**Introduction to HTML (Inline & Block Level Elements)**

HTML is the standard markup language for creating Web pages.

* HTML stands for Hyper Text Markup Language
* HTML describes the structure of Web pages using markup
* HTML elements are the building blocks of HTML pages
* HTML elements are represented by tags
* HTML tags label pieces of content such as "heading", "paragraph", "table", and so on Browsers do not display the HTML tags, but use them to render the content of the page

**Here are some key concepts and features of HTML:**

* **Tags:**
* HTML uses tags to define elements on a webpage. Tags are enclosed in angle brackets (< >).
* Example: <p> for paragraphs, <h1> for headers, <a> for links.
* **Attributes:**
* HTML tags can have attributes that provide additional information about an element.
* Example: <a href="https://www.example.com">Visit Example</a> - where href is an attribute.
* **Structure:**
* HTML documents have a hierarchical structure, starting with the <html> tag and containing <head> and <body> sections.
* The <head> section typically contains metadata, while the <body> section contains the content.
* **Elements:**
* Elements are comprised of an opening tag, content, and a closing tag.
* Example: <p>This is a paragraph.</p>
* **Attributes and Values:**
* Attributes provide additional information about HTML elements and are usually included in the opening tag.
* Example: <img src="image.jpg" alt="Description"> - where src and alt are attributes.
* **Links:**
* Hyperlinks are created using the <a> tag.
* Example: <a href="https://www.example.com">Visit Example</a>
* **Lists:**
* Lists can be ordered (<ol>) or unordered (<ul>), containing list items (<li>).
* Example:

htmlCopy code

<ul>

<li>Item 1</li>

<li>Item 2</li>

</ul>

* **Images:**
* Images are included using the <img> tag.
* Example: <img src="image.jpg" alt="Description">
* **Forms:**
* Forms are used for user input and can contain various input elements like text fields, buttons, and checkboxes.
* Example:

<form action="/submit" method="post">

<label for="username">Username:</label>

<input type="text" id="username" name="username">

<input type="submit" value="Submit">

</form>

**Structure of HTML**

The structure of an HTML (HyperText Markup Language) document follows a hierarchical layout and consists of different elements. Here's a basic structure of an HTML document:

<!DOCTYPE html>

<html>

<head>

<!-- Metadata and link to external resources -->

<title>Document Title</title>

<!-- Additional metadata, styles, and scripts go here -->

</head>

<body>

<!-- Content of the web page -->

<header>

<!-- Header content such as logo, navigation, etc. -->

<h1>Main Heading</h1>

</header>

<nav>

<!-- Navigation menu -->

<ul>

<li><a href="#section1">Section 1</a></li>

<li><a href="#section2">Section 2</a></li>

<!-- Add more navigation items as needed -->

</ul>

</nav>

<section id="section1">

<!-- Main content section 1 -->

<h2>Section 1 Heading</h2>

<p>Paragraphs and other content go here.</p>

</section>

<section id="section2">

<!-- Main content section 2 -->

<h2>Section 2 Heading</h2>

<p>More content here.</p>

</section>

<footer>

<!-- Footer content, such as copyright information, links, etc. -->

<p>&copy; 2023 Your Website</p>

</footer>

</body>

</html>

Explanation of the HTML structure:

* <!DOCTYPE html>: This declaration defines the document type and version of HTML being used. In this case, it's HTML5.
* <html>: The root element of an HTML document.
* <head>: Contains metadata about the document, including the title, link to stylesheets, and other settings.
* <title>: Sets the title of the webpage, which appears in the browser's title bar or tab.
* <body>: Contains the content of the HTML document.
* <header>: Typically includes the main heading, logo, and navigation.
* <nav>: Contains navigation links
* <section>: Represents a section of content. The id attribute provides a unique identifier for the section.
* <footer>: Contains footer content, such as copyright information.

Features of HTML

1) It is a very **easy and simple language**. It can be easily understood and modified

2) It is very easy to make an **effective presentation** with HTML because it has a lot of formatting tags.

3) It is a **markup language**, so it provides a flexible way to design web pages along with the text.

4) It facilitates programmers to add a **link** on the web pages (by html anchor tag), so it enhances the interest of browsing of the user.

5) It is **platform-independent** because it can be displayed on any platform like Windows, Linux, and Macintosh, etc.

6) It facilitates the programmer to add **Graphics, Videos, and Sound** to the web pages which makes it more attractive and interactive.

7) HTML is a case-insensitive language, which means we can use tags either in lower-case or upper-case.

