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### Assignment No.: 1

#### UNIT - I

que: 1. Describe the basic structure of an HTML document

→ <!DOCTYPE html>  
<html>  
<head>  
    <title> welcome to my webpage </title>  
</head>  
<body>  
</html>

que: 2. What are HTML Form elements and attributes? provide examples of commonly used form elements and their attributes.

→ Here are some commonly used form elements and their attributes:

1. **<Form>**: The <form> element acts as a container for all input elements and defines the form's action and method.

**Attributes :**

1) **action** : URL where the form data should be sent when submitted.



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- ↳ Method : HTTP method for form submission.
- ↳ enctype : Defines the encoding type for form data.

### Examples:

```
<Form action = "/submit"  
method = "post">  
</Form>
```

- 2. Input : The <input> element is versatile and can handle different types of input data depending on its type attribute.

### Attributes :

- type : specifies the type of input.
- ↳ name : Specifies the name of the input used to reference the value in scripts or server-side code.
- ↳ value : Sets the initial value of the input.
- ↳ placeholder : provides a html hint to the user about the expected input.
- ↳ required : Makes the field mandatory.



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↳ Min, Max : used for number and decimal fields  
to set minimum and max

### Example :

```
<input type = "text" name = "username"  
placeholder = "Enter your username" required>
```

```
<input type = "email" name = "email"  
placeholder = "Enter your email">
```

```
<input type = "password"  
name = "password"  
required>
```

3. <textarea> : The `<textarea>` element is used for multi-line text input, such as comments or messages.

### Attributes :

- **Name** : specifies the name of the text area.
- **rows** : sets the number of rows visible.
- **cols** : sets the number of columns visible.
- **placeholder** : provides a hint for the expected input.



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Example :

```
<textareal name = "comments"  
rows = "4" cols = "50"  
placeholder = "write your comments here">  
</textareal>
```

4. <button>: The `<button>` element defines a clickable button, often for submitting or resetting the form.

L) Attributes :

- type : specifies the button type .
- Name : specifies the name of the button .
- Value : specifies the value associated with the button .

Example :

```
<button type = "submit"> submit  
</button>
```

```
<button  
type = "reset"> Reset </button>
```



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6. <label>: The <label> element defines labels for other form elements, improving accessibility by associating labels with input elements.

Attributes:

- for : Associates the label with an input element using the input's id.

Example:

```
<label  
for="username">username : </label>  
<input type="text"  
id="username"  
name="username">
```

que-3 Discuss the importance of browser support in HTML development. How can developers ensure cross browser compatibility?

→ Browser support is a key aspect of HTML development. As web users access content through various browsers and on multiple devices, developers must ensure that websites function consistently across these environments. Cross-browser compatibility ensures a seamless experience for users regardless of their chosen browser, preventing issues such as broken



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layouts, missing functionality or styling inconsistencies that could affect the website's usability and credibility.

- Here's why browser support is crucial in HTML development :

1. User Accessibility: Some users rely on older browser or browsers with specific accessibility features. Ensuring compatibility can make a site more inclusive.

2. User Experience: Users access websites through various browsers and they expect the same experience regardless of which one they use.

3. SEO & Performance: Search engines prefer well-optimized, accessible sites that work across browsers, which can impact SEO rankings. Also, some browsers have optimizations that improve site loading speed and performance.

4. Brand Reputation: Inconsistent functionality or appearance across browsers can lead to perceptions of unreliability, impacting a brand's credibility.



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- STEPS to ensure Cross-Browser Compatibility.

1. Use standards-Compliant HTML and CSS:  
Stick to W3C Standards, as these are generally supported by most modern browsers. Avoid browser-specific HTML, CSS or JavaScript that could lead to inconsistencies.
2. Testing in Multiple Browsers and versions:  
Testing with tools like BrowserStack, cross-browser testing or using virtual machines and actual devices can reveal compatibility issues.
3. Responsive Design: Using responsive design principles ensures a site adapts to various screen sizes and orientations. Screen sizes and orientations across devices, improving usability on both mobile and desktop browser.
4. polyfills and Transpilers: polyfill and CSS prefixes help older browsers support newer web technologies, allowing developers to write modern code while supporting legacy systems.
5. Feature Detection: using tools like modernizr allows developers to detect if a browser supports certain features, enabling



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Conditional loading of polyfills or fallback solutions for unsupported features.

