

Web Designing Assignment

MODULE: 1

HTML

1. Are the HTML tags and elements the same thing?

- No, HTML **tags** and **elements** are not exactly the same thing, though they are closely related. Here's the difference:

1. HTML Tags

Tags are the building blocks of HTML. They are the specific keywords or names, enclosed in angle brackets (<>), that define the start and end of an element.

A tag usually comes in a pair: an **opening tag** (e.g., <p>) and a **closing tag** (e.g., </p>), although some tags are self-closing (e.g., or
).

Example: <p>This is a paragraph.</p>

Here:

<p> is the opening tag.

</p> is the closing tag.

2. HTML Elements

- An **element** is the complete structure, which includes the opening tag, content (if any), and the closing tag.

- An element represents a piece of content or structure on a webpage.

Example: <p>This is a paragraph.</p>

Here:

- The **element** is the entire construct: <p>This is a paragraph.</p>.
- It includes the opening tag <p>, the content This is a paragraph., and the closing tag </p>.

2.What are tags and attributes in HTML?

- In HTML, **tags** and **attributes** are fundamental components used to create and structure web pages.

1. Tags:

- **Definition:** Tags are the building blocks of an HTML document. They are used to define elements and content on a webpage.
- **Syntax:** Tags are enclosed in angle brackets (<>) and usually come in pairs: an **opening tag** and a **closing tag**.
 - Example: <p>This is a paragraph.</p>
 - <p>: Opening tag
 - </p>: Closing tag
- **Types of Tags:**
 - **Paired Tags:** Have both opening and closing tags (e.g., <div>...</div>).
 - **Self-Closing Tags:** Do not have a closing tag and end within the opening tag itself (e.g., ,
).

2. Attributes:

- **Definition:** Attributes provide additional information about an HTML element. They are written within the opening tag and consist of a **name-value pair**.
- **Syntax:** attribute="value"

- Example: [Click here](https://www.example.com)
 - href: Attribute name
 - "https://www.example.com": Attribute value
- **Key Points:**
 - Attributes are always defined in the opening tag.
 - They modify or enhance the behavior of the HTML element.
 - Some common attributes include:
 - class: Specifies a class name for CSS styling.
 - id: Specifies a unique identifier for an element.
 - style: Defines inline CSS styles.
 - src: Specifies the source of an external resource, such as an image ().
 - alt: Provides alternative text for an image.
 - href: Specifies the URL of a link (<a>).

Example Combining Tags and Attributes:

```

```

- : Tag
- src, alt, width, height: Attributes
- "image.jpg", "A beautiful landscape", "600", "400": Attribute values

By combining tags and attributes, you can create dynamic, well-structured, and functional web pages.

3.What are void elements in HTML?

- **Void Elements in HTML :**

Void elements are HTML elements that do not have a closing tag and cannot contain any content between their opening and closing tags. They are also known as **self-closing elements** because they are written as a single tag.

Characteristics of Void Elements:

1. No Closing Tag:

- Void elements do not have a separate closing tag.
- Example: ,
, <input>

2. Cannot Contain Content:

- Void elements cannot have child elements or text content between tags.
- Example (invalid):
-
Text</br> <!-- Incorrect -->

3. Self-Closing Format (Optional):

- Void elements are often written as self-closing tags (e.g.,).

Examples of Void Elements:

- <area> Defines an area inside an image map.
- <base> Specifies the base URL for a document.
-
 Inserts a line break.
- <col> Specifies column properties for a table.
- <embed> Embeds external content (e.g., video).
- <hr> Inserts a horizontal line (rule).
- Embeds an image in a webpage.
- <input> Creates an input field.
- <link> Links external resources like CSS.
- <meta> Provides metadata about the document.
- <source> Specifies media sources for <audio> or <video>.
- <track> Specifies text tracks for media elements.
- <wbr> Suggests a line break opportunity.

Void elements are essential for creating structure and functionality in HTML documents without the need for additional closing tags.

4.What are HTML Entities?

