Hypertext Markup Language (HTML)

- Provides a structure for the content of website.
- Uses a system of tags and attributes to define the structure and layout of webpage.

TAGS :-
- ➢ Used to define structure & layout of the webpage.
- ➢ Basic building blocks that are used create elements on a webpage.

ELEMENTS :-
- ➢ Individual components of html doc such as heading etc.
- ➢ Each element is represented by a corresponding html tag.

ATTRIBUTES :-
- ➢ Provides additional information about an element.

HTML ENTITIES :-
- ➢ Special characters or symbols that are used to display reserved characters.
- ➢ They can either be represented by name or number.
- ➢ E.g. Name and Number for displaying greater than symbol

```
&lt;
&#60;
```

★ `$nbsp;`   (used for spacing)

COMMENTS :-
- ➢ Provide information regarding the functionality of a specific block of code
- ➢ Not visible to end-user
- ➢ Help other programmers to easily read & understand the code
- ➢ Syntax -> `<!-- -->`

★

Inline elements :-
- Only take up as much width as necessary.
- Do not create a new line after the element.
- Used to add a small amount of contents within a block-level element.
- E.g. <span>, <a>,
,<strong>,<img> etc.

Block elements :-
- Always occupy the entire available width.
- Create a new line after the element.
- Used to create the structure of a web page, such as sections, headings, and paragraphs.
- E.g. <div>, <p>,<h1-h6>, <li>, <hr> etc.

★ For writing class we use (.)
```
div.contain
<div class="contain"></div>
```

For writing id we use(#)
```
div#contain
<div id="contain"></div>
```

For custom attributes
```
img[src=im.png]
<img src="im.png" alt="">
```

Adding text
```
p{hello world}
<p>hello world</p>
```

★ > symbol for parent child
+ symbol for sibling

Text-Formatting

\<b\>	Makes text bold
\<strong\>	Also make texts bold but indicates the strong importance of the text
\<i\>	Italicizes the text
\<em\>	Also italicizes the text but indicates the strong importance of the text
\<u\>	Underline the text
\<s\>	Used to strike through text [Indicate text that is no longer accurate or relevant]
\<strike\>	Used to strike through text
\<del\>	Used to strike through text [Indicate text that has been deleted]
\<sub\>	Makes text subscript.
\<sup\>	Make text superscript.
\<small\>	Makes text small.
\<big\>	Makes text big.
\<mark\>	Highlights text.
\<abbr\>	Represents an abbreviation
\<acronym\>	Represents an acronym
\<dfn\>	Represents a definition.
\<ins\>	Used to represent inserted text.

★ Highlighted tags are no longer supported in HTML 5

Lists

Group of related items that are displayed in a specific order.

Types :-
<mark>i) Unordered list -</mark>
- No specific order.
- Markers - disc, circle, square and none.

```html
<ul>
    <li type="circle">Java</li>
    <li type="square">Python</li>
    <li type="disc">Kotlin</li>
    <li type="none">Swift</li>
    <li>Solidity</li>
</ul>
```

<mark>ii) Ordered list -</mark>
- Specific order.
- Markers - numbers, lowercase alphabets, uppercase alphabets, lowercase roman numbers and uppercase roman numbers.

```html
<ol type="A" reversed start="5">
    <li>Java</li>
    <li>Kotlin</li>
    <li>Python</li>
    <li>Ruby</li>
    <li>JavaScript</li>
</ol>
```

<mark>iii) Description list -</mark>
- Display a list of terms and their corresponding descriptions.

```html
<dl>
    <dt>System Software</dt>
    <dd>OS like Windows,Linux,iOS</dd>
    <dd>Firmware</dd>
    <dd>Device Drivers</dd>
    <dt>Application Software</dt>
    <dd>MS Word</dd>
    <dd>Gmail</dd>
    <dd>Netflix</dd>
</dl>
```

Multimedia & Interlinking

IMAGE TAG :-

- ➢ <img> tag used to embed images in a webpage.
- ➢ Self-closing tag.
- ➢ Attributes -
  - i. src : specify the url of the image
  - ii. alt : alternative text if image could not be loaded
  - iii. height & width : specify the dimensions
  - iv. scrset : provide list of image & shows image as per user screen size.

```
<img src="UXUI.png" alt="Not Available" height="500px" width="700px" title="Design">
```

VIDEO TAG :-

- ➢ <video> tag to add video to a webpage
- ➢ Attributes -
  - i. src
  - ii. controls : add controls such as play,pause etc
  - iii. autoplay
  - iv. muted
  - v. height & width

```
<video src="video.mp4" controls autoplay muted>your browser doesn't support video tag</video>
```

