HTML

- **HTML :** Hyper Text Markup Language.
- **Hyper Text** : Hyper Text is text which contains links to other texts.
- **Markup Language :** it is a way to given instructions to a computer about how content should be organized and displayed.

- **History of HTML.**
- **Hyper Text :** Hyper Text was developed **by Ted Nelson** in **1960**.
- **1980 Tim Berners Lee** is a British computer scientist introduced the world wide web and developed in first HTML page.

- **HTML Syntax.**
  ```
  <!DOCTYPE html>
  <html>
  <head>
  <title>Page Title</title>
  </head>
  <body>
  <h1>My First Heading</h1>
  <p>My first paragraph.</p>
  </body>
  </html>
  ```
- HTML syntax.
  ```
  <!DOCTYPE html> : is not element and not tag. That only tall that is
  HTML code.
  <html>
  <head></head> : The document's header
  <title>Page Title</title> : The document's title of a page.
  <body>
  <h1>My First Heading</h1>
  <p>My first paragraph.</p>
  </body>
  </html>
  ```
- **Rules.**
- The child element must start after adding 4 spaces from where its parent element started. These spaces are called leading spaces.

HTML Heading And Text Tags.

- **HTML heading and text tags.**
1. Heading tag = <h1>
2. Paragraph tag = <p>
3. Break tag =
4. <u>Horizontal rule tag</u> = <hr/>
- **Heading tag <h1>.**
- Opening tag.<h1>content = This is a heading.</h1> closing tag. And that is a HTML element.
- H1 is a largest tag. And h2,h3,h4,h5 is a smallest tag rather than h1.
- A single h1 is typically used per page.
- Follow the hierarchy from h1 to h2 consistently.
- **Paragraph tag <p>.**
- The <p> tag define the paragraph.
- Browers automatically add a single blank line before and after each <p> element.
- <p> this is a paragraph.</p>
- **<u>Horizontal rule tag</u> = <hr/>**
- <hr/> it is creating horizontal line in two paragraph.
- **Break tag =
**

HTML Comments Tags.

- **HTML Comments tags.**
- <!--this is a heading and paragraph-->

HTML Text Formatting.

- **HTML Text Formatting.**
- **Bold and italic.**
- <p>This is a Shanelhaithis a Shaan first website..</p>
- Output: This is a **Shanelhai** this a *Shaan first website.*
- **Underline and strikethrough:**
- **<u> Represent underlined text.**
- **<s> Represent strikethrough text(crossed out).**
- <p><u>Represent underlined text<u/>.<s>Represent strikethrough text(crossed out).<s/></p>
- Output: <u>Represent underlined text</u>. ~~Represent strikethrough text.~~
- **Subscript and Superscript.**
- **<sub> Represent subscript text (lower and smaller).**
- <p>The water formula 👉 H₂0.</p>
- Output: The water formula 👉 H_2O.
- **<sup> Represent superscript text (upper and smaller).**
- <p>Theory of Relativity 👉 e=mc²</p>
- Output: Theory of Relativity 👉 $e=mc^2$
- **Preformatted Text.**

  <pre>
      To / The principal / SVM
      DATE: 23 Aug 2023
      Subject: Leve application of two days.
   </pre>
- **Text highlighting.**
- <p> to save a file, press <kdd>Ctrl</kdd>+<kdd>S</kdd>.<p/>
- <p><abbr title="World Health Organization">WHO</abbr> is an international Organization.<p/>
- <p>highlight <mark>this next</mark>to emphasize it.</p>
- <p>This is a <small>smaller font size</small>text.</p>
- <p>my favorite color is ~~green~~red.</p>
- **Inline style.**
- <p style="color:green">
  inline style is one of the way to style HTML content. </p>

HTML Anchor/ Hyperlink Tag.

- **HTML anchor/ hyperlink tag.**
- The <a> tag define a hyperlink which is used to link from one page to another page.

- **Href anchor tag.**
- Herf open the same page.
- Shaan
- **Target anchor tag.**
- Target anchor tag open new page.
- <ahref="https://www.youtube.com/watch?v=5ccq_nLHneE"target="_blank">Shaan
- **Title anchor tag.**
- <ahref="https://www.youtube.com/watch?v=5ccq_nLHneE"title="click on Shaan">Shaan
- **Id anchor tag.**
- <ahref="https://www.youtube.com/watch?v=5ccq_nLHneE"id="1">Shaan
- **Download.**
- download html

HTML Image Tag.