- HTML entities are special codes used to represent characters that have a specific meaning in HTML or are not easily typed using a standard keyboard. They help ensure that these characters are displayed correctly in a web browser, rather than being interpreted as part of the HTML code.

Structure of an HTML Entity

HTML entities typically begin with an ampersand (&) and end with a semicolon (;).

For example:

- & represents &.
- < represents <.
- > represents >.

Common Use Cases

1. **Reserved Characters:** These are characters with special meanings in HTML.
 - < and > are used for HTML tags, so they are replaced with < and >.
 - & is used to introduce an entity and is replaced with &;
2. **Non-keyboard Characters:** To include characters not directly available on a keyboard.
 - © is represented as ©.
 - ® is represented as ®.
3. **Special Symbols:** Symbols like quotation marks or non-breaking spaces.
 - " is represented as ".
 - ' is represented as ' (or ').
 - Non-breaking space is .

Numeric and Named Entities

1. **Named Entities:** Use descriptive names, e.g., < for <.
2. **Numeric Entities:** Use a numeric code to represent the character.
 - Decimal format: < represents <.
 - Hexadecimal format: < represents <.

HTML entities ensure that your content is interpreted and displayed correctly, especially when dealing with reserved characters or special symbols.

5.What are different types of lists in HTML?

- HTML provides three main types of lists for organizing and displaying content in a structured manner:

1. Ordered List ()

An ordered list is used when the sequence or order of items matters. The items are numbered by default.

Syntax:

```
<ol>
    <li>First item</li>
    <li>Second item</li>
    <li>Third item</li>
</ol>
```

- **Output:**
 1. First item
 2. Second item
 3. Third item
- **Customization:** You can customize the numbering style using the type attribute:
 - type="1": Default (numbers).
 - type="A": Uppercase letters (A, B, C...).

- type="a": Lowercase letters (a, b, c...).
- type="I": Uppercase Roman numerals (I, II, III...).
- type="i": Lowercase Roman numerals (i, ii, iii...).

Example:

```
<ol type="A">
    <li>First</li>
    <li>Second</li></ol>
```

2. Unordered List ()

An unordered list is used when the order of items doesn't matter. The items are displayed with bullet points by default.

Syntax:

```
<ul>
    <li>Item one</li>
    <li>Item two</li>
    <li>Item three</li>
</ul>
```

- **Output:**
 - Item one
 - Item two
 - Item three
- **Customization:** You can change the bullet style using the type attribute:
 - type="disc": Default (filled circle).
 - type="circle": Hollow circle.
 - type="square": Square bullets.

Example:

```
<ul type="square">
    <li>Square bullet</li>
```

```
<li>Another item</li>
</ul>
```

3. Description List (<dl>)

A description list is used to define terms and their descriptions. It pairs terms (<dt>) with their definitions (<dd>).

Syntax:

```
<dl>
  <dt>HTML</dt>
  <dd>Hypertext Markup Language</dd>
  <dt>CSS</dt>
  <dd>Cascading Style Sheets</dd>
</dl>
```

- **Output: HTML**
Hypertext Markup Language
CSS
Cascading Style Sheets

➤ Nested Lists

You can nest one list inside another to create hierarchical structures.

- **Example:**

```
<ul>
  <li>Fruits
    <ul>
      <li>Apple</li>
```

```
<li>Banana</li>
</ul>
</li>
<li>Vegetables
<ul>
    <li>Carrot</li>
    <li>Potato</li>
</ul>
</li>
</ul>
```

- **Output:**

- Fruits
 - Apple
 - Banana
- Vegetables
 - Carrot
 - Potato

6.What is the 'class' attribute in HTML?

- The class attribute in HTML is used to assign one or more class names to an HTML element. These class names are used for applying CSS styles, targeting elements in JavaScript, and identifying groups of elements that share common characteristics.

Syntax Example:

```
Html
<div class="container">
<p class="text-bold">Hello, world!</p>
</div>
```

7.What is the difference between the 'id' attribute and the 'class' attribute of HTML elements?

- id: An id attribute is unique and should only be used for one element per page. It is typically used for identifying a single element and can be targeted with CSS or JavaScript.
- class: A class attribute can be applied to multiple elements. It is used for grouping elements for styling or scripting purposes and can apply the same styles to many elements.

