HTML

What is HTML?

HTML stands for Hyper Text Markup Language

HTML is the standard markup language for creating Web pages

HTML describes the structure of a Web page

HTML consists of a series of elements

HTML elements tell the browser how to display the content

HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

Why HTML is called as Hyper Text Markup Language?

HTML, which stands for HyperText Markup Language, is named for its key features and functions.

The term "hyper" refers to the ability of HTML to link or connect documents to one another through hyperlinks. Hyperlinks allow users to navigate from one piece of content to another, creating a non-linear way of accessing information. This linking capability is fundamental to the concept of the World Wide Web.

HTML is a markup language because it uses tags to mark or define elements within a document. These tags provide instructions on how elements should be displayed or formatted. The markup tags indicate the structure of the document, such as headings, paragraphs, lists, images, and more. So, the name "HyperText Markup Language" reflects the language's ability to create hyperlinked documents and its use of markup tags to structure and format the content within those documents.

What are HTML Elements?

Elements are the building blocks of HTML that describe the structure and content of a web page. They are the "Markup" part of HyperText Markup Language (HTML).

HTML syntax uses the angle brackets ("<" and ">") to hold the name of an HTML element. Elements usually have an opening tag and a closing tag, and

give information about the content they contain. The difference between the two is that the closing tag has a forward slash.

p Element:

The tag stands for paragraph, which is the most common tag used to create lines of text inside an HTML document.

The use of the is compatible with other tags, allowing to add hyperlinks (<a>) and bold () text, among other things.

You can also nest an anchor element <a> within a paragraph.

Example:

My Name is XYZ

Heading Element:

There are six heading elements — <h1>, <h2>, <h3>, <h4>, <h5>, <h6>.

Heading elements are used to signify the importance of the content below them. The lower the number of the heading, the higher the importance.

For example, the <h1> element represents the main heading of the page, and there should only be one per page. This helps search engines understand the main topic of the page. <h2> elements have less importance, and should be below the higher level <h1> element.

Example:

<h1>This is main heading.</h1>

<h2>This is subheading h2.</h2>

<h3>This is subheading h3.</h3>

<h4>This is subheading h4.</h4>

<h5>This is subheading h5.</h5>

<h6>This is subheading h6.</h6>

a Element: The anchor (<a>) element creates a hyperlink to another page or file. In order to link to a different page or file the <a> tag must also contain a href attribute, which indicates the link's destination.

The text between the opening and closing <a> tags becomes the link. This text should be a meaningful description of the link destination, and not a generic phrase such as "Click here". This better enables users with screen readers to navigate among the various links on a page and understand what content each one will link to.

By default, a linked page is displayed in the current browser window unless another target is specified. The default link styles are as follows:

An unvisited link is underlined and blue

A visited link is underlined and purple

An active link is underlined and red

Examples:

freeCodeCamp

You can also create a link to another section on the same page:

```
<h1 id="top"></h1>
<a href= "#top">Go to top</a>
```

An image can also be turned into a link by enclosing the tag in an <a> tag:

Meta Tag:

The <meta> tag provides the metadata about the HTML document.

This metadata is used to specify a page's charset, description, keywords, the author, and the viewport of the page.

This metadata will not appear on the website itself, but it will be used by the browers and search engines to determine how the page will display content and assess search engine optimization (SEO).

Example:

```
<head>
```

<meta charset="UTF-8">

<meta name="description" content="Short description of website content
here">

<meta name="keywords" content="HTML,CSS,XML,JavaScript">

<meta name="author" content="Jane Smith">

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

<!-- HTML5 introduced a method to let web designers take control over the viewport, through the <meta> tag. The viewport is the user's visible area of a web page. A <meta> viewport element gives the browser instructions on how to control the page's dimensions and scaling. -->

</head>

HTML File Elements:

HTML (Hypertext Markup Language) file elements are the building blocks used to create the structure and content of a web page. HTML is composed of various tags, and each tag represents a different element on the page. Here are some common HTML file elements:

<!DOCTYPE html>: Defines the document type and version of HTML being used. It should be placed at the beginning of an HTML document.

<html>: The root element that wraps all the content on the page.

<head>: Contains meta-information about the HTML document, such as the title, character set, linked stylesheets, and scripts.

<meta>: Provides metadata about the HTML document, such as the character set, viewport settings, and more.

<title>: Sets the title of the HTML document, which appears in the browser's title bar or tab.

<link>: Links external resources, such as stylesheets or icons.

<style>: Contains CSS (Cascading Style Sheets) code to define the style of the document.

<script>: Includes or references JavaScript code.

<body>: Contains the main content of the HTML document.

