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

HTML(Hypertext Markup language) is the standard markup language used to structure and display content on the World Wide Web.

PURPOSE OF HTML:

1. **Defines the Structure of Web Pages**  
   HTML organizes content into elements such as headings, paragraphs, lists, and links, establishing a clear layout for users and search engines alike.
2. **Supports Multimedia Integration**  
   HTML allows the embedding of images, audio, and video, enriching the user experience and making web pages more engaging.
3. **Enables Navigation**  
   Through anchor tags (<a>), HTML facilitates the creation of hyperlinks, allowing users to navigate between different pages and external sites, forming the interconnected web.
4. **Ensures Accessibility**  
   Proper use of semantic HTML tags enhances accessibility, making websites more navigable for users with disabilities. Semantic elements like <header>, <footer>, <article>, and <section> provide meaning to the content, aiding screen readers and search engines in understanding the page structure.
5. **Supports SEO**  
   Search engines rely on HTML structure to index and rank pages effectively. Well-structured HTML improves SEO, making websites more discoverable by search engines.
6. **Integration with Other Technologies**  
   HTML works in tandem with CSS for styling and JavaScript for interactivity, enabling the creation of dynamic and visually appealing websites.
7. **Ensures Cross-Platform Compatibility**  
   HTML is universally supported by all modern web browsers, ensuring that web content is accessible across various devices and platforms without compatibility issues.

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

< ! DOCTYPE html >

<html language ="english">

<head>

<meta charset="UTF-8">

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

<title>Page Title</title>

</head>

<body>

<h1>Welcome to My Website</h1>

<p>This is a paragraph of text</p>

</body>

</html>

1. **<!DOCTYPE html>**

* Purpose: Specifies the HTML version being used (HTML5 in this case.)
* Importance: Ensures consistent rendering across browsers by triggering standards mode.

1. **<html></html>**

* **Purpose:** Encloses the entire HTML document.
* **Importance:** Indicates to the browser that the content is an HTML document.

1. **<head></head>**

* **Purpose:** Contains metadata about the document, such as links to stylesheets and scripts.
* **Importance:** Provides essential information for the browser and search engines.

1. **<title></title>**

* **Purpose:** Sets the title of the web page, displayed in the browser’s title bar or tab.
* **Importance:** Crucial for SEO and user navigation.

1. **<body></body>**

* **Purpose:** Holds the content of the web page that is visible to users.
* **Importance:** Contains all the elements that users interact with.

**3) What is difference between block-level elements and inline element in HTML? Provide examples of each.**

**Block-level :**

* Each block-level element begins on a new line.

Ex:

<div style="background-color: blue; padding: 10px ;">

<h2>Welcome to Our Website</h2>

<p>We offer a variety of services to cater to your needs</p>

<ul>

<li>Web Development</li>

<li>SEO Optimization</li>

<li>Content Creation</li>

</ul>

</div>

**Inline-level:**

* Inline elements do not start on a new line.

Ex.

<span>, <strong> , <image> , <button>

<p> Visit our <a href="https://www.example.com">website</a> for more information. </p>

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

Semantic tags—like <header>, <nav>, <main>, <article>, <section>, <aside>, and <footer>

act.

**Faster navigation:** Screen readers can skip directly to the <main> content or the navigation menu without reading the entire page.

**Semantic clarity:** Tags like <article> and <aside> provide context, reducing confusion for visually impaired or cognitively challenged users.

**Built-in keyboard behavior:** Native elements like <button>, <a>, and form controls support keyboard interaction by default, simplifying development and accessibility.

**Standards compliance:** Use of semantic HTML aligns with WCAG and ARIA best practices, often required by law.

**Accessibility:**

* **Landmark identification**: Elements like <nav>, <header>, <main>, <article>, <section>, and <footer> serve as landmarks that assistive technologies (like screen readers) use to navigate pages efficiently—helping users skip repetitive content and dive right in.
* **Built-in keyboard support**: Native tags such as <button>, <a>, and form controls inherently enable keyboard interactions (focus, activation), ensuring users relying on keyboards can access functionality without extra scripting.
* **Improved comprehension**: Headings (<h1>–<h6>) and list tags (<ul>, <ol>) establish content hierarchy and organization, helping users (including those with cognitive or vision impairments) navigate and understand information better  .
* **Standards compliance**: Correct use of semantic tags aligns with accessibility guidelines like WCAG (e.g. Info & Relationships, Bypass Blocks), contributing to legal compliance and inclusive design.

**Example of semantic element:**

* + <header>
  + <footer>
  + <nav>
  + <main>