**HTML Tags**

HTML tags are the building blocks of an HTML document, and they define the structure and content of a webpage. HTML tags are enclosed in angle brackets < > and usually come in pairs, consisting of an opening tag and a closing tag. Here are some common HTML tags:

* **Document Structure:**
* <html>: Root element of an HTML document.
* <head>: Contains metadata about the document.
* <title>: Sets the title of the webpage.
* **Text Formatting:**
* <p>: Paragraph.
* <h1>, <h2>, <h3>, <h4>, <h5>, <h6>: Headings (from largest to smallest).
* <em>: Emphasized text (italic).
* <strong>: Strong importance (bold).
* **Lists:**
* <ul>: Unordered list.
* <ol>: Ordered list.
* <li>: List item.
* **Links:**
* <a>: Anchor (creates hyperlinks).
* **Images:**
* <img>: Image.
* **Tables:**
* <table>: Defines a table.
* <tr>: Defines a table row.
* <td>: Defines a table cell.
* **Forms:**
* <form>: Defines an HTML form.
* <input>: Input field.
* <label>: Defines a label for an input element.
* **Semantic Elements:**
* <header>: Represents a header for a document or section.
* <nav>: Defines navigation links.
* <section>: Represents a section of content.
* <article>: Represents an independent piece of content.
* <footer>: Represents a footer.
* **Comments:**
* <!-- Comment goes here -->: Adds comments to the HTML code.

**HTML Inline and Block elements**

In HTML, elements are classified into two main types based on their display behavior: inline elements and block-level elements.

**Block-level Elements:**

1. HTML block level elements can appear in the body of an HTML page.  
2. It can contain other block level as well as inline elements.  
3. By default, block-level elements begin on new lines.  
4. block level elements create larger structures (than inline elements).

<div>: A generic container.

<p>: Paragraph.

<h1>, <h2>, <h3>, <h4>, <h5>, <h6>: Headings.

<ul>, <ol>: Unordered and ordered lists.

<li>: List item.

<table>: Table.

<form>: Form.

**Inline Elements:**

1.HTML inline level elements can appear in the body of an HTML page.  
2. It can contain data and other inine elements.  
3. By default, inline elements do not  begin on new lines.  
4. Inline elements create shorter structures (than block-level elements).

<span>: A generic inline container

<a>: Anchor (link).

<strong>: Strong importance (bold).

<em>: Emphasized text (italic).

<img>: Image.

<br>: Line break.

<input>: Input fields.<abbr>: Abbreviation.

**Example:**

Here's an example that combines both block-level and inline elements:

<!DOCTYPE html>

<html>

<head>

<title>Inline and Block Elements</title>

<style>

/\* Adding some basic styling for illustration purposes \*/

div {

border: 1px solid black;

padding: 10px;

margin: 10px 0;

}

span {

background-color: lightgray;

padding: 5px;

}

</style>

</head>

<body>

<div>This is a block-level div containing <span>inline content</span>.</div>

<p>This is a block-level paragraph with an <strong>inline strong element</strong>.</p>

<ul>

<li>This is a list item.</li>

<li>Another list item with <a href="#">a link</a>.</li>

</ul>

<p>Here is an inline image: <img src="image.jpg" alt="An example image"></p>

<form>

<label for="username">Username:</label>

<input type="text" id="username" name="username">

<input type="submit" value="Submit">

</form>

</body>

</html>

**HTML5 Semantic Elements**

**A semantic element clearly describes its meaning to both the browser and the developer.**

Examples of **non-semantic** elements: <div> and <span> - Tells nothing about its content.

Examples of **semantic** elements: <form>, <table>, and <article> - Clearly defines its content.

**Semantic Elements in HTML5**

* **<header>** defines a header for the document or a section
* **<footer>** defines a footer for the document or a section
* **<nav>** defines navigation links in the document
* **<main>** defines the main content of a document
* **<section>** defines a section in the document
* **<article>** defines an article in the document
* **<aside>** defines content aside from the page content
* **<address>** defines the contact information for the author/owner of a document or an article
* **<figure>** defines self-contained content, like illustrations, diagrams, photos, code blocks, etc.

**Html List**

HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

* Ordered List or Numbered List (ol)
* Unordered List or Bulleted List (ul)
* Description List or Definition List (dl)

**Ordered List or Numbered List (ol)**

In the ordered HTML lists, all the list items are marked with numbers by default. It is known as numbered list also. The ordered list starts with <ol> tag and the list items start with <li> tag.

**Example:**

<!DOCTYPE>

<html>

<body>

<ol>

<li>Aries</li>

<li>Bingo</li>

<li>Leo</li>

<li>Oracle</li>

</ol>

</body>

</html>

HTML Unordered List or Bulleted List

In HTML Unordered list, all the list items are marked with bullets. It is also known as bulleted list also. The Unordered list starts with <ul> tag and list items start with the <li> tag.

<!DOCTYPE>

<html>

<body>

<ul>

<li>Aries</li>

<li>Bingo</li>

<li>Leo</li>

<li>Oracle</li>

</ul>

</body>

</html>

HTML Description List or Definition List

HTML Description list is also a list style which is supported by HTML and XHTML. It is also known as definition list where entries are listed like a dictionary or encyclopedia.