<header>: Represents the header section of a document or a section, typically containing headings, logos, and navigation.

<nav>: Defines a container for navigation links.

<main>: Contains the main content of the HTML document.

<section>: Defines a section in a document. <article>: Represents an independent piece of content that can be distributed and reused. <aside>: Represents content that is tangentially related to the content around it, like a sidebar. <footer>: Represents the footer section of a document or a section, typically containing copyright information, links, and other metadata. : Defines a paragraph. <h1> to <h6>: Headings, with <h1> being the highest level and <h6> the lowest. ul>: Defines an unordered (bulleted) list. Ol>: Defines an ordered (numbered) list. Represents a list item in a list. <a>: Defines a hyperlink.

: Embeds an image.

<div>: Defines a generic container that can be used for layout or grouping content.

: Defines a generic container that doesn't affect the layout.

These are just some of the most commonly used HTML elements. The combination of these elements allows web developers to create a structured and semantically meaningful document.

Attributes:

Attributes in HTML provide additional information about HTML elements. They are always included in the opening tag of an element and are usually in the form of name/value pairs. The presence of attributes can modify the behavior or appearance of an HTML element. Here's a breakdown of how attributes work in HTML:

Syntax:

Attributes are added to an HTML element within the opening tag.

The syntax is typically name="value".

Common Attributes:

id: Specifies a unique identifier for an HTML element. The value must be unique within the HTML document.

<div id="uniqueID">Content goes here</div>

class: Specifies one or more class names for an element. Used to apply styles or select elements with JavaScript or CSS.

This is important!

style: Defines inline CSS styles for an element.

Styled Text

src: Specifies the source URL of external resources, such as images, scripts, or iframes.

href: Specifies the URL of a linked resource, often used with <a> (anchor) and <link> elements.

Visit Example

alt: Provides alternative text for images, displayed if the image cannot be loaded.

width and height: Specifies the width and height of an element, such as an image or table cell.

Boolean Attributes:

Some attributes don't require a value and are considered boolean. Their presence implies a true value, and their absence implies false.

<input type="checkbox" checked>

<input type="text" disabled>

Custom Data Attributes:

Developers can create custom data attributes prefixed with data- to store extra information.

<div data-user-id="123">User Details</div>

Event Attributes:

Used to attach JavaScript code to specific events.

<button onclick="myFunction()">Click me</button>

Deprecated Attributes:

Some attributes have been deprecated in HTML5 and should be avoided.

Example: align attribute for text alignment.

Attributes play a crucial role in enhancing the functionality and appearance of HTML elements. It's essential to use attributes appropriately and follow best practices to create well-structured and accessible web content.

Absolute And Relative Paths:

In HTML, paths are used to specify the location of resources such as images, stylesheets, scripts, or links to other web pages. There are two main types of paths: absolute paths and relative paths.

Absolute Path:

- An absolute path provides the complete URL or file system path to the resource, starting from the root directory.
- It includes the full web address or file system path, making it independent of the location of the HTML document.
- Example of an absolute path to an image on the web:

```
<img src="https://example.com/images/image.jpg"/> alt "An example
image"
```

Relative Path:

- A relative path specifies the location of the resource in relation to the location of the HTML document.
- Relative paths are shorter and often more flexible because they adapt to the file structure.
- Relative paths do not include the protocol (http/https) or the domain for web resources.
- There are different ways to define relative paths:
 - Relative to the current document:

```
<img src="images/image.jpg"/> alt "An example image"
```

Relative to the root directory:

```
<img src="/images/image.jpg"/> alt "An example image"
```

Relative to the parent directory:

```
<img src="../images/image.jpg"/> alt "An example image"
```

Choosing between absolute and relative paths depends on the specific use case and the organization of your website's files. Absolute paths are useful when linking to external resources or when the file structure might change, while relative paths are often more convenient for files within the same website or project.

List Elements:

There are three types of lists in HTML: unordered lists (), ordered lists (), and descriptive lists (**<dl>**).

Unordered list:

The unordered list starts with tag and list items start with the tag. In unordered lists all the list items marked with bullets by default.

Example:

```
    li>Item
    Item
    Item
    Ul>

    Output:
Item
Item
```

Item

Ordered list:

The ordered list starts with tag and list items start with the tag. In ordered lists all the list items are marked with numbers.

```
Example:
```

```
  First Item
  Second Item
  Third Item

Output:
1. First Item
2.Second Item
3.Third Item
Descriptive List:
```

A descriptive list is created using the **<dl>** element, which stands for "description list." It typically consists of a series of term-description pairs. Each term is represented by a **<dt>** (description term) element, and each description is represented by a **<dd> (**description definition) element.

