

HTML Assignment

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

HTML (Hyper Text Markup Language) is the standard language used to create and design web pages. It structures content using a system of tags and elements. The primary purpose of HTML is to describe the structure of web content so browsers can display it correctly. It allows developers to create headings, paragraphs, links, images, tables, and more.

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

A basic HTML document includes the following essential tags:

```
html
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <p>Hello, world!</p>
  </body> </html>
```

- **<!DOCTYPE html>**: Declares the document type and HTML version.
- **<html>**: The root element containing the entire document.
- **<head>**: Contains metadata like the title and links to styles/scripts.
- **<title>**: Sets the page title shown in the browser tab.
- **<body>**: Contains visible page content.

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

- **Block-level elements**: Start on a new line and take up the full width. **Examples:** `<div>`, `<p>`, `<h1>`, ``, `<table>`

- **Inline elements:** Appear within a line and only take up as much width as needed.
Examples: ``, `<a>`, ``, ``

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 describe content clearly. This helps:

- **Accessibility:** Screen readers and assistive tools understand page structure better.
- **SEO:** Search engines can accurately index and rank content.

Examples of semantic elements:

`<header>`, `<nav>`, `<article>`, `<section>`, `<footer>`, `<aside>`

Part 2: HTML Forms

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

HTML forms collect user input and send data to a server.

- `<input>`: Single-line input field (text, checkbox, radio, etc.)
- `<textarea>`: Multi-line text input
- `<select>`: Drop-down list for selecting one or more options
- `<button>`: Clickable button to submit the form or trigger events

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
 - Data is visible in the address bar
 - Used for non-sensitive data and search queries

- **POST:**
 - Sends data in the HTTP body
 - More secure and supports larger amounts of data
 - Used for login, registration, or data modification

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

The `<label>` element defines a caption for input fields. When connected via the `for` attribute, it:

- Improves form accessibility for screen readers
- Allows users to click on the label to focus the input

html

CopyEdit

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

Part 3: 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>` (table row): Contains a row of cells
- `<th>` (table header): Header cell, usually bold and centered
- `<td>` (table data): Standard data cell
- `<thead>`: Groups header rows in the table

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

- **colspan**: Merges multiple columns

html

```
<td colspan="2">Merged Columns</td>
```

- **rowspan**: Merges multiple rows

html

```
<td rowspan="2">Merged Rows</td>
```

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

Using tables for layout makes code harder to read, less flexible, and not mobile-friendly.

Better alternatives:

- **CSS Flexbox**
- **CSS Grid**