# **Training Summary**

**HTML – 27 May 2024**

* **Introduction:**

1. HTML stands for Hyper Text Markup Language.
2. It is used to create webpages.
3. It is the foundation of web development and essential for structuring content on web.

* **Structure of html document:**

<!DOCTYPE html>  
<html>  
<head>  
<title>Page Title</title>  
</head>  
<body>  
  
<h1>My First Heading</h1>  
<p>My first paragraph. </p>  
  
</body>  
</html>

EXPLANATION:

1. The document starts with a <!DOCTYPE html> declaration, which specifies the version of HTML being used.
2. The HTML content is enclosed within <html> tags.
3. The <head> section includes metadata, links to CSS files, and other head content.
4. The <body> section contains visible content of the webpage.

* **How to create a html file without any code editor?**

We can create a simple html file using any text editor such as notepad on windows. Just open text editor write any html code and save the file with .html extension.

* **Diff between text file and html file.**

|  |  |
| --- | --- |
| Text file | Html file |
| * Text file contains plain text without any formatting or structure. * It does not display any content as a webpage. * In simple words it is just a container for a plain text. | * Contains html code that defines the structure and layout of a webpage with a .html extension. * Can include multimedia elements, links and interactive elements. |

* **Difference between html and xhtml?**

|  |  |
| --- | --- |
| Html | Xhtml |
| * HTML stands for Hypertext Markup Language. * It does not mind if you forget to close tags or do not follow strict rules. * Doctype is not necessary to write at the top. * It does not care if we use uppercase or lowercase letters for tags and attributes. * It understands mistakes and tries to make sense of them. | * XHTML stands for Extensible Hypertext Markup Language. * It wants everything neat and tidy with proper indentation and all tags closed properly. * Doctype is very necessary to write at the top of the file. * All tags and attributes must be written in lowercase. * Tiny mistake can make it unhappy and refuse to understand code. |

* **How to connect with javascript file and css file in html file?**

1. To connect js file to an html document, we need to use <script> tag with src attribute pointing to location of js file. We can add in head section or at end of body but adding at end of body is preferred. Because the html content will load first, that improves speed of page loading for users.
2. To connect css file to an html document, we need to use <link> tag at head section with rel attribute set to stylesheet and href attribute pointing to location of the css file.
3. **What are the types of markup languages?**
4. HTML: Hypertext Markup Language, used for creating web pages.
5. KML**:** Key whole Markup Language, used for expressing geographic annotations and visuals in 3D like google maps.
6. [MathML](https://www.geeksforgeeks.org/html5-mathml-introduction/)**:** Mathematical Markup Language, it allows mathematical content to be displayed and process on webpages.
7. [SGML](https://www.geeksforgeeks.org/what-is-sgml/)**:** Standard Generalized Markup Language, used how to specify the generalized markup languages for all documents.
8. [XHTML](https://www.geeksforgeeks.org/xhtml-introduction/)**:** extensible Hypertext Markup Language, it is a variant of html adhering xml syntax rules.
9. [XML](https://www.geeksforgeeks.org/xml-basics/)**:** extensible Markup Language, used for structuring and storing the data.

* **HTML Tags and Elements:**

1. Html uses tags enclosed in angle brackets to define elements. These elements structure the web content.

They are:

1. Headings:

Html provides six levels of headings from <h1> to <h6> being the highest level.

1. <p>, <br>,<hr>:

<p>Defines a paragraph, <br> Inserts a line break, <hr> Inserts a horizontal line.

1. Links:

<a> Defines a hyper link.

Href- is the attribute used in anchor tag indicates link destination.

1. Image (self-closing tag):

<img> embeds an image.

Src(source)-used to specify path of image.

Alt (alternate text)-to describe about image.

Note: width,height must be mentioned.

1. Lists:

<ul> unorder list, <ol> ordered list, <li> list of items.

1. Tables:

<table> define table, <tr> define a table row, <td> define table cell,<th> define table header.

1. Forms:

Collects user input.

<form> define form, <input> define input field, <label> define label for input field.

For attribute in the label tag should be equal to the id attribute of <input> element to bind them together.

<textarea> define multi line input field, <button> clickable button.

1. Semantic Elements:

Clearly defines about its content like <header>, <nav>,<section>,<footer>,<forms>,<table> etc..

1. Multimedia Elements:

<audio> embeds audio content.

<video> embeds video content.

1. Inline vs block elements:

Inline: do not start at new line,takes necessary width.example <span>used to clr a part of text,<a>,<img> etc…

Block: starts new line and take full width available.example <div>, <p>, <h1>.

* **Attributes:**

1. Attributes provide additional information about html elements they are always included in opening tag and usually come in name/value pairs.
2. Global attributes: id, class, style, tittle. used on any html element.
3. Specific attributes: href, target, rel. used on specific html elements.
4. Form attributes: type-type of input, name-name of input element, value-default value of input field, placeholder-hint that describes the expected value in input field, required-specifies that input field must be filled before submitting.
5. Event attributes: onclick-triggers a script when element is clicked, onmouseover-triggers a script when mouse pointer is over the element.

* **Formatting Elements**

Designed to display special types of text.