Here's an example of a simple descriptive list in HTML:

```
<dl>
<dt>Term 1</dt>
<dd>Description 1</dd>
<dt>Term 2</dt>
<dt>Term 2</dt>
<dd>Description 2</dd>
<dd>Description 2</dd>
</dl>
```

In this example:

- **<dl>**: This is the container element for the descriptive list.
- **<dt>**: Stands for "description term." It is used to define the terms in the list.
- **<dd>**: Stands for "description definition." It is used to provide the corresponding descriptions for each term.

Here's a more practical example related to a list of programming languages:

<dl>

```
<dt>HTML</dt>
<dd>HyperText Markup Language</dd>
<dt>CSS</dt>
<dd>Cascading Style Sheets</dd>
<dt>JavaScript</dt>
<dd>A scripting language for web development</dd>
</dl>
```

Formatting Elements:

In HTML, formatting elements are used to control the visual presentation of text and content on a web page. These elements allow web developers to apply various styles, such as bold or italic text, headings, paragraphs, and line breaks. Here are some common formatting elements in HTML:

• Headings (<h1> to <h6>):

HTML provides six levels of headings, <h1> being the highest (most important) and <h6> being the lowest. Headings are used to structure content hierarchically.

```
Example:\\
```

```
<h1>This is Heading 1</h1>
<h2>This is Heading 2</h2>
<!-- ... -->
```

<h6>This is Heading 6</h6>

Paragraphs ():

- The element is used to define paragraphs of text.
- Example :

This is a paragraph of text.

Bold (and):

- The **** element is used for bold text, but it doesn't carry any semantic meaning.
- The **** element is used for strong importance, and browsers typically render it as bold.
- Example :

This is bold text.

This is strongly emphasized text.

Italic (<i> and):

- The **<i>** element is used for italic text, but like ****, it doesn't convey specific semantic meaning.
- The element is used for emphasized text, and browsers typically render it as italic.

Example:

```
<i>This is italic text.</i>
```

This is emphasized text.

Underline (<u>):

 The <u> element was traditionally used for underlined text, but it's not widely recommended in modern HTML and CSS. Instead, CSS is typically used for underlining.

Example:

<u>This text is underlined.</u>

Strikethrough (<s> and):

- The **<s>** element is used for strikethrough text.
- The **** element represents deleted text, and browsers often render it with a strikethrough.

Example:

```
<s>This text has a strikethrough.</s>
```

This text is deleted.

Superscript (<sup>) and Subscript (<sub>):

- The <sup> element is used for superscript text (e.g., exponent in mathematical expressions).
- The **<sub>** element is used for subscript text (e.g., chemical formulas).

Example:

```
x < sup > 2 < / sup > + y < sup > 2 < / sup > = r < sup > 2 < / sup > --> x^2 + y^2 = r^2
```

H₂0

Line Break (
):

• The **
br>** element is used to insert a line break within text.

Example:

This is some text. < br>It continues on a new line.

Strong Element ():

- The **** element is used to give strong importance to the enclosed text.
- Browsers typically render the content inside as bold, but its primary purpose is to convey importance rather than visual styling.

Example:

This is important information.

Emphasis Tag ():

- The element is used to emphasize text. Browsers often render the content inside as italic.
- Unlike <i>, is semantically meaningful, indicating emphasis.

Example:

This is emphasized text.

Mark Tag (<mark>):

- The <mark> element is used to highlight parts of text for reference or to draw attention.
- Browsers typically render the content inside <mark> with a background color.

Example:

Search for <mark>relevant</mark> keywords.

Horizontal Rule Tag (<hr>):

• The <hr> element is used to create a horizontal rule or line, often to separate sections of content.

Example:

```
This is some content.
```

<hr>

This is a new section.

Small Tag (<small>):

• The **<small>** element is used to decrease the text size, indicating that the text is small print or fine print.

Example:

```
This is <small>small text</small>.
```

Insert Tag (<ins>):

• The **<ins>** element represents inserted text, indicating content that has been added to the document.

Example:

This is <ins>new</ins> content.

Bidirectional Override Tag (<bdo>):

 The **<bdo>** element is used to override the text directionality defined by the surrounding content.

Example:

This text is normal.

<bdo dir="rtl">This text is right-to-left.</bdo>

What is a marquee Tag in HTML?

The <marquee> tag in HTML is used to create a scrolling piece of text or an image. It can scroll in various directions, such as left, right, up, or down. The most typical use was to create a scrolling text effect where the text moved horizontally across the screen. This was often used for news tickers or to draw attention to important information. Some websites used it to create dynamic headers or footers, often including moving text with information like contact details or social media links.

