it is a mark up language.

→ It is used for creating the web pages. It describes the structure of a web page.

Document Structure of html

```
<html>
<head>
<title> - - - </title>
<body>
- - -
- - -
body section
- - -
- - -
</body>
</head>
</html>
```

*1) ● html ● tag element

The HTML element serves as the root element of an HTML document, it encapsulates the entire content of the web page.

*2) ● head ● tag element

The head element contains metadata about

the document, such as title, character encoding, and linked stylesheets or scripts. it does not appear on the actual web page but provides important information to browsers and search engines.

3) • Title • ~~tag~~ element

The title element is placed within the head element and defines the title of the web page. It is displayed in the browser's title bar or tab.

4) • body • ~~tag~~ element

The body element contains the visible content of the web page, including text, images, links, and other elements. it represents the main content area that is displayed in the browser window.

5) • ~~Header~~ Heading • ~~tag~~ element

HTML provides six levels of heading elements (h1 to h6) that defines different levels of headings or subheadings within the document. These elements are used to structure and organize the content hierarchically.

6) Paragraph element : The paragraph element (p) is used to define paragraphs of text within the document. it creates a new line and adds spacing blw paragraphs.

7) Hyperlink element :- The hyperlink element (a) is used to create hyperlinks within the document. it allows users to navigate to other web pages, sections within the same page.

8) Image element :- The image element is used to insert images into the document. it requires a source(src) attribute that specifies the URL path of the image.

9) Div element :- The div element is a generic container that is used to group and style elements together. it is often used for layout purposes and provides a way to apply CSS styles to a group of elements.

10) Footer element :- The footer element represents the footer section of a web page. it typically contains copy right information, contact details or other supplementary information.

These elements form the basic structure of an HTML document, and their proper use helps in organizing, and presenting content in a structured and meaningful manner.

Basic example for HTML Structure

```
<html>
<head>
<title> Hello </title>
</head>
<body>
<h1> This is a Heading. </h1>
<p> welcome to web programming. </p>
</body>
</html>
```

2 ans:

HTML, which stands for hypertext markup language is used for creating webpages. It was developed by Tim-Berners-Lee and his team at CERN (European organization for nuclear research) in the late 1980's. HTML was created as a means to share scientific research documents among scientists working in different parts of the world.

* Origin of HTML

The origin of HTML can be traced back to the concept of hypertext which was first proposed by Ted Nelson in the 1960s. Hypertext refers to a non-linear way of organizing and presenting information, where users can navigate through inter-connected documents by clicking on hyperlinks. This idea laid the foundation for the development of HTML.

→ In 1989, Tim-Berners-Lee, a british scientist working at CERN developed a prototype system called "Enquire" that allowed users to create and link documents together. This system formed the basis for what would later become HTML.

→ Berners-Lee and his team realized the need for a standardized markup language that would allow researchers to easily share

and access information over the internet. Hence, they created HTML as a simple and flexible language that could be understood by both humans and Computers.

Evolution of HTML

The evolution of HTML can be divided into different versions:

1) **HTML 1.0** : The first version of HTML was released in 1991. it included basic elements such as headings, paragraphs, lists and links. However it lacked support for images and tables.

2) **HTML 2.0** : This version, released in 1995, introduced new features like tables, image support, and form element. it also standardized the use of attributes within HTML tags.

3) **HTML 3.2** : Released in 1997, HTML 3.2 added more advanced features like frames, background images, and improved form controls.

4) **HTML 4.01** : This version released in 1999, brought further enchancements and improved support for scripting languages like javascript. it also introduced the concept of cascading style sheets for better control over the presentation of web pages.

5) XHTML : XHTML (Extensible Hypertext markup language) was introduced in 2000 as a reformulation of HTML 4.01 in XML format. it aimed to combine the flexibility of HTML with the strictness of XML

6) HTML 5 : HTML 5, released in 2014, is the latest and most significant version of HTML. it introduced a wide range of new features and enhancements, including multimedia support, canvas for drawing graphics, and improved accessibility. HTML 5 also marked a shift towards a more semantic and structured approach to web development.

Overall, HTML has evolved from a simple markup language for sharing scientific documents to a powerful tool for creating interactive and multimedia-rich web pages. its continuous development has been driven by the need for better functionality, improved accessibility, and compatibility with emerging technologies.

3) Ans:

HTML	XHTML
→ HTML stands for hyper text markup language.	→ XHTML stands for Extensible hyperlink markup language.
→ It was developed by Tim-Berners-Lee	→ It was developed by W3C i.e., world wide web Consortium.
→ It was developed in 1991	→ It was released in 2000
→ It is extended from SGML	→ it ~~was~~ is extended from XML and HTML
→ The format is a document file format	→ The format is a markup language.
→ All tags & attributes are not necessarily to be in lower or upper case	→ In this every tag and attribute should be in lowercase.
→ Doctype is not necessary to write at top	→ Doctype is very necessary to write at the top.
→ It is not necessary to close the tags in the order they are opened	→ It is necessary to close ~~all~~ the tags in the order they are opened.
→ Filename extension used are .html, .htm.	→ Filename extensions are .xhtml, .xht, .xml.

