DAY 1 - 24/04

## HTML INTRODUCTION

### HTML - HyperText Markup Language

* It is called a markup language because it defines the structure and layout of the content/text we write.
* The components used to design the structure of websites are called HTML tags.
* HTML is a case sensitive language.
* Some Tags have no content. These are called Empty elements - <br>
* We can add elements inside the body tag to define the page layout.

### HTML Emmet Abbreviations

* It is a toolkit that allows us to write HTML and CSS code faster, basically a short-cut method to write tags and codes.
* For example, if we have to make a class called “section” in a div tag, we can simply write div.section in VS code.

### HTML Attributes

* Attributes are used to add more information to the tag.
* The Anchor Tag is used to add links in a web page <a>..</a>
* For example,

1. If we want to choose the English language to write the code, we can add <html lang = “en”> for the same.
2. If we want to add a Link to our page, we can write <a href=”(link)”>(Name)</a>
3. If we want to add a image to our page, we can write <img src=”(image link)” alt=”(text)”>

* The alt tag is used to add a text in case the image is not visible.

### HTML Headings

* It is used to mark Headings to HTML
* There are basically six types of headings (<h1>...<h6>), the first one is most important and the last one is less important
* We should not use HTML headings to make text thick or bold
* We should use heading tag only once in a web page (as per SEO)

### Paragraphs

* Paragraph tags are used to add paragraphs to a web page <p>
* In paragraphs, the tag is called the ”Element” and the text is called the “Content”

### Formatting Elements

* Formatting elements are designed to display special types of text.
* <b> - For Bold text
* <u> - To Underline the Text
* <strong> - To mark the text Important
* <i> - For Italic text
* <em> - For Emphasized text (it gets more importance than italic text)
* <mark> - To highlight the marked text
* <small> - To make text Smaller
* <del> - Creates a line through on the Deleted text
* <ins> - Creates an underline on the Inserted text
* <sub> - For Subscript text (used to write a chemical equations basically)
* <sup> - For Superscript text (used to write mathematical formulas also to show temperature - the degree symbol)

### HTML Link Target attributes

* Attributes provide additional information about elements
* Attributes are always specified in the start tag
* Attributes usually come in name/value pairs like: name="value"
* The \_self target attribute opens the document in the same window/tab whenever clicked
* The \_blank target attribute opens the document in a new window/tab whenever clicked
* The \_parent target attribute opens the document in the parent window whenever clicked
* The \_top target attribute opens the document in the full body window whenever clicked
* The href attribute of <a> specifies the URL of the page the link goes to
* The src attribute of <img> specifies the path to the image to be displayed (relative or absolute)
* The width and height attributes of <img> provide size information for images
* The alt attribute of <img> provides an alternate text for an image when there’s a problem displaying the image
* The style attribute is used to add styles to an element, such as color, font, size, and more
* The lang attribute of the <html> tag declares the language of the Web page
* The title attribute defines some extra information about an element
* The tel:(num) attribute is used to add a phone number whom the user can contact
* The mailto:(email) attribute is used to send a mail to the given email address

### HTML Lists

* Lists are used to display content which represents a list

1. Unordered lists <ul> :- Used to list unordered items
2. We can also change the symbol of unordered lists using the “style=list-style-type: square;” tag (square)
3. Ordered lists <ol> :- Used to list ordered items
4. We can also change the symbol of unordered lists using the “style=list-style-type: roman;” tag (roman numbers)
5. Description lists <dl> :- Used to pair items with their description

### Doubts (cleared)

* *Is HTML case sensitive?* - No, it depends (if we use any library then it is not case sensitive, if we use without any library it is case sensitive)
* *What is the difference between Emphasized text and Italic text?* - Emphasized text is prioritized than italic text
* *What is the <meta name:”viewport”/>?* - It is basically used to make responsive web site (for media query)
* *Why does chrome generate doctype even if we write h1?* - Because the browser has already defined that in the cloud