- By prioritizing browser support developers can ensure that their websites reach a broad audience, enhance accessibility, and deliver a better overall user experience.
  - Q. How can background colors and images be added to an HTML webpage? provide code examples demonstrating both techniques.
  - > In HTML and CSS you can add background colors and images to a webpage using either inline styles or an external CSS file. Here are examples of both techniques.
1. Adding a Background color: you can add a background color to the entire page or specific elements.

Code example:

```
<!DOCTYPE html>
<html lang = "en">
<head>
    <title> background color </title>
<style>
body {
    background color : light blue;
```



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• Content {  
background-color : #f0f0f0;

padding : 20px;  
border-radius : 8px;

}

<style>

<head>

<body>

<div class = "content">

<h1>Hello world </h1>

<p> This is a section with a custom background  
color. </p>

</div>

<body>

</html>

2. Adding background image : you can set a  
background image using CSS and  
control its position, size and repeat  
behavior.

Code example :

<!DOCTYPE html>

<html>

<head>

<title> Background Image </title>

<style>

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```
body {  
background-image:  
url('background.jpg');  
</style>  
</head>  
<h1>Welcome to my webpage </h1>  
<p>This page have a background image </p>  
</body>  
</html>
```

- These examples illustrate both background color and images methods for customizing your webpage design.

Q. Explain div and span tag in details:

→ In HTML `<div>` and `<span>` are two commonly used tags for grouping and organizing content. Both are generic containers, but they serve different purpose and are used in different contexts. Here is a detailed explanation of each:

1. `<div>` tag:

**Description:** The `<div>` tag is a block-level element used to group larger sections of content together. It is often used to structure sections of a webpage, such as headers, footers, sidebars and main content area.

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Usage : <div> is often used with CSS to apply styles. Control layout and organize content into logical sections.

Attributes : you can use standard HTML attributes like id, class, style and data.

Example :

```
<!DOCTYPE html>
<html>
<head>
  <title> Example </title>
<style>
</style>
</head>
<body>
  <div class = "container">
    <div class = "header">
      <h1> website header </h1>
    </div>
    <div class = "content">
      <p> This is the main content area </p>
    </div>
    <div class = "footer">
      <p> website footer </p>
    </div>
  </body>
</html>
```



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- **Description:** The `<span>` tag is an inline element used to group smaller chunks of content within a block-level elements. It's primarily used to apply styling or behaviors to a part of text or inline elements without affecting the layout.
- **Usage:** `<span>` is commonly used with CSS to apply styles to a specific portion of text or to highlight, color or format individual words or characters.
- **Attributes:** Similar to `<div>` it supports `id`, `class`, `style`, and `data-*` attributes.

### Example:

```
<!DOCTYPE html>
<html>
<head>
  <title> Span Example </title>
</head>
<body>
  <p> Welcome to our website we offer
  <span class="highlight"> great deals </span>
  On a variety of products. Don't miss out! </p>
</body>
</html>
```

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By understanding the purposes of `<div>` and `<span>` you can create a more structured, organized and stylized HTML document.

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### UNIT - 3

Explain the structure of an HTML table.  
provide an example of a basic table structure

An HTML table is structured using several tags that define rows, columns, headers, and table data. The basic components of an HTML table are:

**<table>**: The main container for the table.

**<tr> (table row)**: Defines a row within the table.

**<th> (table header)**: Defines a header cell within a row, usually bolded and centered by default.

**<td> (table data)**: Defines a cell that contains data within a row.

Here's an example of a simple HTML table:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport"
    content="width=device-width,
    initial-scale=1.0">
```

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<title> Basic HTML Table </title>

</head>

<body>

<table border = "1">

<tr>

<th> Name </th>

<th> Age </th>

<th> City </th>

</tr>

<tr>

<td> Alice </td>

<td> 24 </td>

<td> New York </td>

</tr>

<tr>

<td> Bob </td>

<td> 30 </td>

<td> Los Angeles </td>

</tr>

<tr>

<td> Charlie </td>

<td> 28 </td>

<td> Chicago </td>

</tr>

</table>

</body>

</html>

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### Explanation of the Example :

`<table border="1">` creates a table with a visible border around each cell.

