HTML
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HTML (Hypertext Markup Language) ko Tim Berners-Lee ne 1991 mein develop kiya. Tim Berners-Lee ek British computer scientist hain, jinhone World Wide Web (WWW) ko create kiya, jise aaj hum commonly use karte hain.

HTML, which stands for HyperText Markup Language, is the standard markup language used to create web pages. It is not a programming language but a markup language that is used to structure the content on a webpage. HTML uses a system of tags or elements to define the structure and layout of a web document, specifying how text, images, links, and other elements are displayed on a web page.

HTML documents consist of a series of elements enclosed in angle brackets, such as <html>, <head>, and <body>. These elements provide instructions to web browsers on how to render the content. For example, the <h1> element is used to define a top-level heading, while <p> is used for paragraphs of text. Here's a simple example of HTML code:

```
html
<!DOCTYPE html> v-5
<html>
<head>
    <title>My Web Page</title>
</head>
<body>
    <h1>Welcome to My Web Page</h1>
    <p>This is a paragraph of text.</p>

    <a href="https://www.4achievers.co.in">Visit Now</a>
</body>
</html>
```

Website --
A website is a collection of web pages hosted on a server, accessible through a web browser, providing information or services to visitors. It can include text, images, videos, and interactive elements, allowing users to interact with its content.

Static Website:
- Static websites have fixed content that doesn't change without manual updates, typically using HTML and CSS.

Dynamic Website:
- Dynamic websites use server-side scripting to generate content, allowing for real-time updates and interactive features like user accounts or e-commerce.

web Pages

A web page is a single document on the internet containing text, images, multimedia, and links, accessible through a web browser.

History of HTML

HTML 1.0 (1993): The first formal specification of HTML was released. It included basic elements for text formatting and linking.

HTML 2.0 (1995): Introduced forms and more structural elements, allowing for increased interactivity.

HTML 3.2 (1997): Brought further enhancements like tables and frames for web layout.

HTML 4.01 (1999): Added support for styles and scripts, improving web design and interactivity.

HTML5 (2014): A major revision with new features, including multimedia support, canvas for graphics, and improved semantics.

HTML 5 =
remove in html 4
<acronym>: It was used for defining an acronym, but it's deprecated in favor of <abbr> in HTML5.
<basefont>: It was used to set a default font for the page. In HTML5, it's recommended to use CSS for font styling.
<big>: Used to make text larger. This is now achieved with CSS.
<font>: Deprecated in favor of using CSS for text styling.

<noframes>: It was used to provide content for browsers that don't support frames. As frames are deprecated, <noframes> is not needed.

add in html 5

HTML 5 introduced several new features and elements to enhance the functionality, structure, and presentation of web documents. Some key additions in HTML 5 include:
---
1. New Structural Elements:
   - <article>: Represents an independent, self-contained piece of content within a document.
eg= <article>
        <h1>Example Article Title</h1>
        Hello Everyone

        This is the content of the article. It can contain text, images, videos,

```
and other HTML elements.</p>

        <p>More content...</p>

        <p>Even more content...</p>
    </article>
```

- <aside>: Contains content that is related to the main content but can be considered separate, like sidebars or tangential information.
- <header>: Contains introductory content at the beginning of a section or document, often including headings, logos, or navigation.
- <footer>: Contains footer information typically found at the end of a section or document, like copyright information or links to related content.
- <nav>: Identifies a section containing navigation links, such as menus or navigation bars.
- <section>: Defines a thematic grouping within a document, aiding in the organization of content.

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2. New Media Elements:
- <audio> and <video>: Allow embedding of audio and video files, along with controls for playback.
- <source>: Specifies multiple media resources for elements like <audio> and <video>, enabling compatibility across different platforms and browsers.

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3. New Form Elements:
- <datalist>: Provides a list of predefined options for an input field, enhancing user interaction.

eg=
```
<details>
        <summary>Hello Developers</summary>
        <option value="">Hello World</option>
        <option value="">Hello World</option>
        <option value="">Hello World</option>
        <option value="">Hello World</option>
    </details>
```

- <output>: Represents the result of a calculation or user action, useful in forms.

```
<form oninput="result.value = parseInt(x.value) + parseInt(y.value)">
        <input type="number" id="x" name="x" value="0"> +
        <input type="number" id="y" name="y" value="0"> =
        <output name="result" for="x y"></output>
    </form>
```

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4. New Interactive Elements:
- <details> and <summary>: Enable users to toggle additional information in a document.
- <dialog>: Represents a dialog box or window for user interaction.

