

## Basic HTML Concepts:

### 1. What does HTML stand for, and what is its primary purpose?

**Ans:** HTML stands for **HyperText Markup Language**. Its primary purpose is to create and structure the content of web pages, such as text, images, and multimedia, to be displayed in web browsers. It provides the basic framework for web pages, which can be enhanced using CSS and JavaScript.

### 2. Explain the term "HyperText" in HTML.

**Ans:** **HyperText** refers to text that contains links to other texts, documents, or web pages. These links, called **hyperlinks**, enable users to navigate between different resources on the web easily. In HTML, this is achieved using the `<a>` (anchor) tag.

### 3. What is a markup language, and how is it used in HTML?

**Ans:** A **markup language** is a system of annotations or tags used to define the structure, presentation, and meaning of text within a document. In HTML, markup is used to create elements like headings (`<h1>`), paragraphs (`<p>`), links (`<a>`), images (`<img>`), and more. The tags tell the web browser how to display the content.

### 4. Differentiate between static and dynamic web pages. Which type can be created with HTML alone?

**Ans:**

- **Static Web Pages:**
  - Content is fixed and does not change unless manually updated by the developer.
  - Created using only HTML (and optionally CSS).
  - Examples: Portfolio websites, informational pages.
- **Dynamic Web Pages:**
  - Content changes in response to user interactions or server-side data.
  - Requires additional technologies like JavaScript, server-side scripting (PHP, Python), or frameworks (React, Angular).

- Examples: Social media platforms, e-commerce sites.

HTML alone can create **static web pages**.

## **History of HTML:**

**1. Who is known as the father of HTML, and in which year was HTML first proposed?**

**Ans:** The father of HTML is **Tim Berners-Lee**. HTML was first proposed in **1991**.

**2. What is the name of the first document describing HTML, and when was it proposed?**

**Ans:** The first document describing HTML is **"HTML Tags"**, and it was proposed in **1991** by Tim Berners-Lee. It outlined 18 basic tags used to structure web pages.

**3. List the versions of HTML and a notable feature introduced in each version.**

**Ans:**

**1. HTML 1.0 (1993):**

- The first version, which introduced basic structure tags like `<h1>`, `<p>`, `<a>`, and `<img>`.

**2. HTML 2.0 (1995):**

- Standardized the basic structure and introduced forms (`<form>`), enabling user input.

**3. HTML 3.2 (1997):**

- Added support for tables (`<table>`), scripting languages, and improved form controls.

**4. HTML 4.01 (1999):**

- Introduced three versions: Transitional, Strict, and Frameset.
- Improved support for multimedia and internationalization with `<div>` and `<span>` for better structure.

**5. HTML5 (2014):**

- Added semantic tags like <header>, <footer>, <article>, <section>.
- Improved multimedia support with <audio> and <video>.
- Enhanced interactivity with APIs like Canvas and Web Storage.

## **Features of HTML:**

### **1. What makes HTML a platform-independent language?**

**Ans:** HTML is considered **platform-independent** because:

- It can be written and run on any operating system (e.g., Windows, macOS, Linux).
- Web browsers interpret HTML code the same way across different platforms, making it universally accessible.
- HTML relies on web standards, not specific hardware or software.

### **2. How does HTML enhance the interactivity of web pages?**

**Ans:** HTML enhances interactivity by:

- Allowing the inclusion of forms (<form>) for user inputs like text fields, buttons, and dropdowns.
- Supporting hyperlinks (<a>), enabling navigation between resources.
- Integrating JavaScript via the <script> tag, which adds dynamic behaviors like pop-ups or animations.
- Using attributes such as onclick, onmouseover, and onsubmit to trigger interactive events.

### 3. Why is HTML referred to as a case-insensitive language?

**Ans:** HTML is called **case-insensitive** because:

- Tags and attributes can be written in uppercase, lowercase, or mixed case (e.g., <HTML>, <html>, or <Html> are all valid).
- Web browsers treat all cases the same way, ensuring flexibility and ease of use. However, the modern convention is to use lowercase for consistency and readability.

## HTML Structure and Tags:

### 1. What is the purpose of the <!DOCTYPE html> declaration in an HTML document?

**Ans:** The <!DOCTYPE html> declaration specifies the **document type** and version of HTML being used.

- It ensures the web browser renders the page correctly in **standards mode** rather than **quirks mode**.
- In modern HTML5, it is simply written as <!DOCTYPE html> and indicates the use of HTML5.