Syntax of marquee Tag in HTML

<marquee>This is a scrolling text!</marquee>

Marquee Tag Attributes

| Attribute | Values | Description | |
|--------------|-----------------------|--|--|
| direction | left, right, up, down | Specifies the direction in which the marquee content scrolls. | |
| scrollamount | number | Sets the amount of scrolling at each interval in pixels. Higher values result in faster scrolling. | |
| scrolldelay | number | Sets the delay in milliseconds between each movement. Higher values result in slower scrolling. | |

| Іоор | number | Specifies the number of times the marquee should loop. The default is infinite. | |
|---------|------------------------|---|--|
| bgcolor | color | Sets the background color of the marquee. You can use color names or hex codes. | |
| width | value (in px, %, etc.) | Sets the width of the marquee. It can be in pixels, percentages, etc. | |
| height | value (in px, %, etc.) | Sets the height of the marquee. It can be in pixels, percentages, etc. | |

Usage of HTML marquee Tag with Examples

Let's see some examples showing the usage of the marquee tag in HTML.

Example 1: Basic Horizontal Scrolling Text

Problem Statement: Create a basic horizontal scrolling text.

```
<!DOCTYPE html>
<html>
<head>
    <title>Basic Horizontal Scrolling</title>
</head>
<body>
    <!-- Basic Marquee scrolling from right to left -->
    <marquee>This is a basic scrolling text.</marquee>
</body>
</html>
```

HTML <a> tag with download Attribute:

The download attribute specifies that the target (the file specified in the href attribute) will be downloaded when a user clicks on the hyperlink.

The optional value of the download attribute will be the new name of the file after it is downloaded. There are no restrictions on allowed values, and the browser will automatically detect the correct file extension and add it to the file (.img, .pdf, .txt, .html, etc.).

If the value is omitted, the original filename is used.

Syntax

Example

Download file when clicking on the link (instead of navigating to the file):

How to link a Telephone number in HTML:

- Create an anchor element.
- Enter your phone number in the href attribute.
- Add tel: before the number inside the quotation marks.
- Include text in the anchor element.

SYNTAX:

EXAMPLE:

• Click to call a customer support rep.

How to link a mail address to mail in HTML:

What is a Mailto Link in HTML?

Mailto links are used to redirect the user to an email address instead of a <u>link</u>. When the user clicks on a mailto link, the default email client opens on the user's computer and suggests sending an email to the address included in the mailto link.

How to Create Mailto Links in HTML?

You can create an HTML mailto link by using an anchor <u>tag</u> with the href attribute and inserting the "mailto" parameter after it.

Ta III et - maiico.suppor cosimpilitear II.com /Sena Maiit/a/

If you want to send an email to more than one address, separate your email address with a comma.

It would be difficult to find anyone who works online that hasn't interacted with the HTML mailto link. When you click on it, this link activates the default email client on a user's computer to send an email. It is used inside an anchor tag with a href attribute. In this article, we will discuss:

How to Create Mailto Links in HTML?

You can create an HTML mailto link by using an anchor <u>tag</u> with the href attribute and inserting the "mailto" parameter after it.

Ta III et - maiico.supporc@simpiiiearm.com /senu maiit/a/

If you want to send an email to more than one address, separate your email address with a comma.

Mailto Parameters

The mailto attribute accepts seven parameters, as described below:

- mailto: This parameter specifies the email address of the recipient.
- cc: This parameter is used to add another email address that will receive the mail's carbon copy. It is optional.
- bcc: This parameter specifies another email that will receive the blind carbon copy of the mail. It is optional.
- subject: This parameter is used to fill the subject of the mail. It is optional.
- body: This parameter is used to fill the content of the mail. It is optional.
- ?: This parameter is the first parameter delimiter. It is optional.
- @: This holds the other parameter delimiter. It is optional.

</html>

How to send WhatsApp message through HTML link?

We can send wattsup messages through HTML by using anchor tag as below:

Send WhatsApp Message

</body>

</html>

IFRAME TAG:

The **<iframe>** (inline frame) tag in HTML is used to embed an external document or webpage within the current HTML document. It creates a window (frame) through which you can display content from another source. The **<iframe>** tag is versatile and has several use cases:

1. Embedding External Content:

You can embed content from other websites using the **<iframe>** tag. For example:

EXAMPLE:

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

This code will embed the content of https://www.example.com within the frame, and the frame will have a width of 600 pixels and a height of 400 pixels.

2. Embedding Videos:

<iframe> is commonly used to embed videos from platforms like YouTube, Vimeo, or others.

