HTML Basics

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

HTML (HyperText Markup Language) is the standard language used to create and design web pages. It structures the content on the web using elements and tags. The purpose of HTML in web development is to provide a framework for adding text, images, links, multimedia, and forms to web pages, enabling users to interact with content effectively.

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 mandatory tags:
- <!DOCTYPE html>: Declares the document type and HTML version.
- <html>: Root element that wraps all content on the page.
- <head>: Contains meta-information like title, character encoding, and links to styles/scripts.
- <title>: Sets the title of the webpage shown on the browser tab.
- <body>: Contains the actual content visible to users such as text, images, and links.

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

Block-level elements take up the full width of their parent container and start on a new line. Examples: , <p>, <h1> to <h6>, <section>.
Inline elements do not start on a new line and only take up as much width as necessary. Examples: , <a>, , <img>.

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

Semantic HTML uses meaningful tags to define the content's purpose, which improves accessibility and search engine optimization (SEO). It helps screen readers and search engines understand the page better. Examples include: <article>, <header>, <footer>, <nav>, <section>, <main>, <aside>.

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. The purpose of each element is:
- <input>: Used for various input types like text, email, number, etc.
- <textarea>: Allows multi-line text input.
- <select>: Creates a dropdown list.
- <button>: Submits the form or triggers actions.

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

GET appends form data to the URL and is used for simple queries where data is not sensitive. POST sends data in the request body and is used when submitting sensitive or large amounts of data, such as login or contact forms.

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

The <label> element is associated with a specific form input using the 'for' attribute. It improves accessibility by allowing screen readers to announce the label with the input, making forms easier to navigate for users with disabilities.

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>.

- <table>: Wraps the entire table.
- <tr>: Represents a table row.
- <th>: Represents a header cell in a table row.
- <td>: Represents a standard data cell.
- <thead>: Groups header rows for styling and structure.

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

- colspan merges cells horizontally across columns. Example: <td colspan="2"> merges two columns.
- rowspan merges cells vertically across rows. Example: <td rowspan="2"> merges two rows.

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

Using tables for layout makes code less accessible and harder to maintain. A better alternative is using CSS for layout with elements like and modern techniques such as Flexbox or CSS Grid.