4) Formatting tags in HTML are used to
Ans:-
apply various styles and formatting text and elements within a web page. Some Commonly used formatting tags in HTML include:-

- — bold text
- — important text
- <i> — italic text
- — emphasized text
- <mark> — marked text
- <small> — smaller text
- <del> — deleted text
- <ins> — inserted text
- <sub> — Subscript text
- <sup> — superscript text

HTML and Elements

The HTML element defines bold text, without any extra importance.

Ex:- This text is bold .

The HTML element defines text with strong importance. The content inside is typically displayed in bold

Ex:- This text is important ! .

HTML and Elements

The tag is often used to indicate a phrase from another language

ex:- This text is italic

The element defines emphasized text. The content inside is typically displayed in italic

 This text is emphasized

HTML <small> element

The <small> element defines smaller text

ex:-<small> This is some smaller </small>

HTML <mark> element

The <mark> element defines text that should be marked or highlighted

ex:- Do not forget to buy <mark> milk </mark> today.

HTML <del> element

The <del> element defines text that has been deleted from a document. Browsers will usually strike a line through deleted text

ex:- my favourite color is <del> blue </del> red.

HTML <ins> element

The <ins> element defines text that has been inserted from a document. Browsers will usually underline inserted text.

Ex:- my favourite color is <del> blue </del> <ins> red </ins> .

HTML <sup> and <sub> element

These tags are used to create superscript and subscript text respectively. Superscript text appears above the baseline, while subscript text appears below the baseline.

Ex:- This is ^{superscripted} text.

Ex:- This is _{subscripted} text.

5) Basic tags of html

Ans:-

1) <html> :- This tag is used to define the root of an html document.

2) <head> :- This tag is used to contain meta-information about the HTML document.

3) <title> :- This tag is used to define the title of the HTML document, which is displayed on browser tab.

4) <body> :- This tag is used to contain the visible content of the HTML document such as text, images, links & other elements.

5) <h1> to <h6> :- These tags are used to define headings of diff levels, with <h1> being the highest level and <h6> being the lowest level.

6) <p> :- This tag is used to define a paragraph of text

7) <a> :- This tag is used to create hyperlinks, allowing users to navigate to another webpage within the same page.

8) <img> :- This tag is used to embed an image in HTML document.

6) <The <img> tag is used to embed an image into an HTML document. it does not require a closing tag and has several attributes that defines the image source, size, alternative text, and more.

ex: <html>
<head>
<title> Image </title>
<body>
<img src = " c: /user / document / desktop /
image1 . jpg ". height = "100" width="100"
> </img>

</body>
</head>
</html>.

7) The anchor tag in HTML is used to create hyperlinks blw web pages or to other resources such as images, video or documents. The anchor tag is defined using the <a> tag and requires an "href" attribute that specifies the URL of the resource being linked to.

ex:

```
<html>
  <head>
    <title> anchor tag </title>
  </head>
  <body>
    <p> Click following link </p>
    <a href = " https: // www. tutorials
      point. com target = "_self" >
        Tutorials point </a>
  </body>
</html>
```

8) List

Collection of different items is called list. A list is a way to organize and display information in a structured format

List is of 4 types.

1) ordered list
2) unordered
3) Nested
4) Description

* ordered list

The items entering into the list should be in the form of order i.e., numbers wise, Alphabets wise, Roman numbers.

→ By default the ordered list will take number format

→ To represent all of these we use one pre-defined tag < ol >

```
ex:- <html>
      <body>
    <h1> ordered list </h1>
     <ol>
       <li> cofee </li>
       <li> Tea </li>
       <li> milk </li>
        </ol>
        </body>
        </html>
```

* unordered list

In unordered list, all the list items are marked with bullets. it is also known as bulleted list also.

→ is the tag used for unordered list and list items start with the <li> tag.

→ In unordered list we have 4 types.

1) Disk bullets
2) Square "
3) circle "
4) None "

→ By default it will take disk bullets.

```
ex: <html>
    <body>
    <h1> unordered list </h1>
    <ul>
      <li> cofee </li>
      <li> Tea </li>
      <li> milk </li>
    </ul>
    </body>
    </html>
```

* Nested list

A list within another list is termed as nested list. if you want a bullet list inside a numbered list then such type of list is called as nested list.

```
Ex: <html>
    <body>
    <h2> Nested list </h1>
     <ul>
      <li> cofee </li>
      <li> Tea
       <ul>
      <li> Black tea </li>
      <li> Green tea </li>
       </ul>
      </li>
      <li> milk </li>
       </ul>
      </body>
      </html>
```

* Description list

The Description of the data item is called as Description list

→ dt specifies data item name.
→ dd " data description
→ dl " data list

Ex: <html>
<body>
<h1> Description list </h1>
<dl>
<dt> Cofee </dt>
<dd> — black hot drink </dd>
<dt> milk </dt>
<dd> — white cold drink </dd>
</dl>
</body>
</html>

Table creation in html

In HTML, a table is created using the <table> tag: The structure of a table includes the <tr>, <th>, and <td> tags.