---
5. New Semantic Elements:
   - <time>: Represents a specific point in time or a duration, allowing for semantic markup of dates and times.
   - <mark>: Highlights or emphasizes parts of text within a document.

7 DOCTYPE Declaration:

HTML4 requires a strict declaration, such as <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN">.
HTML5 uses a simplified, shorter declaration: <!DOCTYPE html>.

Tags
A "tag" is a set of characters used in markup languages like HTML to define elements or components within a document, allowing for structured formatting and presentation.

Each HTML tag consists of two main parts:

1. Opening Tag (Start Tag): This part begins the element and contains the name of the element, enclosed in angle brackets (< >). It may also include attributes that provide additional information about the element.

   Example:

   <tagname attribute="value">

2. Closing Tag (End Tag): This part marks the end of the element and is similar to the opening tag, but it includes a forward slash (/) before the element name.

   Example:

   </tagname>

Here's an example using a paragraph element:

This is a paragraph.

In this example:

- is the opening tag.
- is the closing tag.

Unclosed tag
An "unclosed tag" (also known as an "open tag" or "start tag") in HTML is a tag that is not followed by a corresponding closing tag. These tags are typically used for elements that do not have any content or do not require an end tag, such as line breaks, images, and input fields.

For example, in HTML, tags like
, <img>, and <input> are self-closing, meaning they don't have a separate closing tag. Instead, they are written as a single tag.

Here are some examples:

1. Line Break Tag:

2. Image Tag:

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

3. Input Tag:

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

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Meta Tags

Meta tags are elements in HTML documents that provide metadata about the document itself. This information is not displayed on the web page but is instead used by browsers and search engines to understand and handle the document.
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1. Viewport Meta Tag:

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

   This tag is used to control the viewport settings for responsive web design. It ensures that the page is displayed correctly on different devices and screen sizes.

---
2. Charset Meta Tag:

   <meta charset="UTF-8">

Specifies the character encoding of the document. UTF-8 is widely used for internationalization.

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3. Description Meta Tag:

<meta name="description" content="A brief description of the page">

Provides a concise summary or description of the content of the page. It is often used by search engines for indexing.

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4. Keywords Meta Tag:

<meta name="keywords" content="Developer, designer">

Specifies a list of keywords relevant to the page's content. This tag was more influential in the past and is less used today due to changes in search engine algorithms.

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5. Author Meta Tag:

<meta name="author" content="Author Name">

Indicates the author of the content.

---

8. HTTP-Equiv Refresh:

<meta http-equiv="refresh" content="5;url=https://example.com">

Automatically redirects the browser to another page after a specified number of seconds (in this case, 5 seconds).

HTML text tag

HTML text tags are used to format and structure text content on a web page. Here are some of the most common text-related tags in HTML:

1. Heading Tags (h1, h2, h3, h4, h5, h6):
   - Used to define headings, with h1 being the highest level and h6 the lowest.
   - Example:

```
<h1>This is a Heading</h1>
<h2>This is a Subheading</h2>
```

2. Paragraph Tag (p):
   - Defines a paragraph of text.
   - Example:
     This is a paragraph of text.

3. Bold Tag (b) and Strong Tag (strong):
   - Renders text in a bold format.
   - Example:

     Bold Text
     Strong Text

4. Italic Tag (i) and Emphasis Tag (em):
   - Renders text in an Italic format.
   - Example:
     Italic Text
     Emphasized Text

5. Underline Tag (u):
   - Renders text with an underline.
   - Example:
     html
     <u>Underlined Text</u>

6. Strikethrough Tag (s):
   - Renders text with a strikethrough.
   - Example:
     html
     <s>Strikethrough Text</s>

7. Superscript Tag (sup) and Subscript Tag (sub):
   - Renders text as superscript or subscript.
   - Example:
     X² (X squared)
     H₂O (Water)

8. Line Break Tag (br):
   - Inserts a line break in the text, moving content to the next line.
   - Example:

     This is the first line.
This is the second line.

9. Horizontal Rule Tag (hr):
   - Creates a horizontal rule or line to separate content.
   - Example:

```
<p>Paragraph 1</p>
<hr>
<p>Paragraph 2</p>
```

10. Anchor Tag (a):
    - Creates hyperlinks to link to other pages or resources.
    - Example:
      html
      Visit 4achievers

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Attributes ----------

HTML attributes provide additional information about elements and are always specified in the opening tag of an HTML element. They consist of a name and a value, separated by an equals sign (=) and enclosed in double or single quotes.

