Tag Description

<!--...--> Defines a comment

<!DOCTYPE> Defines the document type

<a> Defines a hyperlink

<abbr> Defines an abbreviation or an acronym

<acronym> Not supported in HTML5. Use <abbr> instead.

Defines an acronym

<address> Defines contact information for the author/owner of a document

<applet> Not supported in HTML5. Use <embed> or <object> instead.

Defines an embedded applet

<area> Defines an area inside an image map

<article> Defines an article

<aside> Defines content aside from the page content

<audio> Defines embedded sound content

<b> Defines bold text

<base> Specifies the base URL/target for all relative URLs in a document

<basefont> Not supported in HTML5. Use CSS instead.

Specifies a default color, size, and font for all text in a document

<bdi> Isolates a part of text that might be formatted in a different direction from other text outside it

<bdo> Overrides the current text direction

<big> Not supported in HTML5. Use CSS instead.

Defines big text

<blockquote> Defines a section that is quoted from another source

<body> Defines the document's body

<br> Defines a single line break

<button> Defines a clickable button

<canvas> Used to draw graphics, on the fly, via scripting (usually JavaScript)

<caption> Defines a table caption

<center> Not supported in HTML5. Use CSS instead.

Defines centered text

<cite> Defines the title of a work

<code> Defines a piece of computer code

<col> Specifies column properties for each column within a <colgroup> element

<colgroup> Specifies a group of one or more columns in a table for formatting

<data> Adds a machine-readable translation of a given content

<datalist> Specifies a list of pre-defined options for input controls

<dd> Defines a description/value of a term in a description list

<del> Defines text that has been deleted from a document

<details> Defines additional details that the user can view or hide

<dfn> Specifies a term that is going to be defined within the content

<dialog> Defines a dialog box or window

<dir> Not supported in HTML5. Use <ul> instead.

Defines a directory list

<div> Defines a section in a document

<dl> Defines a description list

<dt> Defines a term/name in a description list

<em> Defines emphasized text

<embed> Defines a container for an external application

<fieldset> Groups related elements in a form

<figcaption> Defines a caption for a <figure> element

<figure> Specifies self-contained content

<font> Not supported in HTML5. Use CSS instead.

Defines font, color, and size for text

<footer> Defines a footer for a document or section

<form> Defines an HTML form for user input

<frame> Not supported in HTML5.

Defines a window (a frame) in a frameset

<frameset> Not supported in HTML5.

Defines a set of frames

<h1> to <h6> Defines HTML headings

<head> Contains metadata/information for the document

<header> Defines a header for a document or section

<hgroup> Defines a header and related content

<hr> Defines a thematic change in the content

<html> Defines the root of an HTML document

<i> Defines a part of text in an alternate voice or mood

<iframe> Defines an inline frame

<img> Defines an image

<input> Defines an input control

<ins> Defines a text that has been inserted into a document

<kbd> Defines keyboard input

<label> Defines a label for an <input> element

<legend> Defines a caption for a <fieldset> element

<li> Defines a list item

<link> Defines the relationship between a document and an external resource (most used to link to style sheets)

<main> Specifies the main content of a document

<map> Defines an image map

<mark> Defines marked/highlighted text

<menu> Defines an unordered list

<meta> Defines metadata about an HTML document

<meter> Defines a scalar measurement within a known range (a gauge)

<nav> Defines navigation links

<noframes> Not supported in HTML5.

Defines an alternate content for users that do not support frames

<noscript> Defines an alternate content for users that do not support client-side scripts

<object> Defines a container for an external application

<ol> Defines an ordered list

<optgroup> Defines a group of related options in a drop-down list

<option> Defines an option in a drop-down list

<output> Defines the result of a calculation

<p> Defines a paragraph

<param> Defines a parameter for an object

<picture> Defines a container for multiple image resources

<pre> Defines preformatted text

<progress> Represents the progress of a task

<q> Defines a short quotation

<rp> Defines what to show in browsers that do not support ruby annotations

<rt> Defines an explanation/pronunciation of characters (for East Asian typography)

<ruby> Defines a ruby annotation (for East Asian typography)

<s> Defines text that is no longer correct

<samp> Defines sample output from a computer program

<script> Defines a client-side script

<search> Defines a search section

<section> Defines a section in a document

<select> Defines a drop-down list

<small> Defines smaller text

<source> Defines multiple media resources for media elements (<video> and <audio>)

<span> Defines a section in a document

<strike> Not supported in HTML5. Use <del> or <s> instead.