The first `<tr>` contains `<th>` tags, which define the headers for the table columns.

Each subsequent `<tr>` contains `<td>` tags, representing rows with data entries for each column.

### Result

This will produce a table with three columns (Name, age, City) and three rows of data, displaying each entry under its respective header.

How can you align a table and its cell contents in HTML? Describe the CSS properties or HTML attributes used for alignment, and provide examples demonstrating their application.

Aligning tables and their contents in HTML can be done using CSS properties or, in some cases, older HTML attributes. Here's a look at how you can align both the table itself and the cell contents.

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- Aligning the table : To align the entire table, you can use the margin property in CSS.

### Center Aligning the table

```
<table style="margin: auto; >  
  <!-- Table rows and cells -->  
</table>
```

In this example :

Margin : auto; centers the table within its parent container by setting left and right margins to auto.

### Aligning the table to the left or right

```
<table style="float: left; >  
  <!-- Table rows and cells -->  
</table>
```

In this example :

float: left; aligns the table to the left side of its container.

Similarly float: right; will align it to the right



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### 2. Aligning Table Cell Contents :

To control alignment within table cells, use `text-align` for horizontal alignment and `vertical-align` for vertical alignment.

Horizontal Alignment with  
`text-align`

Use the `text-align` CSS property on `<th>` or `<td>` elements

- `<table border="1" style="width: 50%; margin: 0 auto;">`  
`<tr>`

`<th style="text-align: left;"> Name </th>`

`<th style="text-align: center;"> Age </th>`

`<th style="text-align: right;"> City </th>`

`</tr>`

`<td style="text-align: left;"> Alice </td>`

`<td style="text-align: center;"> 24 </td>`

`<td style="text-align: right;"> New York </td>`

`</tr>`

`</table>`

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### Vertical Alignment with vertical-align

use vertical-align to align content vertically within a cell.

```
- <table border="1" style="width: 50%; margin: 0 auto; height: 100px; ">
    <tr style="height: 100px; >
        <td style="vertical-align: top;">Top Aligned</td>
        <td style="vertical-align: middle;">Middle Aligned</td>
        <td style="vertical-align: bottom;">Bottom Aligned</td>
    </tr>
</table>
```

### 3. Additional Example : Centering All cell :

To center-align all cell content in the table, apply style to `<table>`, `<th>` and `<td>` selector in CSS.

`<Style>`

```
table, th, td {
    text-align: center;
    vertical-align: middle;
}
```

`</Style>`

```
<table border="1" style="width: 50%; margin: 0 auto;
```

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<tr>

<th> Name </th>

<th> Age &lt;th>

<th> City </th>

</tr>

<tr>

<td> Alice </td>

<td> 24 </td>

<td> New York </td>

</tr>

<table>

In this example, all cell content will be centered horizontally and vertically by default.

### Summary

Align the table itself using margin or float.

Align cell content horizontally with text-align.

Align cell content vertically with vertical-align.

Describe the process of nesting tables in HTML. Provide an example illustrating nested tables.

→ Nesting tables in HTML means placing one table inside a cell of another table. This can be useful for organizing complex data layouts within a main table structure.

### process of Nesting Tables

1. Create the outer table.
2. Inside a cell (`<td>`) of the outer table, insert a new `<table>` element. This inner table can have its own rows and cells.
3. Style both tables independently as needed.

