**Assignment - 1 (HTML Basics**)

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

* **HTML** stands for **Hyper Text Markup Language**. It is the **standard language used to create and structure content on the web**.

**Definition:**

HTML is a markup language that defines the structure of web pages using of elements and tags.

**Purpose of HTML in Web Development:**

1. **Defines the Structure of Web Pages**

HTML organizes content into elements like:

* Headings (<h1> to <h6>)
* Paragraphs (<p>)
* Lists (<ul>, <ol>)
* Tables (<table>)
* Forms (<form>)  
  This structure helps browsers understand how to display the content.

1. **Displays Content to Users**

HTML makes it possible to:

* Show text
* Insert images, videos, and audio
* Embed documents and interactive elements

1. **Enables Navigation**

With links (<a> tags), HTML connects different web pages, allowing users to move from one page to another — forming the backbone of the **World Wide Web**.

1. **Provides Semantic Meaning**

HTML uses semantic tags like <header>, <footer>, <nav>, and <article> to describe the role of different content sections. This improves:

* Search engine optimization (SEO)
* Accessibility for screen readers and assistive technologies.

1. **Works with CSS and JavaScript**

HTML structures the content, while:

* CSS handles styling (colors, layout, fonts)
* JavaScript adds interactivity (forms, animations, dynamic content)

Together, they create a complete, user-friendly website.

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

* **Basic Structure of an HTML Document:**

An HTML document follows a specific structure that web browsers use to interpret and render content properly. Here’s a breakdown of the **mandatory tags** and their **purposes**:

**HTML Document Skeleton:**

<!DOCTYPE html>  
<html>

<head>

<title>Page Title</title>

</head>

<body>

<h1>This is a heading</h1>

<p>This is a paragraph</p>

</body>

</html>

**Mandatory Tags and Their Purposes:**

|  |  |
| --- | --- |
| **Tag** | **Purpose** |
| <!DOCTYPE html> | Declares the document type and HTML version. Required at the very top. Helps the browser interpret the page correctly. |
| <html> | The root element. Encloses all HTML content on the page. |
| <head> | Contains meta-information about the page, like its title, character encoding, and links to CSS/JS. This content is not displayed directly on the page. |
| <title> | Sets the title of the webpage (shown in the browser tab). Required inside the <head> tag. |
| <body> | Contains the actual visible content of the webpage—text, images, links, etc. Everything seen by the user lives here. |

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

* **Difference Between Block-Level and Inline Elements in HTML:**

In HTML, block-level elements start on a new line and take up the available width, while inline elements sit within the same line and only occupy the space they need.

1. **Block-Level Elements:**

* Start on a new line
* Take up the full width of the parent container (by default)
* Used to **structure content** into sections
* Example: -  
  <div>, <p>, <h1> to <h6>, <ul>, <ol>, <li>, <table>  
  <p>This is a paragraph.</p>  
  <div>This is a block-level container.</div>

1. **Inline Elements:**

* Do not start on a new line
* Take up only as much width as necessary
* Used to **style or mark-up parts of content** inside block-level elements.
* Example: -  
  <span>, <a>, <strong>, <em>, <img>, <input>  
  <p>This is a <strong>bold</strong> word inside a paragraph.</p>  
  <a href="#">This is a link</a>

**Key Differences:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **Block-Level** | **Inline** |
| Line Behavior | Starts on new line | Flows within a line |
| Width | Full width of container | Only as wide as content |
| Use Case | Page Structure | Formatting small chunks of text or content |
| Can Contain | Block and inline element | Only inline elements (usually) |

# **Question 4: 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** refers to using HTML elements that clearly describe their content and meaning. These elements provide a deeper level of context to both browsers and developers, ensuring that web pages are not only structured logically but also understood accurately by search engines and assistive technologies.

**Why is Semantic HTML Important?**

1. **Improves Accessibility:**

* **Screen readers** rely on semantic HTML to interpret content correctly for users with visual impairments.
* Proper use of semantic tags enables screen readers to understand the structure and context of the page, like headings, navigation, and articles.
* **Keyboard navigation** is enhanced with semantic HTML, helping users who rely on the keyboard (instead of a mouse) to navigate through sections logically.

1. **Boosts SEO (Search Engine Optimization):**

* Search engines **prioritize content** that is properly marked up using semantic elements.
* Semantic tags help search engines understand the content's hierarchy (e.g., <header>, <footer>, <article>) and relevance, improving the chances of better search rankings.
* They also make content more **discoverable** because search engines can clearly differentiate between main content, sidebars, footers, and other sections of a page.

1. **Improves Code Maintainability and Readability:**

* Semantic HTML makes the code more readable and meaningful for developers, making it easier to maintain, debug, and update.

**Examples of Semantic tag:**<header>, <footer>, <aside>, <main>, <nav>