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

* **HTML (HyperText Markup Language)** is the standard language for creating web pages. It uses tags to structure content like text, images, and links, forming the foundation of websites.
* The purpose of **HTML** in web development is to:

1. **Structure Content**: Define the layout and organization of text, images, links, and multimedia on a webpage.
2. **Provide Semantics**: Use meaningful tags (e.g., <header>, <footer>, <article>) to enhance readability and accessibility.
3. **Enable Links**: Create hyperlinks to connect web pages and resources.
4. **Serve as the Foundation**: Work with CSS (styling) and JavaScript (interactivity) to build complete websites.
5. **Ensure Browser Compatibility**: Render content consistently across web browsers.

1. 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 as HTML5.
* **<html>**: The root element enclosing all content.
* **<head>**: Contains metadata, like the title and linked resources.
* **<title>**: Specifies the page title shown in the browser tab.
* **<body>**: Holds the visible content of the web page, such as text, images, and links.
* Purpose:
* **<!DOCTYPE html>**: Ensures proper rendering.
* **<html>**: Wraps the entire document.
* **<head>**: Provides information about the document.
* **<body>**: Displays user-visible content.

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

|  |  |
| --- | --- |
| **Block-Level** | **Inline** |
| Starts on a new line and takes up full width. | Flows within a line without breaking it. |
| Used for structural layout of content. | Used for styling or linking parts of text. |
| Respects width and height properties. | Respects width and height properties. |
| Ex. <div>, <p>, <h1>, <ul>, <section> | Ex. <span>, <a>, <strong>, <em>, <img> |

* Example
* **Block-Level :**

<div>

<h1>Heading</h1>

<p>This is a paragraph.</p>

</div>

* **Inline :**

<p>This is a <strong>bold</strong> and <em>italic</em> text within a paragraph.</p>

1. 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 meaningful tags to describe content, improving accessibility, SEO, and code readability.
* **Importance**
* **Accessibility**: Assists screen readers and aids navigation for disabled users.
* **SEO**: Helps search engines understand content hierarchy, improving rankings.
* **Readability**: Makes code easier to understand and maintain.
* **Examples of Semantic Tags**
* <header>: Page or section header.
* <nav>: Navigation links.
* <main>: Main content area.
* <article>: Self-contained content.
* <footer>: Page or section footer.
* **Example**

<header>

<h1>Welcome</h1>

<nav>

<a href="#home">Home</a>

<a href="#about">About</a>

</nav>

</header>

<main>

<article>

<h2>News</h2>

<p>Latest updates here.</p>

</article>

</main>

<footer>

<p>© 2024</p>

</footer>