### Example of Nested Tables

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport"
    content="width=device-width,
    initial-scale=1.0">
  <title> Nested Tables Example </title>
</head>
<body>
```

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<1\_outer Table>

<table border="1" style="width: 70%; margin: 0 auto;"><br>

<th> Main column 1 </th>

<th> Main column 2 </th>

<tr>

<td>

<td>

<!-- Inner Table inside the first cell -->

<table border="1" style="width: 100%;">

<br>

<th> Sub column 1 </th>

<th> Sub column 2 </th>

<tr>

<td>

<td> Nested cell 3 </td>

<td> Nested cell 2 </td>

<tr>

<td>

<td> Nested cell 3 </td>

<td> Nested cell 4 </td>

<tr>

<table>

<td>

<td> Main Table cell 2 </td>

<td>

<td>

<td> Main table cell 3 </td>

<td> Main table cell 4 </td>

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<1tr>  
<1table>  
<1body>  
<1html>

### Result

This setup produces an outer table with two columns. The first cell in the second row of the outer table contains a smaller table with its own headers and data cells.

ps for working with Nested Tables.

gling : use css to style the inner and outer table separately ,

th Management: Specify widths to control how much space each table and cell occupies .

ders and spacing: Nested tables can become visually cluttered, so using border-spacing, padding, or margin can improve readability .

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What are frames in HTML, and how are they created? Explain the purpose of the `<Frameset>` and `<Frame>` tags.

In HTML, frames are a way of displaying multiple web pages within a single browser window, allowing for independent scrolling, navigation, and updating of content in different sections of the same page.

Purpose of frames.

The main purpose of frames is to allow a web page to be divided into separate sections where each section can independently load a different web page. This allows for easier navigation as one part of the page could stay constant while other parts of the page change based on the user's actions.

`<frameset>` tag.

The `<frameset>` is used to define a group of frames within a page. It replaces the `<body>` tag when creating a page that contains frames. Inside a `<frameset>`, you

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Example :

```
<frameset rows="50%, 50%">
  <frame src="page1.html">
  <frame src="page2.html">
</frameset>
```

<Frame> tag :

The `<frames>` tag was used inside of `<frameset>` to define an individual frame. Each frame would load a separate .HTML document.

Attributes of `<frame>`:

`src` : The URL of the page to display in the Frame.

`name` : Specifies the name of the frame, which can be used to target the frame with links.

`scrolling` : Determines if scrolling is enabled.

`border` : Specifies whether or not a border should be displayed around the frame.

`frameborder` : Deprecated, but it used to specify whether or not the frame has a visible border.

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Example :

```
<frame src="https://www.example.com"
name="mainframe" scrolling="auto">
```

Discuss the concept of applying hyperlink targets to frames.

The web development, the concept of applying hyperlink target of frames generally refers to controlling how hyperlink behaves when clicked, specifically in the context of web pages that contain frames or iframes. Historically, frames were commonly used to display multiple independent web documents within a single browser window, though modern web practices largely favor alternative techniques like CSS Layout or the <iframe> element.

Frames and hyperlink Targets :

When a webpage contains multiple frames, you can specify where the content of a link should open, using the target attribute in the anchor (<a>) tag.

target = "\_blank" : open the link in a new window or tab.

target = "self": open the link in the same frame as the link was clicked.

target = "-parent": open the link in the immediate parent frame.

target = "-top": open the link in the full browser window

target = "framename": open the link in a specific frame identified by the name of the target frame.

How frame Targeting works :

When a web page has multiple frames, each frame has a name for example:

```
<frameset cols = "200,*">
  <frame src = "navigation.html" name = "left-frame">
  <frame src = "content.html" name = "main-frame">
</frameset>
```

hyperlink in one frame can then target specific frame by using the target attribute. for example.

`<a href = "page1.html" target = "mainframe">`  
Go to page 1</a>

### Targeting Frames with <iframe> :

In modern web design, the use of `<frames>` has largely replaced the `<frameset>` and `<frame>` elements. Although `<iframe>` is more flexible and better supported across browsers, the concept of targeting a hyperlink to open in the `iframe` is still relevant.

`<iframe src = "initial-content.html" name = "myFrame" width = "600" height = "400"></iframe>`

To target this `iframe`, a ~~target~~ hyperlink might look like this

`<a href = "newcontent.html" target = "myFrame">`  
Load new content in `iframe` </a>

### Challenges and Limitations :

**Obsolescence:** The `<frameset>` and `<frame>` elements are obsolete in HTML 5. Modern web design prefers `<iframe>` for embedding external content and CSS/Java Script for layout management.

Accessibility Issues: Frames can be challenging for screen readers and users with disabilities.

SEO Impact: Search engines often struggle to index content within frames effectively.

Complexity: Managing navigation and content synchronization across frames can become cumbersome.

### Modern Alternatives:

Iframe: Embeds another HTML document within a page but does not rely on a frameset.

Grid or Flexbox: For creating dynamic layouts without the need for separate frames.

Single-page Application: Frameworks like React or Angular dynamically load content into designated sections of the page without reloading.