**<dl>** tag defines the start of the list.

**<dt>** tag defines a term.

**<dd> tag**defines the term definition (description).

Example

<!DOCTYPE>

<html>

<body>

<dl>

<dt>Aries</dt>

<dd>-One of the 12 horoscope sign.</dd>

<dt>Bingo</dt>

<dd>-One of my evening snacks</dd>

<dt>Leo</dt>

<dd>-It is also an one of the 12 horoscope sign.</dd>

<dt>Oracle</dt>

<dd>-It is a multinational technology corporation.</dd>

</dl>

</body>

</html>

**HTML Forms**

<!DOCTYPE html>

<html>

<body>

<h2>Text input fields</h2>

<form>

<label for="fname">First name:</label><br>

<input type="text" id="fname" name="fname" value="John"><br>

<label for="lname">Last name:</label><br>

<input type="text" id="lname" name="lname" value="Doe">

</form>

<p>Note that the form itself is not visible.</p>

<p>Also note that the default width of text input fields is 20 characters.</p>

</body>

</html>

**HTML TextArea Tag**

The<textarea>tag defines a multi-line text input control.

The<textarea>element is often used in a form, to collect user inputs like comments or reviews.

A text area can hold an unlimited number of characters, and the text renders in a fixed-width font (usually Courier).

The size of a text area is specified by the cols and rows attributes (or with CSS).

<!DOCTYPE html>

<html>

<body>

<h1>The textarea element</h1>

<form action="/action\_page.php">

<p><label for="w3review">Review of W3Schools:</label></p>

<textarea name="textarea" rows="4" cols="50">At w3schools.com you will learn how to make a website. They offer free tutorials in all web development technologies.</textarea>

<br>

<input type="submit" value="Submit">

</form>

<p>Click the "Submit" button and the form-data will be sent to a page on the

server called "action\_page.php".</p>

</body>

</html>

**HTML Radio Button Tag**

A radio button is a graphical element in a user interface that allows users to choose only one option from a predefined set of options. Once a radio button is selected, it indicates a choice, and selecting another radio button in the same group automatically deselects the previously chosen

Note:In radio button has same name but different value

**EX:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Radio Button Example</title>

</head>

<body>

<form>

<label>

<input type="radio" name="contactMethod" value="email">

Email

</label>

<label>

<input type="radio" name="contactMethod" value="phone">

Phone

</label>

<label>

<input type="radio" name="contactMethod" value="mail">

Mail

</label>

<button type="submit">Submit</button>

</form>

</body>

</html>

**CheckBox In HTML Tag**

The HTML <checkbox> tagis used to define the square boxes. It is a form element which allows users to select one or more options from the given options.

**Ex:**

<html>

<head>

</head>

<body>

<form>

Programming Languages: <br>

<input type="checkbox" name="C" value="C"/>

<label>C</label> <br>

<input type="checkbox" name="Java" value="Java" />

<label>Java</label> <br>

<input type="checkbox" name="Python" value="Python"/>

<label>Python</label> <br>

<input type="checkbox" name="PHP" value="PHP"/>

<label>PHP</label>

</form>

</body>

</html>

Note:In Checkbox tag has value and name are different

**HTML<select>Tag**

The <select> tag is an HTML element used to create a drop-down list or a selection box. It allows users to choose one or more options from a list of predefined options. The <select> element is often used within HTML forms to gather user input.

Here is a simple definition:

<select> **Tag**: An HTML tag that defines a drop-down list. It is used in combination with **<option> Tags** to provide a set of options that users can choose from.

**Example:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Select Tag Example</title>

</head>

<body>

<form>

<label for="cars">Choose a car:</label>

<select id="cars" name="cars">

<option value="volvo">Volvo</option>

<option value="saab">Saab</option>

<option value="mercedes">Mercedes</option>

<option value="audi">Audi</option>

</select>

<button type="submit">Submit</button>

</form>

</body>

</html>

**HTML Tables**

HTML tables allow web developers to arrange data into rows and columns.   
<!DOCTYPE html>

<html>

<style>

table, th, td {

border:1px solid black;

}

</style>

<body>

<h2>A basic HTML table</h2>

<table style="width:100%">

<tr>

<th>Company</th>

<th>Contact</th>

<th>Country</th>

</tr>

<tr>

<td>Alfreds Futterkiste</td>

<td>Maria Anders</td>

<td>Germany</td>

</tr>

<tr>

<td>Centro comercial Moctezuma</td>

<td>Francisco Chang</td>

<td>Mexico</td>

</tr>

</table>

<p>To understand the example better, we have added borders to the table.</p>

</body>

</html>