Here are some common HTML attributes:

1. id: Provides a unique identifier for an element within a page.

```
<div id="myDiv">Content</div>
```

2. class: Assigns one or more class names to an element. This is useful for applying CSS styles or targeting elements with JavaScript.

```
<div class="myClass anotherClass">Content</div>
```

3. src: Specifies the source URL for elements like images, audio, or video.

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

4. href: Defines the hyperlink destination for anchor (<a>) elements.

```
<a href="https://">Link</a>
```

5. alt: Provides alternative text for elements like images, which is important for accessibility.

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

6. style: Allows you to apply inline CSS styles directly to an element.

```
<div style="color: red; font-size: 16px;">Styled content</div>
```

7. title: Provides additional information about an element, typically displayed as a tooltip when the user hovers over it.

```
<abbr title="Hypertext Markup Language">HTML</abbr>
```

8. target: Specifies where to open the linked document when using anchor elements (`<a>`).

```
<a href="https://www.4achievers.co.in" target="_blank">Link</a>
```

9. type: Defines the type of information in elements like script or input.

```
<script type="text/javascript" src="script.js"></script>
```

10. value: Sets the initial value for form elements like input fields.

```
<input type="text" value="Default Value">
```

11. disabled: Disables user interaction for elements like buttons or form fields.

```
<button disabled>Click me</button>
```

12. readonly: Makes an input field read-only, preventing user input.

```
<input type="text" value="Read-only text" readonly>
```


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HTML elements can be classified into three main types based on their behavior and how they interact with other elements:

1) Inline Elements:

Definition: Inline elements are those that do not start on a new line and only take up as much width as necessary. They typically flow within the content and do not create new "blocks" in the layout.
Examples: , <a>, , , <img>,

2) Block Elements:

Definition: Block elements, on the other hand, start on a new line and occupy the full width available. They create a "block" in the layout, and any content following a block-level element will appear on a new line.
Examples: , <p>, <h1>, <ul>,

3) Void Elements (Self-Closing or Empty Elements):

Definition: Void elements are elements that do not have a closing tag, as they don't contain any content. They may have attributes, but they cannot have content or nested elements.
Examples: <img>,
, <hr>, <input>
Void elements are self-closing and don't have a closing tag. They are used for elements that don't contain content but may have attributes
Here's a brief explanation of each:

HTML (Hypertext Markup Language) has a variety of elements that allow you to structure content on a web page. These elements can be broadly categorized into several types:

1. Text Elements:
   - <p> - Paragraph
   - - Inline container
   -
 - Line break
   - - Strong importance
   - - Emphasis
   - <mark> - Marked or highlighted text
   - <small> - Smaller text
   - <sub> - Subscript
   - <sup> - Superscript
   - <abbr> - Abbreviation
   - <cite> - Citation

2. Document Structure Elements:
   - <html> - Root element
   - <head> - Document metadata
   - <title> - Document title
   - <body> - Document body
   - <article> - Article content

   - <section> - Section of content
   - <nav> - Navigation links
   - <aside> - Aside content
   - <header> - Header content
   - <footer> - Footer content

3. List Elements:
   - - Unordered list
   - - Ordered list
   - - List item
   - <dl> - Definition list
   - <dt> - Definition term
   - <dd> - Definition description

4. Linking Elements:
   - <a> - Anchor (hyperlink)
   - <link> - External resource link

5. Embedded Content Elements:
   - <img> - Image
   - <audio> - Audio content
   - <video> - Video content
   - <iframe> - Inline frame
   - <object> - Embedded object
   - <embed> - Embed external content

6. Form Elements:
   - <form> - Form container
   - <input> - Input field
   - <button> - Button
   - <select> - Dropdown list
   - <textarea> - Text area
   - <label> - Label for an input field
   - <fieldset> - Group of form elements
   - <legend> - Caption for a <fieldset>

7. Table Elements:
   - <table> - Table
   - <tr> - Table row
   - <td> - Table data/cell
   - <th> - Table header cell
   - <thead> - Table header
   - <tbody> - Table body
   - <tfoot> - Table footer

These are just some of the basic HTML elements. Each element serves a specific purpose and helps in organizing and presenting content on a webpage.