

HTML Basics Assignment

Theory Assignment

Question 1: Define HTML. What is the purpose of HTML in web development?

HTML (HyperText Markup Language) is the standard markup language used to create and structure content on the web. It defines the structure of web pages by using elements such as headings, paragraphs, images, and links. The purpose of HTML in web development is to build the framework for websites and allow browsers to interpret and display the content to users.

Question 2: Explain the basic structure of an HTML document. Identify the mandatory tags and their purposes.

The basic structure of an HTML document includes the following tags:

```
<!DOCTYPE html>
<html>
<head>
  <title>Page Title</title>
</head>
<body>
  <!-- Content goes here -->
</body>
</html>
```

<!DOCTYPE html>: Declares the document as HTML5.

<html>: The root element of the document.

<head>: Contains metadata about the document (e.g., title, styles).

<title>: Sets the title of the webpage displayed in the browser tab.

<body>: Contains the content that will be displayed on the webpage (e.g., text, images, videos).

Question 3: What is the difference between block-level elements and inline elements in HTML? Provide examples of each.

- Block-level elements: These elements take up the entire width of their parent container and always start on a new line. Examples: <div>, <p>, <h1> to <h6>, , <table>.

- Inline elements: These elements only take up as much width as necessary and do not start on a new line. Examples: , <a>, , , .

Question 4: Discuss the role of semantic HTML. Why is it important for accessibility and SEO? Provide examples of semantic elements.

- Role of Semantic HTML: Semantic HTML uses elements with meaningful names that clearly describe their content. This improves accessibility for assistive technologies and enhances SEO by allowing search engines to better understand webpage content.

-Importance for Accessibility and SEO :

- Helps screen readers navigate content more effectively
- Improves the structure and hierarchy for search engine crawlers.

- Examples of Semantic Elements :

<header>: Represents the page or section header.

<footer>: Represents the page or section footer.

<article>: Represents self-contained content.

<nav>: Represents navigation links.

<section>: Groups related content.

HTML Forms

Question 1: What are HTML forms used for? Describe the purpose of the input, textarea, select, and button elements.

- HTML forms are used to collect user input and send it to server for processing. They allow user to interact with web applications by providing information, selecting options, or triggering actions.

KEY ELEMENTS OF HTML FORMS :

1. Input element :

Purpose: Collects User input in various formats, depending on the type attribute.

Common types : text, email, password, number, checkbox, radio, file, submit.

2. Textarea Element :

Purpose: Allows users to input multi-line text, such as comments or descriptions.

Features: Provides more space for content compared to <input type="text">.

3. Select Element :

Purpose: Creates a dropdown menu for users to choose from a list of options.

4. Button Element :

Purpose: Triggers an action, such as submitting a form

Types : Submit , Reset , Button.

Question 2: Explain the difference between the GET and POST methods in form submission. When should each be used?

- Difference Between GET and POST Methods in Form Submission:

1. GET Method:

Data Handling: Sends form data as part of the URL in key-value pairs, appended to the URL after a ?.

Visibility: Data is visible in the URL and can be bookmarked or shared.

Security: Less secure because the data is exposed in the URL.

2. POST Method:

Data Handling: Sends form data in the body of the HTTP request, not visible in the URL.

Visibility: Data is hidden from the URL and cannot be bookmarked or shared.

Security: More secure than GET because data is not exposed in the URL, but still requires encryption (e.g., HTTPS) for sensitive data.

When Should each be used :

GET METHOD :

- Retrieving Data
- Bookmarkable or Sharable URLs.

Post Method :

- Uploading files or large data
- Performing Actions like registration, login, or data updates.

Question 3: What is the purpose of the label element in a form, and how does it improve accessibility?

Purpose Of Label element :

-The <label> element in HTML is used to define a descriptive label for form inputs like text boxes, checkboxes, radio buttons, etc. It provides a clear, user-friendly description of the input's purpose.

How the label element improve accessibility :

1. Association With Form Inputs :

- The <label> element associates itself with a specific input field using the for attribute.

For example :

```
<label for="username">Username:</label>
```

```
<input type="text" id="username" name="username">
```

2. Improved Usability :

- Clicking the label focuses or activates the associated input, which enhances usability for all users, especially those using touch interfaces.

HTML Tables

Question 1: Explain the structure of an HTML table and the purpose of each of the following elements: <table>, <tr>, <th>, <td>, and <thead>.

1. <table>

- Purpose : Acts as the container for the entire table. It defines the boundaries of the table and holds all other elements inside it.

Example:

```
<table>
```

```
<!-- Other table elements go here -->
```

```
</table>
```

2. <tr>

- Purpose : Represents a single row in the table. A table typically consists of multiple rows, each created using a <tr> element.

Example:

```
<tr>
```

```
<!-- Table cells go here -->
```

```
</tr>
```

3. <th>

- Purpose : Defines a header cell in the table.

Example :

```
<th>Column Name</th>
```

4. <td>

- Purpose : Represents a standard cell in the table that holds data.

Example :

```
<td>Data</td>
```

5. <thead>

- Purpose : Groups the header rows together.

Example :

```
<thead>
  <tr>
    <th>Header 1</th>
    <th>Header 2</th>
  </tr>
</thead>
```

Question 2: What is the difference between colspan and rowspan in tables? Provide examples.

1. Colspan :

- Purpose : The colSpan read-only property of the interface represents the number of columns this cell must span; this lets the cell occupy space across multiple columns of the table. It reflects the colspan attribute.

Example :

```
<table border="1">
  <tr>
    <th>Product</th>
    <th>Details</th>
    <th>Price</th>
  </tr>
  <tr>
    <td colspan="2">Fruits Bundle</td>
    <td>$10</td>
  </tr>
</table>
```

2. Rowspan :

- Purpose : The rowspan read-only of the interface represents the number of rows this cell must span; this lets the cell occupy space across multiple rows of the table. It reflects the rowspan attribute.

Example :

```
<table border="1">
  <tr>
    <th>Day</th>
```

```
<th>Activity</th>
</tr>
<tr>
  <td rowspan="2">Monday</td>
  <td>Morning Exercise</td>
</tr>
<tr>
  <td>Evening Yoga</td>
</tr>
</table>
```

Question 3: Why should tables be used sparingly for layout purposes? What is a better alternative?

Tables should be used sparingly for layout purposes because:

1. **Accessibility:** People using screen readers may have trouble understanding the layout if tables are used incorrectly.
2. **Meaning:** Tables are meant for displaying data, not for arranging content. Using them for layout can confuse the meaning of the content.
3. **Responsive Design:** Tables can be hard to make look good on different screen sizes, especially on mobile devices.
4. **Maintenance:** It can be more complicated to change a layout made with tables compared to using CSS.

Better Alternative

A better way to create layouts in HTML is to use CSS. CSS allows you to style and arrange elements on a page without using tables.