- ➢ Alternate method to add multiple source if browser doesn't support any source

```
<video controls autoplay muted>
        <source src="video.hd">
        <source src="media.mkv">
</video>
```

AUDIO TAG :-

- ➢ <audio> tag is used to embed audio on webpage.
- ➢ Attributes -
  - i. src
  - ii. controls : add controls such as play,pause etc
  - iii. autoplay
  - iv. muted

```
<audio src="song.mp3" autoplay controls></audio>
```

- ➢ We can add multiple sources like we did in video tag.

INTERLINKING :-

- ➢ Anchor tag '<a>' is used to create a hyperlink.
- ➢ Attributes :-
  - i. href : Specify the URL of the page.
  - ii. target: Specifies where the linked document should be opened.
    - ▶ _blank
    - ▶ _top
    - ▶ _parent
    - ▶ _self
  - iii. download : Specifies that the linked document should be downloaded.

```
<a href="https://www.youtube.com" target="_blank">YouTube</a>
```

★ To open emails

```
<a href="mailto:example@gmail.com">Mail Me</a>
```

★ To download a file

```
<a href="example.pdf" download>pdf</a>
```

Tables & Forms

<mark>**TABLE :-**</mark>

<table> tag is used to create HTML tables.

Helps in organizing data.

Properties -
- <thead> : Used to group the header content in HTML table
- <tbody>: Used to group the body content.
- <tfoot>: Used to group the footer content.
- <th> - Used to define a header cell.
- <tr> - Represents a row of the table.
- <td> - Represents a regular data cell of the table.
- 'border' - Specifies the width of the table around the table and its cell.
- 'cellspacing' - Specifies the space between the cells.
- 'cellpadding' - Specifies space between cell content & cell border.
- 'colspan' - Specifies no of columns a cell should span.
- 'rowspan' - Specifies no of rows a cell should span.
- 'caption' - Specifies caption for the table.
- 'align' - Specifies the alignment of the table(left, right, or center)

<mark>**FORMS :-**</mark>

<form> tag is used to create HTML forms.

Helps in taking input from user that can be transferred to server for processing.

Useful tags -
- fieldset
- legend
- label
- input
  - type : specify data input
  - ★ id : Identify elements for styling & scripting
  - ★ name : Identify elements when form is submitted to the server
  - placeholder : works like hint
  - readonly : user cannot change info
  - disabled : user no longer can change data
  - size : specifies the visible width of input field
  - value : defines the initial value and later can be changed by the user
  - autofocus : specifies that an <input> element should automatically get focus when the page loads.

Some common input types :-
- text : Creates a single line text input.
- password : Creates a password input field. Inputs are obscured.
- number : Created a number input field.
- email : Creates email input field.
- url : Creates a url input field.
- tel : Creates a telephone no. input field.
- date : Creates a date input field with a date picker.
- search : Created a text input field with a search icon.
- time : Creates a time input field with a time picker.
- radio : Create a radio input field where the user is allowed to select one option from the given options.
- checkbox : Creates a checkbox input field, where the user can select multiple options.
- file : Creates a file input field for uploading files.
- submit : Creates a submit button to submit the form.
- reset : Creates a reset button to reset the form to its default values.
- datetime-local : Creates a date & time input field with date-time picker.
- button : Creates a button input field.
- color : Creates a color input field with a color picker.
- range : Creates a range input field with a slider control

MORE ABOUT HTML

★ In HTML, the form element has a method attribute that can be set to either 'GET' or 'POST'. This attributes determines the http method used when submitting the form to the server.

GET METHOD -
- Used when the form data is appended to the URL as query parameters.
- Used for forms that retrieve data from the server, such as a search form.
- The data sent to the server is visible in the URL and can be cached by the browser.

```
<form method="get">
```

POST METHOD -
- Used when the form data is sent in the body of the HTTP request.
- Used for forms that submit data to the server, such as a registration form or an order form.
- The data sent to the server is not visible in the URL and is not cached by the browser.

```
<form method="post">
```

Semantic Tags:-
- They describe the meaning or purpose of the content they contain.
- They add meaning to the content of a webpage, making it easier for search engines and other systems to understand the content of a webpage.

Some semantic tags are :-
- <header>
- <footer>
- <nav>
- <article>
- <aside>
- <details>
- <summary>
- <main>
- <mark>
- <section>