Defines strikethrough text

<strong> Defines important text

<style> Defines style information for a document

<sub> Defines subscripted text

<summary> Defines a visible heading for a <details> element

<sup> Defines superscripted text

<svg> Defines a container for SVG graphics

<table> Defines a table

<tbody> Groups the body content in a table

<td> Defines a cell in a table

<template> Defines a container for content that should be hidden when the page loads

<textarea> Defines a multiline input control (text area)

<tfoot> Groups the footer content in a table

<th> Defines a header cell in a table

<thead> Groups the header content in a table

<time> Defines a specific time (or datetime)

<title> Defines a title for the document

<tr> Defines a row in a table

<track> Defines text tracks for media elements (<video> and <audio>)

<tt> Not supported in HTML5. Use CSS instead.

Defines teletype text

<u> Defines some text that is unarticulated and styled differently from normal text

<ul> Defines an unordered list

<var> Defines a variable

<video> Defines embedded video content

<wbr> Defines a possible line-break

HTML (HyperText Markup Language) is the standard markup language used to create and structure content on the web. It defines the structure and presentation of web pages through a system of tags and attributes. Here’s an overview of the key concepts and components of HTML:

**Basic Structure of an HTML Document**

An HTML document typically follows a structured format:

html

Copy code

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Page Title</title>

</head>

<body>

<h1>This is a Heading</h1>

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

</body>

</html>

1. **<!DOCTYPE html>**: Declares the document type and version of HTML.
2. **<html>**: The root element of an HTML document.
3. **<head>**: Contains meta-information about the document, such as its title and linked stylesheets/scripts.
4. **<title>**: Sets the title of the web page, displayed in the browser’s title bar or tab.
5. **<meta charset="UTF-8">**: Declares the character encoding for the document.
6. **<body>**: Contains the visible content of the web page.

**Common HTML Elements**

**Headings**

Headings are defined with the <h1> to <h6> tags, with <h1> being the highest level and <h6> the lowest.

html

Copy code

<h1>This is a Heading 1</h1>

<h2>This is a Heading 2</h2>

**Paragraphs**

Paragraphs are defined with the <p> tag.

html

Copy code

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

**Links**

Links are created using the <a> tag.

html

Copy code

<a href="https://www.example.com">This is a link</a>

**Images**

Images are embedded using the <img> tag, which has attributes like src (source) and alt (alternative text).

html

Copy code

<img src="image.jpg" alt="Description of image">

**Lists**

HTML supports ordered (numbered) and unordered (bulleted) lists.

* **Ordered List**:

html

Copy code

<ol>

<li>First item</li>

<li>Second item</li>

</ol>

* **Unordered List**:

html

Copy code

<ul>

<li>First item</li>

<li>Second item</li>

</ul>

**Tables**

Tables are created using the <table>, <tr> (table row), <th> (table header), and <td> (table data) tags.

html

Copy code

<table>

<tr>

<th>Header 1</th>

<th>Header 2</th>

</tr>

<tr>

<td>Data 1</td>

<td>Data 2</td>

</tr>

</table>

**Forms**

Forms collect user input and are created using the <form> tag, with various input elements like <input>, <textarea>, and <button>.

html

Copy code

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

<label for="name">Name:</label>

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

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

</form>

**Semantic Elements**

HTML5 introduced several semantic elements that provide more meaning to the structure of a web page:

* <header>: Defines a header for a document or section.
* <nav>: Defines a set of navigation links.
* <article>: Defines independent, self-contained content.
* <section>: Defines a section in a document.
* <aside>: Defines content aside from the content it is placed in.
* <footer>: Defines a footer for a document or section.
* <main>: Defines the main content of a document.

**Multimedia Elements**

HTML5 also introduced elements to embed multimedia content:

* **Audio**:

html

Copy code

<audio controls>

<source src="audiofile.mp3" type="audio/mpeg">

Your browser does not support the audio element.

</audio>

* **Video**:

html

Copy code

<video controls>

<source src="videofile.mp4" type="video/mp4">

Your browser does not support the video element.

</video>

**Inline and Block Elements**

* **Inline Elements**: Do not start on a new line and only take up as much width as necessary (e.g., <span>, <a>, <img>).
* **Block Elements**: Always start on a new line and take up the full width available (e.g., <div>, <p>, <h1>).

**Attributes**

Attributes provide additional information about elements and are always included in the opening tag. Common attributes include:

* **id**: A unique identifier for the element.
* **class**: Specifies one or more class names for the element.
* **src**: Specifies the source URL for media elements like <img> or <script>.
* **href**: Specifies the URL for links.
* **alt**: Provides alternative text for images.

HTML (HyperText Markup Language) and HTML5 are both markup languages used to create and structure content on the web. HTML5 is the latest version of HTML and introduces several new features and improvements over its predecessors. Here's a detailed comparison highlighting the key differences between HTML and HTML5:

### Key Differences Between HTML and HTML5

#### 1. ****Doctype Declaration****

* **HTML**:

html

Copy code

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

* **HTML5**:

html

Copy code

<!DOCTYPE html>

HTML5 uses a simpler and shorter doctype declaration.