DAY 2 - 25/04

### Absolute URL

* An Absolute URL is the full URL, including protocol, the subdomain, domain, path. It provides all the information to find the location of a page.
* It is basically points to another website’s URL we want to go, starting with “http,https,www”
* Using Absolute URL is earlier to maintain the internal link
* For Example,
* If we want to use a hyperlink of Google, we can simply write <a href="https://www.google.com"> in HTML

### Relative URL

* A Relative URL contains only the relatively related part of the URL (basically the path we want to show)
* A relative URL typically contains only the path, and the resource (optional), but does not contain the server details.
* Relative URL are harder to maintain if compared
* It basically points to a folder or a file we want to go or want to show on the web page
* For Example,
* If we want to show a image/file on our web page, we can simply write the path of the image/file <img src="E:\vanshh\coding\saeculum training\images\1.png"> in HTML

### Difference between Absolute URL & Relative URL

| Absolute URL | Relative URL |
| --- | --- |
| * It is Longer | * It is Shorter |
| * It has more information | * It has less information |
| * It is used for all Technical SEO Tags | * It is used only for some of the Technical SEO Tags |
| * It is harder to maintain | * It is easier to maintain |
| * It is less preferred for SEO | * It is more preferred for SEO |

### HTML Images Elements

* This tag is used to display any type of images from the computer itself or from the internet
* The <picture> tag contains <source> and <img> tags.
* The <picture> element contains one or more <source> elements, each refers to different images
* Every <source> element has a media attribute that displays the image as per the width and height.
* HTML <picture> tag is used in responsive web designing where we need to load the different images based on their height, width, etc

### CSS Linking in HTML

* CSS refers to Cascading Style Sheets
* With the help of CSS, we can design the layout of our web page
* There are total three methods of CSS linking

1. Inline CSS: It is the easiest method to add CSS to our HTML document

* We cannot reuse the method, basically it is only used for the element we applied to
* We can use the style attribute at the starting of that text on which we want to use CSS (for a specific tag only)
* For Example,

<p style=”color:blue;”> Hello </p>

1. Internal CSS: With the help of Internal CSS we can change the design or style of the whole web page, not only the specific element or attribute

* To specify it, we have to add a <style> tag within the starting and closing of <head> tag or just after the title tag
* Then we have to add those elements which we want to design or decorate in the same HTML page
* For Example,

<style> body {color:blue;} </style>

1. External CSS: It is the most used method of CSS linking. It is mostly used to change the styles and looks of multiple web pages by changing just one file.

* This CSS file only contains the CSS codes (with .css extension)
* We have to link this CSS file to our main HTML file in the <head> tag
* In the CSS file, if we have to change the design or decorate any class, we have to use .class to specify that, similarly for id we have to use #id
* External CSS is easier to maintain and easy to use
* We can link our CSS using this method,

<link rel=”stylesheet” href=”styles.css”>

### Semantic and Non-semantic Tags in HTML

1. Semantic Tags: This tags clearly describes its meaning to both the browser and the developer

* Semantic tags are easy to read and optimize
* There are many semantic tags present in HTML5, some of the are:
* <article> - To write an Article in our web page
* <header> - To add a header to our web page which includes navigation bar
* <main> - It includes the main content of our web page like the details and about section
* <section> - It is used to add a specific section to our website in which we can add some details
* <nav> - It defines the navigation bar links of a header
* <footer> - It is used to add a footer to our website which includes the Contact us section or the contact details
* There are also other semantic tags like <aside> <mark> <details> <figure> <figcaption> <summary> <time>

1. Non-semantic Tags: Basically, non-semantic tags don’t have any specific meaning

* They don’t tell anything about the content they contain (class and ids are used in it)
* There are basically two types of non-semantic elements: <div> and <span>

### HTML Multimedia Tags

* There is basically two Multimedia Elements

1. **<audio>** : It is used to embed sound files into our web page (.mp3, .aac, .mp4 etc)

* It includes source tag (to indicate the audio file) and a type tag to check the audio file extension
* It can be added to our web page by using the <audio> tag
* control is used to add controls to the audio player
* autoplay is used to play the file immediately after it loads
* loop is for continuous playing
* muted is for the file that should be muted