8.What are the various formatting tags in HTML?

HTML (HyperText Markup Language) provides a wide range of tags for formatting text, creating structure, and enhancing the presentation of content. Here's a categorized list of commonly used formatting tags:

1. Text Formatting Tags

- : Makes text **bold**.
- : Indicates strong importance; usually rendered as bold.
- <i>: Makes text *italic*.
- : Indicates emphasis; usually rendered as italic.
- <mark>: Highlights text.
- <u>: Underlines text.
- <s>: Strikethrough text.
- <small>: Reduces the font size.

2. Structural Tags

- <p>: Defines a paragraph.
-
: Inserts a line break.
- <hr>: Creates a horizontal rule (line).

3. Heading Tags

- <h1> to <h6>: Define headings, from largest (<h1>) to smallest (<h6>).

4. List Tags

- : Creates an unordered list (bullets).
Example:
 -
 - Item 1
 - Item 2
 -
- : Creates an ordered list (numbers).

5. Table Tags

- <table>: Defines a table.
- <tr>: Defines a table row.
- <td>: Defines a table cell (data).
- <th>: Defines a header cell.

6. Inline Formatting Tags

- : For inline styling and formatting.
Example: Red Text
- <a>: Defines a hyperlink.
Example: Link
- <code>: Displays inline code.
Example: <code>console.log('Hello')</code>

9. How is Cell Padding different from Cell Spacing?

1. Cell Padding:

- Refers to the **space between the content of a cell and its border**.
- It creates an internal margin inside each table cell.
- Controlled by the padding property in CSS or the deprecated cellpadding attribute in HTML.

2. Cell Spacing:

- Refers to the **space between the borders of adjacent cells** in a table.
- It creates gaps between table cells.
- Controlled by the border-spacing property in CSS or the deprecated cellspacing attribute in HTML.

10. How can we club two or more rows or columns into a single row or column in an HTML table?

You can use the colspan and rowspan attributes in HTML:

- colspan: Merges multiple columns into one.
- rowspan: Merges multiple rows into one.

11. What is the difference between a block-level element and an inline element?

1. Block-Level Elements

- **Definition:** Block-level elements are elements that occupy the entire width of their container by default, starting on a new line.
- **Key Characteristics:**
 - Always start on a new line.
 - Take up the full width of their parent container, regardless of their content size.

- Can contain other block-level elements or inline elements.
- Typically used for structuring layouts or dividing content.
- **Examples:**
 - <div>, <p>, <h1> to <h6>, <section>, <article>, <header>, <footer>, , , , etc.
- **CSS Display Value:** display: block;

12. How to create a Hyperlink in HTML?

In HTML, a hyperlink is created using the <a> (anchor) tag. It allows users to navigate to another page, section, or external resource.

Basic Syntax

```
<a href="URL">Link Text</a>
```

- **href:** Specifies the URL or location the link should navigate to.
- **Link Text:** The clickable text visible to the user.

Examples of Hyperlinks

1. Link to an External Website

```
<a href="https://www.example.com">Visit Example</a>
```

Clicking this link will take the user to the Example website.

2. Link to a Section on the Same Page

Use an id attribute in the target element and link to it with #:

```
<a href="#section1">Go to Section 1</a>
```

```
<h2 id="section1">Section 1</h2>
```

Clicking the link scrolls the page to the element with id="section1".

3. Open Link in a New Tab

Use the target="_blank" attribute:

```
<a href="https://www.example.com" target="_blank">Open Example in  
New Tab</a>
```

4. Link to an Email Address

Use mailto: in the href attribute:

```
<a href="mailto:someone@example.com">Send an Email</a>
```

Clicking this link opens the user's default email client.

5. Link to a Phone Number

Use tel: in the href attribute (common for mobile users):

```
<a href="tel:+1234567890">Call Us</a>
```

6. Link to a File

Provide the file path in the href attribute:

```
<a href="files/document.pdf" download>Download PDF</a>
```

Use the download attribute to suggest downloading the file.

