

- **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 and layout of a webpage by using elements and tags.

#### **Purpose of HTML in Web Development:**

1. **Structure:**  
HTML provides the basic structure of web pages. It organizes content into headings, paragraphs, lists, tables, links, and other elements.
2. **Content Display:**  
It determines what content appears on a webpage, including text, images, videos, and interactive forms.
3. **Semantic Meaning:**  
HTML includes semantic tags (like <header>, <article>, <section>, etc.) that give meaning to the content, improving accessibility and SEO (Search Engine Optimization).
4. **Hyperlinking:**  
HTML enables linking to other web pages or resources using the <a> tag, creating the interconnected nature of the web.
5. **Integration with CSS and JavaScript:**  
HTML works with **CSS (Cascading Style Sheets)** for styling and **JavaScript** for interactivity, forming the foundation of modern web development.

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

#### **Basic HTML Template:**

```
<!DOCTYPE html>

<html>

  <head>

    <title>Page Title</title>

  </head>

  <body>

    <h1>Hello, World!</h1>

    <p>This is a basic HTML document.</p>

  </body>

</html>
```

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#### **Mandatory Tags and Their Purposes:**

Tag	Purpose
<!DOCTYPE html>	Declares the document type and version of HTML (HTML5 in this case). It helps browsers render the page correctly.
<html>	Root element that wraps the entire HTML content.
<head>	Contains metadata (data about data), such as the title, character set, links to CSS, and other resources.
<title>	Specifies the title of the page that appears in the browser tab. Must be placed inside <head>.
<body>	Contains the actual content of the web page that users see, such as text, images, links, etc.

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

### ◆ Block-Level Elements

- **Definition:** Block-level elements **start on a new line** and take up the **full width** of their parent container (by default).
- **Behavior:** They create a "block" of content and can contain **other block-level or inline elements**.

### ✅ Examples:

Element	Purpose
<div>	Generic container for layout or styling
<p>	Paragraph
<h1> to <h6>	Headings
<ul>, <ol>	Unordered and ordered lists
<li>	List item
<section>	Section of content

### 🔍 Example in Use:

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

<div>This is a div.</div>

### ◆ Inline Elements

## ✅ Examples:

### Element Purpose

`<span>` Generic inline container

`<a>` Anchor/link

`<strong>` Bold emphasis

`<em>` Italic emphasis

`<img>` Image

`<br>` Line break

## 🔍 Example in Use:

`<p>This is <strong>important</strong> text with a <a href="#">link</a>.</p>`

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

## 🔍 Why Semantic HTML Matters

### 1. Accessibility

- Semantic HTML helps screen readers and other assistive technologies better interpret the structure and content of a webpage.
- It provides meaningful landmarks (e.g., `<nav>`, `<main>`, `<footer>`) that users with disabilities can use to navigate pages more efficiently.

### 2. SEO (Search Engine Optimization)

- Search engines use semantic elements to better understand the content and relevance of a webpage.
- Elements like `<article>`, `<header>`, and `<section>` help crawlers index content appropriately, potentially boosting rankings.

### 3. Maintainability & Clarity

- Semantic code is easier for developers to read, maintain, and scale.
- Clear structure makes collaboration and debugging more efficient.

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## 🌿 Examples of Semantic HTML Elements

Element	Description	Use Case Example
<header>	Defines introductory content or navigation links	Page or section header
<nav>	Contains primary navigation links	Main site menu
<main>	Represents the main content of a document	Central blog post or article area
<section>	Defines thematic grouping of content	Grouped content under a heading
<article>	Represents a self-contained piece of content	Blog post, news article
<aside>	Contains related content, like a sidebar	Related links, tips, or ads
<footer>	Contains footer content or links	Copyright, contact info
<figure> & <figcaption>	Encapsulate media with a caption	Image with descriptive caption
<mark>	Highlights text	Search term highlight in results
<time>	Represents a specific time or date	Publication date of an article