

1. Difference between HTML and XHTML

HTML (Hypertext Markup Language) and XHTML (Extensible Hypertext Markup Language) are both markup languages used to structure content on the web, but they have key differences:

- **HTML** is a standard markup language used to create web pages. It is less strict when it comes to syntax rules, meaning you can leave certain elements unclosed or have missing quotes around attributes.
- **XHTML** is a stricter version of HTML based on XML. It follows stricter rules and must be well-formed. For example, all tags must be properly closed, and attribute values must be quoted.

2. Explain the history of HTML in brief

HTML was first developed by Tim Berners-Lee in 1991 to create a system for sharing documents over the internet. The initial version was quite simple, and over time, HTML evolved through several versions:

- **HTML 2.0 (1995):** The first official standard for HTML, including features like tables and forms.
- **HTML 3.2 (1997):** Introduced support for scripting languages like JavaScript and new presentation elements like tables and styles.
- **HTML 4.01 (1999):** Focused on separating content from presentation using CSS and introduced better accessibility features.
- **HTML5 (2014):** The latest version, adding support for multimedia elements like audio, video, and canvas, along with APIs for local storage and more.

3. What is HTML attribute? Describe HTML elements with its types

An HTML attribute provides additional information about an HTML element. Attributes are used to modify the behavior or appearance of an element.

For example, the `src` attribute in an `` tag specifies the image source:

```

```

HTML elements are the building blocks of an HTML page, and they generally consist of:

- **Start tag:** The opening tag, e.g., `<div>`.
- **Content:** The content that the tag wraps around, e.g., "Hello World".
- **End tag:** The closing tag, e.g., `</div>`.

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Types of HTML elements:

- **Structural elements:** Elements like `<html>`, `<head>`, `<body>`.
- **Text-related elements:** `<h1>`, `<p>`, ``.
- **Media elements:** ``, `<audio>`, `<video>`.
- **Form elements:** `<input>`, `<form>`, `<select>`.

4. What is tag in HTML? Describe the different types of Tags in HTML

A tag in HTML is a keyword enclosed in angle brackets (`<>`) that defines the structure and content of a web page. Tags typically come in pairs: a start tag (e.g., `<p>`) and an end tag (e.g., `</p>`). However, some tags are self-closing and don't require an end tag, like ``.

Types of tags:

- **Block-level tags:** These tags create block elements, taking up the full width of their parent element. Examples include `<div>`, `<h1>`, `<p>`.
- **Inline tags:** These tags only take up as much space as their content requires. Examples include ``, `<a>`, ``.
- **Self-closing tags:** These tags don't have a closing tag. Examples include ``, `
`, `<hr>`.

5. Describe the use of hyperlink tag

The hyperlink tag (`<a>`) is used to create clickable links to other web pages, files, or locations on the same page. It uses the `href` attribute to define the destination URL.

Example: `Click here to visit Example`

In this example, the link text "Click here to visit Example" will take the user to `https://www.example.com` when clicked.

6. Create a basic HTML table with cell padding, cellspacing, rowspan, colspan, and border attribute

```
<!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>HTML Table Example</title>

</head>

<body>

  <h1>HTML Table Example</h1>

  <table border="1" cellpadding="10" cellspacing="5">

    <tr>

      <th rowspan="2">Name</th>

      <th colspan="2">Age</th>

    </tr>

    <tr>

      <td>25</td>

      <td>30</td>

    </tr>

    <tr>

      <td>John</td>

      <td>35</td>

      <td>40</td>

    </tr>

  </table>

</body>

</html>
```

Here:

- The `border="1"` attribute adds a border around the table.
- `cellpadding="10"` creates space inside the table cells.
- `cellspacing="5"` creates space between the cells.
- `rowspan="2"` makes the cell span two rows.
- `colspan="2"` makes the cell span two columns.

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7. Create a basic HTML form that includes text field for name, number field for age, a field for salary, a select dropdown, radio button for gender, checkbox for hobbies and text area for description

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>HTML Form Example</title>

</head>

<body>

  <h1>HTML Form Example</h1>

  <form>

    <label for="name">Name:</label>

    <input type="text" id="name" name="name"><br><br>

    <label for="age">Age:</label>

    <input type="number" id="age" name="age"><br><br>

    <label for="salary">Salary:</label>

    <input type="number" id="salary" name="salary"><br><br>

    <label for="gender">Gender:</label><br>

    <input type="radio" id="male" name="gender" value="Male"> Male

    <input type="radio" id="female" name="gender" value="Female"> Female<br><br>
```

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```
<label for="hobbies">Hobbies:</label><br>
<input type="checkbox" id="hobby1" name="hobbies" value="Reading"> Reading
<input type="checkbox" id="hobby2" name="hobbies" value="Travelling">
Travelling<br><br>
```

```
<label for="description">Description:</label><br>
<textarea id="description" name="description" rows="4"
cols="50"></textarea><br><br>
```

```
<label for="country">Country:</label>
<select id="country" name="country">
  <option value="usa">USA</option>
  <option value="india">India</option>
  <option value="uk">UK</option>
</select><br><br>
```

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

This form includes text fields for name, number fields for age and salary, radio buttons for gender, checkboxes for hobbies, a text area for description, and a dropdown list for country.

8. Discuss HTML events with examples

HTML events are actions that happen in the browser, such as a user clicking a button, hovering over an element, or submitting a form. You can associate JavaScript functions with these events to handle user interactions.

Here are a few examples of common HTML events:

- `onclick`: Triggered when an element is clicked.
- `onmouseover`: Triggered when the mouse pointer moves over an element.
- `onchange`: Triggered when the value of an element changes (e.g., a form field).

Example:

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  <title>HTML Events Example</title>
```

```
  <script>
```

```
    function greet() {
```

```
      alert("Hello! You clicked the button.");
```

```
    }
```

```
    function changeBackgroundColor() {
```

```
      document.body.style.backgroundColor = "lightblue";
```

```
    }
```

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```
function showMessage() {  
    document.getElementById("message").innerHTML = "This is an HTML  
event!";  
}  
  
</script>  
  
</head>  
  
<body>  
    <h1>HTML Events Example</h1>  
  
    <!-- Click Event -->  
  
    <button onclick="greet()">Click Me</button><br><br>  
  
    <!-- Mouseover Event -->  
  
    <p onmouseover="changeBackgroundColor()">Hover over this text to change  
background color.</p><br><br>  
  
    <select onchange="showMessage()">  
        <option value="1">Select me</option>  
        <option value="2">Click me</option>  
    </select><br><br>  
  
    <p id="message">Hover over a selection to see a message.</p>  
  
</body>  
  
</html>
```

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