#### 2. ****Character Encoding****

* **HTML**:

html

Copy code

<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

* **HTML5**:

html

Copy code

<meta charset="UTF-8">

HTML5 simplifies the character encoding declaration.

#### 3. ****New Semantic Elements****

HTML5 introduces several new semantic elements that provide more meaningful structure to the web content:

* <header>: Defines a header for a document or section.
* <nav>: Defines a container for navigation links.
* <article>: Defines independent, self-contained content.
* <section>: Defines a section in a document.
* <aside>: Defines content aside from the content it is placed in.
* <footer>: Defines a footer for a document or section.
* <main>: Defines the main content of a document.

#### 4. ****New Form Elements and Input Types****

HTML5 adds new form elements and input types to enhance form functionality:

* New Input Types: email, url, number, range, date, time, datetime-local, month, week, color, etc.
* New Attributes: placeholder, required, autofocus, pattern, etc.

#### 5. ****Multimedia Elements****

HTML5 provides native support for audio and video elements:

* <audio>: Embeds sound content.

html

Copy code

<audio controls>

<source src="audiofile.mp3" type="audio/mpeg">

</audio>

* <video>: Embeds video content.

html

Copy code

<video controls>

<source src="videofile.mp4" type="video/mp4">

</video>

#### 6. ****Graphics and Interactive Content****

HTML5 includes new elements and APIs for graphics and interactive content:

* <canvas>: Used for drawing graphics via scripting (usually JavaScript).

html

Copy code

<canvas id="myCanvas" width="200" height="100"></canvas>

* SVG (Scalable Vector Graphics): Supports inline SVG for vector graphics.

html

Copy code

<svg width="100" height="100">

<circle cx="50" cy="50" r="40" stroke="black" stroke-width="3" fill="red" />

</svg>

#### 7. ****APIs and DOM Enhancements****

HTML5 introduces several new APIs to enhance web applications:

* Geolocation API: Retrieves geographic location information.
* Web Storage API: Provides localStorage and sessionStorage for storing data on the client-side.
* Web Workers API: Allows background script processing.
* Offline Web Applications: Allows web apps to work offline using the Application Cache.
* Drag-and-Drop API: Enables drag-and-drop functionality for HTML elements.

#### 8. ****Deprecated Elements and Attributes****

HTML5 removes several outdated elements and attributes that were present in earlier versions of HTML:

* Elements like <font>, <center>, <big>, <basefont>, etc., are deprecated.
* Attributes like align, bgcolor, border, etc., are deprecated in favor of CSS.

### Summary

HTML5 represents a significant improvement over earlier versions of HTML by introducing new elements, attributes, and APIs that make web development more powerful, flexible, and efficient. It emphasizes semantic meaning, better multimedia support, and improved client-side storage and interactivity, making it the preferred choice for modern web development.

charset=UTF-8 means

ChatGPT

The attribute charset=UTF-8 in an HTML document specifies the character encoding used to display the document. Let's break down what this means:

### Character Encoding

Character encoding is a system that pairs each character in a set with a unique number (or code point). This allows computers to store and transmit text efficiently. Different encodings support different sets of characters and symbols.

### UTF-8

UTF-8 (Unicode Transformation Format - 8-bit) is a character encoding capable of encoding all possible characters (code points) in Unicode. Unicode is a standard designed to support text in most of the world's writing systems.

### Why Use UTF-8?

* **Wide Compatibility**: UTF-8 can represent any character in the Unicode standard, which includes characters from almost all languages, special symbols, and emoji.
* **Efficiency**: UTF-8 uses one byte for the first 128 characters (which covers all the standard ASCII characters). It uses up to four bytes for other characters, which makes it space-efficient for texts that are primarily in English or other languages with mostly ASCII characters.
* **Interoperability**: It is the most widely used encoding on the web, ensuring that content is consistently displayed across different browsers and platforms.

### How to Specify UTF-8 in HTML

To specify UTF-8 character encoding in an HTML document, you include a meta tag within the <head> section of your HTML document:

html

Copy code

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Example Page</title>

</head>

<body>

<p>This page is using UTF-8 character encoding.</p>

</body>

</html>

### Summary

* **<meta charset="UTF-8">**: This meta tag tells the browser to use UTF-8 character encoding to correctly interpret and display the characters in the HTML document.
* **UTF-8**: A versatile and widely adopted character encoding that supports all characters in the Unicode standard.

Using charset=UTF-8 ensures that your web pages can display a vast array of characters correctly, making your content accessible to a global audience.

4o