- **HTML image tag.**
- The HTML <img> tag is used to embed an image in a web page.
- The <img> tag is a empty, it contains attributes only and does not have closing tag.
- There are some attributes of <img> tag.
- Src = specifiers the path to the image.
- Alt = specifiers an alternate text for the image.
- Width = set the width of image.
- Height = set the height of image.
- **Syntax.**
- <imgsrc="C:/Users/Admin/Desktop/download.jpeg"alt="the dog"width="400"hight="5">
- <map name="map">
- <area shape="rect"coords="0,0,250,150"
- href="https://www.youtube.com/watch?v=5ccq_nLHneE"alt="it is youtube channel"/>
- </map>
- **That is a part of CSS.**
- <img src="C:/Users/Admin/Desktop/download.jpeg"alt="the dog"srcset="image/html-400.jpeg 400w,
- image/html-600.jpeg 600w,
- image/html-800.jpeg 800w,
- image/html-1000.jpeg 1000w"sizes="(max-width:600px)400px,
- (max-width:800px)600px,
- (max-width:1100px)1000px,1200px"/>

Void Element / Empty Element.

- **Void element / empty element.**
- Not all parts of a web page use the usual patten of having an opening tag, some content and them a closing tag. Some parts only need a single tag to work. These are called "void elements" or "empty elements.
- \<area\>: Defines a clickable area within an image map.
- \<br\> : Represents a line break.
- \<col\> : Specifies column properties for a table column group.
- \<embed\> : Embeds external content or plugin content.
- \<hr\> : Represents a thematic break or horizontal rule.
- \<img\> : Embeds an image.
- \<input\> : Represents an input field.
- \<link\> : Specifies relationships between a current document and external resources.
- \<meta\> : Provides metadata about the HTML document.
- \<param\> : Defines parameters for plugins.
- \<source\> : Specifies multiple media resources for media elements like \<audio\> and
- \<video\>.
- \<track\> : Specifies text tracks for media elements.
- \<wbr\> : Represents a word break opportunity in text.

HTML Picture Tag.

- **HTML picture tag.**
- The \<picture\> HTML element contains zero or more \<source\> elements and one \<img\> element to offer alternative versions of an image for different display/device scenarios.
- \<picture\>
\<source srcset="C:\Users\Admin\Desktop\download (2).jpeg.jpeg"type="download (1).jpeg"/\>
  \<source srcset="C:\Users\Admin\Desktop\download (2).jpeg"type="download (2).jpeg"/\>
  \<img src="C:\Users\Admin\Desktop\download (2).jpeg"alt="Aishwarya Rai"\>
\<figcaption\>this is a Aishwarya Rai\</figcaption\>
  \</picture\>

HTML LISTS.

- **HTML LIST:** List is a collection of related items.
- **There are two types of lists.**
  1. Ordered lists <ol>.
  2. Unordered lists <ul>.
- List tag used to add a list item =
- **Ordered lists <ol>.**
- An ordered list is a collection of related items in some particular order.
- **Ordered lists <ol>.**

       First item

       Second item

       Third item

- **Mark value there are five types.**
  1. 1,   2. A,   3. a,   4.I,   5.i.
     Example: <ol type = "1", "A", "a", "I", "i">
- **Unordered lists <ul>.**
- An unordered list is a collection of related items with no special order or sequence.
- **Unordered lists <ul>.**

  <ul

       Apple

       Orange

       Banana

- **Mark value there are five types.**
- <ul types="circle", "square">
  Example: <ul types="circle">
- Nested lists.

  <ul

      <h5>Fruits Name</h5>

      Apple

      Grapes

      <h6>Vegetable Name</h6>

        Turinp

        Onion

HTML Table Tag

- HTML Table Tag.
- HTML tables allow web developers to arrange data into rows and columns. We must write everything inside the table tag.
- \<table\> Element: Defines an HTML table, which is used to organize data into rows and columns.
- \<tbody\> Element: Groups the main content (data rows) of an HTML table.
- \<thead\> Element: Groups the header content (table headings) of an HTML table.
- \<th\> = table heading.
- \<td\> = table data.
- \<tr\> = table row.
- HTML Table Tag.

```
<table border="2">
      <th>name</th>
      <th>hindi</th>
      <th>english</th>
      <th>maths</th>
      <th>science</th>
   <tr>
      <td>Pawan</td>
      <td>40</td>
      <td>50</td>
      <td>35</td>
      <td>45</td>
   </table>
```