<tr> — table row
<th> — table head
<td> — table data.

The <table> tag defines the start and end of the table. Inside the <table> tag, we use the <tr> tag to define a row in table. Each row can contain one or more cells, which are defined using either <th> or <td> tags.

The <th> tag is used to define a header cell in a table. it is typically used to represent column headings. The <td> tag is used to define a data cell in a table, which represents the actual data.

We can represent the html table in both horizontal and vertical.

Horizontal table

In a horizontal table, data is arranged from left to right, typically with headers at the top and content flowing horizontally

fx:-

```
<table>
  <tr>
    <th> Header 1 </th>
    <th> Header 2 </th>
    <th> Header 3 </th>
  </tr>
  <tr>
    <td> Data 1 </td>
    <td> Data 2 </td>
    <td> Date 3 </td>
  </tr>
</table>
```

Heading	Heading	Heading
data	data	data
[redacted]	[redacted]	[redacted]

Vertical table

In vertical table, data is arranged from top to bottom, with headers in one column and corresponding data in the adjacent column

Ex:

```
<table>
  <tr>
    <th> Header 1 </th>
    <td> Data 1 </td>
  </tr>
  <tr>
    <th> Header 2 </th>
    <td> Data 2 </td>
  </tr>
  <tr>
    <th> Header 3 </th>
    <td> Data 3 </td>
  </tr>
</table>
```

Heading	data	data
Heading	data	data
Heading	data	data

10) Forms in HTML

An Executable part in the System is known as form

→ HTML forms are fundamental part of web development, allowing users to input and submit data to a web server.

→ we can create registration & login forms.

→ Here are some Common HTML form elements:-

1) Text input
2) text area
3) Radio Button

4) check box
5) Button
6) File upload
7) select

1) Text input.

It allows users to enter single-line text.

- password input : similar to text input but hides the entered characters for password security.

Syntax

username : <input type = "text" name = "username" value = " " maxlength = "20" size = "20" >

Password : <input type = "password" name = "password".

2) Text Area.

It allows multi-line text input; useful for longer Comments or messages.

Syntax

<textarea rows = "5" cols = "15" >

3) Radio Button

it creates a set of options where users can select only one.

Syntax

<input type = "radio" name = "gender"> Male
<input type = "radio" name = "gender" > Female

4) checkbox

It allows users to select multiple options

Syntax

<input type = "checkbox"> playing
" " > Reading
" " > painting "
" " > Singing

5) Button

It is used to create various types of buttons.

Syntax

<input type = "submit" name = "submit" value = "submit">
" = "reset" " = "reset" " = "reset">
" = "button" " = "button" " = "click">
" = "image" name = "img button" src =
"C:/users/desktop/first.jpg" height = "100"
width = "100" >

6) File upload

let user select and upload file

Syntax

<input type = "file" name = "file">

7) Select

In the select it allows users to select only one option

Syntax

<select size = "4">
<option name = "course"> c language </option>
<option> c language </option>
</select>

ex:

```
<html>
  <head>
    <title> Dropdown example </title>
  </head>
  <body>
    <h1> Select a fruit </h1>
  <form>
    <label for = "fruit"> choose a fruit:
                                </label>
<select id = "fruit" name = "fruit">
  <option value = "apple"> apple </option>
          "      = "banana"> Banana </option>
                 = "cherry"> Cherry </option>
  </select> <br>
```

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

II) Frames

HTML allows programmers to divide a single browser display into multiple window sections, where each section can load individual URLs. This concept of HTML providing multiple frames at one browser display is called frameset, and all the frame tags are used with in the container tag <frameset> So the entire seperation of HTML pages is possible using the concept of frames.

HTML frameset Tag

This tag defines a specific window or frame inside the <frameset> tag. Every <frame> within the <frameset> tag may use attributes for different purposes like borders, resizing capability, include Scrolling etc., The primary use of these frames was to display a menu in parts of the page with content in one part of the page.

Ex:

```
<html>
<head>
<title> Frame </title>
</head>
<frameset cols = "25%, 50%, 25%">
<frame src = "form.html">
<frame src = "form1.html">
<frame src = "form2.html">
</frameset>
</html>
```

Various attributes of <frame> tag.

Src: it is implemented for fetching the HTML file that needs to be loaded in one of the frames. it takes the value as filename.html within double quotes.

Name: facilitates you in giving a name to your frame hence you can indicate which frames you are supposed to load into your page.

Frameborder: is used for specifying if the borders are being shown in the frame you are using, & you can assign values either 1 (yes) or 0 (no) for it

marginwidth: facilitates specifying the frame borders width spacing on the left & side right sides. it takes the value in pixels.

marginheight : facilitates specifying the frame borders height spacing on top and bottom sides. it also takes the value in pixels.

Scrolling : It is used for activating and de-activating the scroll-bar appearance in your frame and takes either yes, no or auto as values to be assigned to it within double quotes

Drawbacks of Frames

- Screen resolution has an adverse effect on frames that you will create in some devices.
- In many cases, the back button of the browser may also stop working.
- In many browsers, Frame technology is not supported, and hence HTML script is unable to relay any output in the browser.