13.What is the use of an iframe tag?

The <iframe> (short for **inline frame**) tag in HTML is used to embed another HTML document within the current HTML document. This allows you to display external content, such as webpages, videos, or interactive elements, within a specific section of a webpage.

Key Uses of <iframe>:

1. Embedding Web Content:

- Display another webpage or web application within your page.
- Example: Embedding Google Maps, YouTube videos, or external widgets.

2. Isolation of Content:

- Load external resources in a separate frame, isolating them from the main page's CSS and JavaScript.

3. Sandboxing:

- With the sandbox attribute, an <iframe> can restrict the embedded content's ability to execute scripts, submit forms, or access browser storage, improving security.

4. Interactive Applications:

- Host third-party forms, advertisements, or other interactive elements.

14.What is the use of a span tag? Explain with example?

The tag is an inline container used to group elements for styling or scripting purposes without adding block-level structure. Example:

html

```
<p>This is a <span style="color: red;">red</span> word.</p>
```

15. How to insert a picture into a background image of a web page?

You can set a background image for a web page using **CSS**. The most common method is applying the `background-image` property to the `<body>` or a specific `<div>`.

Method 1: Using CSS `background-image`

You can add a background image to the entire webpage using CSS.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Background Image Example</title>
    <style>
        body {
            background-image: url('background.jpg'); /* Path to your image
*/
            background-size: cover; /* Adjusts the image to fit the screen */
            background-position: center; /* Centers the image */
            background-repeat: no-repeat; /* Prevents repeating */
            height: 100vh; /* Full height of the viewport */
            margin: 0;
        }
    </style>
</head>
<body>
    <h1>Welcome to My Website</h1>
</body>
</html>
```

Explanation:

- background-image: url('background.jpg'); → Specifies the image.
- background-size: cover; → Ensures the image covers the entire background.
- background-position: center; → Centers the image.
- background-repeat: no-repeat; → Prevents tiling.

Method 2: Background Image in a Specific Section

If you want the background image **inside a div**, you can apply CSS to that div.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Background Image in Div</title>
    <style>
        .background-section {
            background-image: url('background.jpg');
            background-size: cover;
            background-position: center;
            width: 80%;
            height: 400px;
            margin: auto;
            display: flex;
            align-items: center;
            justify-content: center;
            color: white;
            font-size: 24px;
            text-shadow: 2px 2px 4px rgba(0,0,0,0.5);
        }
    </style>
</head>
<body>
    <div class="background-section">
        <h1>Hello World!</h1>
    </div>
</body>
</html>
```

```

        }
    </style>
</head>
<body>
    <div class="background-section">
        This is a section with a background image.
    </div>
</body>
</html>

```

16. How are active links different from normal links?

- **Normal link:** A link in its default state (e.g., unvisited or visited).
- **Active link:** A link that is currently being clicked or activated, usually with a different style (e.g., underlined or a different color) using the :active pseudo-class in CSS.

17. What are the different tags to separate sections of text?

Some common tags for separating sections of text include:

- <p>: Defines a paragraph.
- <h1>, <h2>, ..., <h6>: Define headings of different levels.
- <hr>: Defines a horizontal rule (line) to separate content.
- <blockquote>: Defines a block of quoted text.

18. What is SVG?

SVG (Scalable Vector Graphics) is an XML-based format for vector graphics. It is used to create graphics that are scalable without losing quality. SVG is commonly used for logos, icons, and illustrations in web development.

19.What is difference between HTML and XHTML?

- **HTML:** HyperText Markup Language, which is not strictly enforced for correct syntax (e.g., tags can be unclosed).
- **XHTML:** Extensible HyperText Markup Language, which is a stricter version of HTML. It enforces correct syntax (e.g., all tags must be closed, attributes must be quoted, and elements must be properly nested).

20.What are logical and physical tags in HTML?

- **Logical tags:** Used to describe the meaning of the content rather than its presentation. Example: , , <cite>.
- **Physical tags:** Used to define the presentation of the content. Example: , <i>, <u>.