1. **<video>** : It is used to embed the video files into our web page (.mp4, .webm, .avi etc)

* It includes source tag (to indicate the video file is from the computer or from the internet) and a type tag to check the video file extension
* For adding video to our web page, we can use <video> tag
* We can also embed any Youtube video by using <iframe> tag (firstly we have to copy the embedded link by right clicking the youtube video which we have to play)
* autoplay is used to play the video after loading
* preload gives a hint to the browser about what the user will play it or not
* loop is for continuous playing
* height & width for adjusting size
* muted tag mutes the video
* poster tag loads an image for preview

DAY 3 - (26/04)

### HTML Tables

* HTML Table Tag is used to display data in tabular form (with the help of rows and columns)
* We can create a table to display data in tabular form using the <table> element
* The <table> element includes <tr>, <td> and <th> tags and more
* The <tr> tag is used to display table row
* The <td> tag is used to display table data
* The <th> tag is used to display table header
* The <caption> tag is used to insert captions
* The <thead> tag adds a separate header to the table
* The <tbody> tag shows the body content in a table
* The <tfooter> tag adds a footer content in a table
* By default, the table headings are bold and centered
* The colspan attribute specifies the number of columns a cell should span.
* For Example, if we want to span 2 columns we have to write <td colspan=”2”>
* The rowspan attribute specifies the number of rows a cell should span
* For Example, if we want to span 2 rows we have to

write <td rowspan=”2”>

### HTML Favicon

* A favicon is a small file containing the one or more icons which will displayed on the address bar
* The image of a favicon should be in .ico file format.
* If we have to add a favicon to our web page, we have to link the icon with the following syntax <link rel=”shortcut icon” href=”favicon.ico” type=”image/icon”>
* Favicon has a standard 16\*16 dimensions
* Favicons have different sizes according to different devices (laptop, mobile, tablet etc)

### HTML Meta Tags

* The Meta tags <meta> lets us to specify metadata (additional information)
* It specifies page description, keywords, copyright, language, author of the documents, etc.
* There are basically four types of attributes in meta tags

1. name - It indicated the name property. Includes keywords, description, author, revised, generator etc.
2. content - it specifies the property’s value
3. scheme - It specifies a scheme to interpret the property’s value
4. http-equiv - it is used for http response message headers. For example, http-equiv can be used to refresh the page or to set a cookie. Values include content-type, expires, refresh and set-cookie.

### HTML Forms

* Forms are used to collect data from the user
* The <form> element is used to create a form for user input
* It provides facilities to input text, number, values, email, password, and control fields such as checkboxes, radio buttons, submit buttons, etc.
* There are different types of form elements to collect data:

1. <label> - It defines the label for the element
2. <input> - used to get input data in form (text, password, email, etc)
3. <button> - used to add a clickable button
4. <select> - used to create a drop-down list
5. <textarea> - it lets the user to enter any type of text
6. <fieldset> - used to draw a border around the form
7. <legend> - used to add caption for fieldset

### HTML SVG Icon

* SVG refers to Scalable Vector Graphics
* SVG is a format for describing two-dimensional vector graphics, which can be scaled and resized without losing quality or clarity.
* It can be used under the <svg> tag
* SVG basically used to create symbols and logos in our web page
* For Example, if we have to add a rectangle to our web page, we can simply write <svg width=”” height=””> <rect width=”” height=”” style=””/> </svg>
* We can also add color and border color of the symbol by using the stroke=”” (for border color) and fill=”” (to fill color inside the symbol)

### How Stroke and Fill Works

* The stroke is used to add color to the border of the symbol or icon
* The fill is used to add or fill any color inside the symbol or icon
* Both Stroke and Fill are used inside the <style> tag of the <svg> element

### HTML Directions

* The <dir> attribute is used to set the direction of the text on our web page
* There are basically three values of <dir> tag

1. ltr - for left-to-right text
2. rtl - for right-to-left text
3. auto - it auto adjusts the text direction