- **Creating a table using HTML.**
- Creating a table using a tag = \<table\>
- Table raw tag = \<tr\>
- Table data tag = \<td\>
- Table heading tag = \<th\>
- **Border.**
- Used to set the width of the border in pixels around the table and around each cell.
- \<table border = "1"\>
- **Cellspacing.**
- Used to specify the space between two cells, vertically or horizontally in pixels.
- \<table cellspacing = "0"\>

- **Cellpadding.**
- Used to specify the space between two cells wall and the cell content in pixels.
- <table cellpadding = "5">
- **Height and width.**
- Height used to specify the height of the table in pixels.
- Width used to specify the width of the table in pixels.
- <table border = "1" cellspacing = "0" cellpadding = "5" width = "400" height = "200">
- **Colspan and rowspan.**
- Colspan used to span more than one column.
- Rowspan used to more than one row.
- <td colspan = "3">Both the students have passed the exam.</td>

HTML IFrame Tag

- **HTML iFrame Tag.**
- The <iframe> HTML element represents a nested browsing context, embedding another HTML page into the current one.
- The HTML iframe tag is used to embed a webpage within a webpage.

The src attribute defines the URL of the page to embed

<iframe src="url" title="abc"></iframe>

For screen readers

- **HTML iframe tag.**
  <iframe width="560" height="315"
  src="https://www.youtube.com/embed/5ccq_nLHneE?si=wxwSJYhs7iL
  eC0yJ" title="YouTube video player" frameborder="0"
  allow="accelerometer; autoplay; clipboard-write; encrypted-media;
  gyroscope; picture-in-picture; web-share" allowfullscreen></iframe>

HTML Audio Tag.

- **HTML Audio Tag.**
- Audio (): The element is used to embed audio content in a webpage. It supports various audio formats and provides controls for playback.
- <audio controls> = attributes
  <source src="./audio/audio_thapa.mp3" type="audio/mpeg" />
  <source src="./audio/audio_thapa.wav" type="audio/wav" />
  Your browser does not support the audio element.
  </audio>
- **List of Audio tag Attributes:**
- controls: Adds playback controls (play, pause, volume, etc.).
- autoplay: Starts playback automatically.
- loop: Repeats the media indefinitely.
- preload: Specifies if the media should be loaded when the page loads.
- poster: Displays an image before the media loads.
- **HTML Audio Tag.**
- <audio controls>
  <source src="C:\Users\Admin\Music\Chaleya Jawan 128 Kbps.mp3"/>
      Your browser does not support the audio element.
  </audio>

HTML Video Tag.

- **HTML Video Tag.**
- The <video> HTML element embeds a media player which supports video playback into the document.
- <h1>Ghosted-(2023)</h1>
  <video controls autoplay loop muted poster="./images/html.png">
  <source src="D:\information\Ghosted-(2023)-English-HDRip--360p-[Orgmovies].mp4"alt="Ghosted-(2023)"/>
  Your browser does not support the video element.
  <figcaption>Ghosted-(2023)</figcaption>
  </video>

HTML Form Tag.

- **HTML Form Tag.**
- The <form> tag is used to create an HTML form for user input.
- The <input> HTML element is used to create interactive controls for web-based forms to accept data from the user. We must write inside the tag.
- **HTML Form Tag.**
- <input types="text"name="username">
- We have multiple values for the Type attribute.
- **HTML Form Tag.**

```
<form>
    Name
    <input type="text"name="name"/>
    Age
    <select name="data">
    <option value=1>1
    <option value=2>2
    </select><br/>
    Month
    <select name="month">
    <option value="January">January
    <option value="Febuary">Febuary
    </select><br/>
    years
    <select name="years">years
    <option value="1990">1990
    <option value="1995">1995
    </select><br/>
    Email
    <input type="text"name="email"/>
    password
    <input type="password" name="password"/><br/>

    <input type="radio" name="gender" value="male"/> Male
    <input type="radio" name="gender" value="female"/> Female
    <input type="radio" name="gender" value="other"/> Other

    <input type="checkbox" name="interest" value="circket"/> Circket
    <input type="checkbox" name="interest" value="football"/> Football
    <input type="checkbox" name="interest" value="basketball"/>
Basketball
```

```html
<input type="checkbox" name="interest" value="chess"/>Chess<br/>

<select>
    <option value="Kolkata">Kolkata</option>
    <option value="Delhi">Delhi</option>
</select><br/>

<textarea name="address"rows="6" cols="50">
    write your address....
</textarea><br/>

<input type="submit" name="submit" value="submit"/>
</form>
```

HTML Semantic Elements.