EXAMPLE:

<iframe width="560" height="315" src="https://www.youtube.com/embed/VIDEO_ID"
frameborder="0" allowfullscreen></iframe>

Replace **VIDEO_ID** with the actual video ID from YouTube.

3. Google Maps Integration:

You can use **<iframe>** to embed Google Maps in your webpage.

EXAMPLE:

<iframe src="https://www.google.com/maps/embed?pb=!1m18!1m12!1m3!1d...."
width="600" height="450" style="border:0;" allowfullscreen="" loading="lazy"></iframe>

This example embeds a Google Map with a specific location.

4. Displaying PDFs:

You can use **<iframe>** to embed PDF documents.

EXAMPLE:

<iframe src="document.pdf" width="600" height="400"></iframe>

Replace **document.pdf** with the path to your PDF file.

5. Inline Content:

You can use **<iframe>** to embed content from the same domain without reloading the entire page. This is often done to create a modular structure within a webpage.

META TAG:

Meta tags in HTML are used to provide metadata or information about the HTML document. They don't directly affect the display of the page but offer valuable information for browsers, search engines, and other web services. Here's a detailed explanation of commonly used meta tags:

- <meta charset="UTF-8">:
- Specifies the character encoding for the document. Using UTF-8 is common as it supports a
 wide range of characters.
- <meta name="viewport" content="width=device-width, initial-scale=1.0">:
- Defines the viewport properties for responsive design. It ensures that the webpage adapts to various device screen sizes.
- <meta name="keywords" content="keyword1, keyword2, ...">:
- Specifies a comma-separated list of keywords relevant to the content of the page. While not as influential for search engines as in the past, it's still used by some.
- <meta name="description" content="A concise description of the page">:
- o Provides a brief summary or description of the page's content. This is often used by search engines in search results.
- <meta name="author" content="Author Name">:
- Specifies the author of the document. This can be used for attribution and is sometimes displayed in search results.
- <meta http-equiv="refresh" content="5;url=http://example.com">:
- Causes the browser to automatically refresh the page after a specified number of seconds.
 Useful for redirecting or reloading pages.

- <meta name="robots" content="index, follow">:
- o Provides instructions to search engine bots. For example, "index" means to include the page in search results, and "follow" means to follow links on the page.
- <meta http-equiv="X-UA-Compatible" content="IE=edge">:
- Helps ensure that Internet Explorer uses the latest rendering engine available, reducing compatibility issues.
- <meta name="format-detection" content="telephone=no">:
- Prevents automatic detection of possible phone numbers in the content, avoiding unwanted formatting.
- <meta name="apple-mobile-web-app-capable" content="yes">:
- Indicates that the web application is capable of running in full-screen mode on an Apple mobile device.
- <meta name="apple-mobile-web-app-status-bar-style" content="black">:
- Sets the style of the status bar for a web application on an Apple mobile device.
- <meta name="theme-color" content="#4285f4">:
- Specifies the color that browsers should use to customize the display of the page or of the surrounding user interface.

These meta tags play a crucial role in optimizing a webpage for search engines, improving accessibility, and ensuring proper rendering on various devices. The specific meta tags you use may vary depending on the goals and content of your website.

TABLE TAG:

In HTML, you can create tables to organize and display data in rows and columns. The basic structure of an HTML table involves the use of three main tags: , , and (or **>** for table headers). Here's a detailed explanation along with the syntax for creating tables in HTML:

1. Tag:

- The tag is used to define the beginning and end of the table.
- It contains all the other table-related tags.

Syntax:

<!-- table content goes here -->

2. Tag:

- The **>** (table row) tag is used to define a row within the table.
- It contains one or more (table data) or (table header) elements.

Syntax:

3. Tag:

• The (table data) tag is used to define a cell within a table row. It contains the actual data.

Syntax:

```
Cell 1
Cell 2
Cell
```

4. Tag:

• The **>** (table header) tag is used to define a header cell within a table row. It is typically used in the first row to label columns.

Syntax:

```
Header 1
Header 2
```

```
Example: Creating a Simple Table with Headers and Data
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>HTML Table Example</title>
</head>
<body>
<style>
table, th, tb{
border:1px solid black;
<!-- 'border' attribute is used for demonstration purposes -->
</style>
 Header 1
   Header 2
   Header 3
```

```
Row 1, Cell 1
Row 1, Cell 2
Row 1, Cell 2
Row 1, Cell 3

Row 2, Cell 1
Row 2, Cell 2
Row 2, Cell 3

Row 2, Cell 3
Row 2, Cell 3
```

</html>