### 2. Name the HTML tags used to define headings, paragraphs, and line breaks.

**Ans:**

- **Headings:** <h1>, <h2>, <h3>, <h4>, <h5>, <h6> (from largest to smallest).
- **Paragraphs:** <p>.
- **Line Breaks:** <br>.

**3. What is the difference between block-level elements and inline elements? Provide two examples of each.**

**Ans:**

**Block-level elements:**

- Start on a new line and take up the full width of their container.
- Used to structure large sections of content.
- Examples:
  - `<div>`: A generic container.
  - `<p>`: Defines a paragraph.

**Inline elements:**

- Do not start on a new line; they occupy only as much width as necessary.
- Used for smaller portions of content within a block.
- Examples:
  - `<span>`: A generic inline container.
  - `<a>`: Defines a hyperlink.

## **HTML Attributes and Styling:**

**1. Explain the purpose of the `src`, `alt`, `width`, and `height` attributes in an `<img>` tag.**

**Ans:** The `<img>` tag is used to embed images in HTML documents. The attributes are:

- **`src (source)`:** Specifies the URL or path of the image file.  
Example: ``.
- **`alt (alternative text)`:** Provides a textual description of the image, displayed if the image fails to load or for accessibility (e.g., screen readers).  
Example: ``.

- **width:** Specifies the width of the image in pixels or percentage.  
Example: ``.
- **height:** Specifies the height of the image in pixels or percentage.  
Example: ``.

**2. What is the difference between class and id attributes in HTML? Provide an example of each.**

**Ans:**

Aspect	class	id
<b>Purpose</b>	Used to apply styles or scripts to multiple elements.	Used to uniquely identify a single element.
<b>Uniqueness</b>	Can be shared by multiple elements.	Must be unique within a document.
<b>CSS Selector</b>	Select with .classname.	Select with #idname.

**Examples:**

- **class Example:**

```
<div class="container">Content 1</div>
```

```
<div class="container">Content 2</div>
```

- **id Example:**

```
<div id="header">Header Section</div>
```

## Advanced HTML Elements:

### 1. What is the use of the <iframe> tag in HTML, and provide an example of its implementation.

**Ans:** The <iframe> tag is used to embed another HTML document (such as a webpage, video, or map) within the current document. It acts as a container for the external content.

**Example:**

```
<iframe src="https://www.example.com" width="600" height="400" title="Example Site"></iframe>
```

This embeds the webpage <https://www.example.com> into the current page with the specified width and height.

### 2. Explain the difference between <b> and <strong> tags.

**Ans:**

- **<b> (bold):**
  - Used to make text bold.
  - Does not imply any additional semantic importance.
  - Example: <b>Important</b> renders **Important**.
- **<strong>:**
  - Used to indicate that the text is of high importance or strong emphasis.
  - Semantically meaningful; often read with emphasis by screen readers.
  - Example: <strong>Critical</strong> renders **Critical** with emphasis.

### 3. What is a favicon, and how is it added to an HTML page?

**Ans:** A **favicon** (short for "favorite icon") is a small icon displayed in the browser tab, bookmarks, or address bar, representing the website.

**How to add a favicon:**

Use the <link> tag in the <head> section of the HTML document:

`<link rel="icon" href="favicon.ico" type="image/x-icon">`

- **href** specifies the path to the favicon file (e.g., favicon.ico or favicon.png).
- **type** specifies the MIME type of the favicon file.

## HTML Forms:

1. **List at least five different input types available in HTML forms and their purposes.**

**Ans:**

1. **text:**
  - Used for single-line text input.
  - Example: Entering a name or username.
2. **email:**
  - Validates and accepts only email addresses.
  - Example: Entering an email address.
3. **password:**
  - Masks the input for sensitive data.
  - Example: Entering a password.
4. **number:**
  - Allows input of numeric values only, with optional min/max constraints.
  - Example: Entering age or quantity.
5. **date:**
  - Provides a date picker for selecting dates.
  - Example: Selecting a birthdate or appointment date.

2. **Write a sample HTML form that collects a user's first and last name using `<input>` fields.**

**Ans:**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Sample Form</title>
```



```
</head>
<body>
  <h2>User Information Form</h2>
  <form action="/submit" method="post">
    <label for="first-name">First Name:</label>
    <input type="text" id="first-name" name="firstName" placeholder="Enter your first
name" required><br><br>

    <label for="last-name">Last Name:</label>
    <input type="text" id="last-name" name="lastName" placeholder="Enter your last
name" required><br><br>

    <button type="submit">Submit</button>
  </form>
</body>
</html>
```