- **HTML Semantic Elements.**
- Semantic elements = elements with a meaning.
- A semantic element clearly describes its meaning to both the browser and the developer.
- **HTML Semantic Elements.**
- <header> — Represents the introductory content for a section, article, or entire web page. Ex. Contains Logo, site title etc.
- <nav> — Navigation menu links would all be placed in a <nav> tag.
- <main> — The body of a page should go in the <main> tag. There should be only one per page.
- <article> — Represents an independent article on a web page. For example, a blog post.
- <section> — Represent a way of grouping together nearby content of a similar theme.
- <aside> — Represents the content that's less important. It's mostly used for sidebars (ads).
- <footer> — Represent the base of a page or section. It might include contact information and some site navigation.
- Single <main> Tag: As a best practice, use only one <main> tag per HTML page.
- The<main> tag should encapsulate the primary content of your webpage, excluding headers, footers, and sidebars.
- Use Headers Wisely: While you can use multiple <header> tags, make sure they're appropriately placed within semantic elements like <article>, <section>, or as introductory content for the whole page. Each <header> should provide relevant context.
- Avoid Overuse: Use semantic elements purposefully and avoid overusing them. Choose elements that accurately represent your content's structure and hierarchy. Overusing them may lead to confusion and diluted semantics.
- Understand Nesting: Understand the hierarchy and nesting rules of semantic elements. For instance, <article> and <section> can contain <header>, <footer>, and other content, but nesting them should reflect logical relationships.
- Enhance Accessibility: Semantic elements greatly improve web accessibility. Use them
to create a clear structure for assistive technologies. Ensure that your content remains meaningful even if CSS or other styling is disabled.

- **HTML Semantic Elements.**

```html
<header>
  <!-- Header content goes here -->
  <nav>
   <!-- Navigation menu goes here -->
  </nav>
</header>

<main>
  <!-- Main content of the page goes here -->
  <article>
   <!-- Article content goes here -->
  </article>

  <section>
   <!-- Section content goes here -->
  </section>
</main>

<aside>
  <!-- Sidebar content goes here -->
</aside>

<footer>
  <!-- Footer content goes here -->
</footer>
```

HTML Meta Data Tag.

- Meta Tags for Metadata:
- Meta tags are HTML elements that provide metadata about a webpage. They are placed within the <head> section of an HTML document and are not visible to users but are used by browsers, search engines, and other web services to gather information about the page.
- **HTML Meta Tag.**
- <meta name="viewport" content="width=device-width, initial-scale=1.0">:
  Sets the viewport properties for responsive design.
- <meta charset="UTF-8">: Specifies the character encoding for the webpage, ensuring proper rendering of characters.
- <meta name="description" content="A brief description of the webpage">:
  Provides a concise description of the page's content.
- <meta name="keywords" content="keyword1, keyword2, keyword3">:
  Specifies relevant keywords for search engines (not as impactful as it used to be).
- <meta name="author" content="Author's Name">:
  Indicates the author of the webpage.
- <meta name="robots" content="index, follow">: Instructs search engine robots whether to index and follow links on the page.

HTML SEO.

- **HTML SEO.**
- High-Quality Content: Create valuable and relevant content that addresses users' needs.
- Keyword Research: Use relevant keywords naturally within your content.
- Descriptive Titles: Use descriptive and relevant titles for your pages (<title> tag).
- Heading Tags: Use appropriate heading tags (<h1>, <h2>, etc.) to structure content.
- Image Alt Text: Provide descriptive alt text for images.
- Internal Links: Use internal links to connect related content within your site.
- External Links: Link to reputable external sources when relevant.
- Mobile-Friendly Design: Ensure your website is responsive and mobile-friendly.
- Site Speed: Optimize your website's loading speed for better user experience.