1. <b> </b>

text is displayed in bold without any extra importance.

1. <strong> </strong>

text is displayed with strong importance.

1. <i> </i>

text is displayed in Italic.

1. <em> </em>

emphasis, content is displayed in italic.

1. <small> </small>

text is displayed in smaller size.

* **What are the input types?**

A single line text input field were designed to enter user details.

1. <input type ="text">

Where u enter any kind of text like names.

1. <input type="password">

User can enter only the password.

1. <input type="email">

User can enter email address.

1. <input type="number">

User can enter numeric values, often with optional min and max attributes.

1. <input type="date">

User can enter date, with a date picker.

1. <input type="time" >

User can enter time, with a time picker.

1. <input type="tel">

Input type to enter the telephone number.

1. <input type="url">

User can enter the url.

1. <input type="checkbox">

Kind of toggler checkbox input for selecting one or more options.

1. <input type="radio">

Kind of a button where user can select one option from a group.

1. <input type="button">

It is programmed to perform an action when clicked.

1. <input type="submit">

A button that submits the data to server.

* **Padding:**

Padding is the space between the content of an element and its border. Specified using CSS properties.

* **Spacing:**

Spacing refers to amount of space between elements and webpages. It can be achieved using margins, padding or combination of both.

* **Colspan:**

To make a cell span over multiple columns.

* **Rowspan:**

To make a cell span over multiple rows.

* **Comment:**

Un used code are description of code can be written in the comments section /\* \*/

**CSS-May 28, 2024:**

* **Introduction:**

1. Full form of css is Cascading Style Sheet.

2. It is the language used for styling the html document.

3. These are responsible for presentation of document.

* **CSS Syntax:**

CSS syntax consist of a selector and a declaration block.

h1{

color: blue; } declaration block

}

EXPLANATION:

h1- selector, points to the html element you want to style.

Declaration block- block contains one or mode declarations separated by semicolons.

Each declaration includes a css property name and a value separated by colon.

* **How to add CSS to an HTML document?**

There are three ways to add CSS styling to a html document.

Inline Style: Inline style are added directly to html elements using the **style** attribute, Mainly used for small changes and overrides.

Internal Style: Internal style can be added in the html doc itself using style tag within the head section. Mainly used for styling a single page.

External Style: External style ,this can be done in other file and can be defined with a link in the head section of html document.

* **How CSS3 is different from css?**

Css3 is the latest version of css where we can make webpages more attractive and can be created in less time. And it responsive design, we can perform all kinds of animations and transformation like 3D when compared with css.

* **How to include a css file into main file?**

We will use @import rule to include other css file into main file.

* **Selector:**

Selector used to select the html elements you want to style.

Class Selector: Target elements with a specific class attribute. (example: . className)

Element Selector: Target all instances of a specific HTML element. (example: p)

ID Selector: Target a single element with a specific ID attribute (example: #idName)

Universal Selector: Selects all the HTML elements on the page.(example: \*)

Attribute Selector: Target elements based on their attributes(example: input[type="text"]

Pseudo-class Selector: Targets elements in a specific state (example: a:hover for links on hover)

Pseudo-element Selector: Target a specific part of a element (example: ::before to insert content before an element)

* **Properties and Values:**

Used to style the specific html elements.

1. Background: add background for a page, text etc…

Properties: color, image, repeat-img will not repeat, attachment-used to fix the img where, image will not scroll with the page, position.

1. Box Model: it’s a container that contains multiple properties used for designing layout of webpage.

Properties: width, height, padding, border, margin.

1. Text:font-family,font-size,font-weight,text-align,line-height,text-shadow,word spacing, letter spacing.
2. Margin: used to create space around elements outside of a defined border.Like margin-top,left,right,bottom-cm,px,pt for length-% width-auto calculated by browser.
3. Display Properties: specifies the display behavior of an element(type of rendering box).
4. Inline : displays an element as a inline element

Text 2

Text 1

1. Block: display as element as a block element

Text 1

Text 2

1. Grid: display an element as a block-level.2D layout it can handle row and columns simultaneously.

Text 1

Text 2

1. Flex: display an element as a block-level.we can mention flex-diection,flex-wrap,flex-flow.1D and deals with either rows or colums.

Text 1 Text 2

1. None: hide the element.
2. Position property: specifies the type of positioning method used for an element.
3. Static: Elements render in order as they appear in the document.
4. Absolute: The element is positioned relative to its first position.
5. Fixed: element is positioned relative to browser window.
6. Relative: element is positioned relative to its normal position.
7. Float: float an element to left or right.
8. Clear: control the behavior of floating elements
9. Border: set the style, color, width of the border.
10. Outline: we can draw a line around elements.
11. Transition: this property allows u to select the css properties which want to animate during transition.
12. @keyframes: used to animate the page at the respective stages of its whole duration.
13. @media query used to allow web pages to adapt their layout and appearance to different devices such as desktop, tab, and smartphone.

@media media-type (condition: value) {

}

Media-type: type of screen, condition: screen width, orientation-styling based on device orientation portrait or landscape, resolution- styling based on screen pixel density.

1. Justify-content: used by the flex to align the items.

Flex-start:

Items packed towards the start of the container (left – row) (top - column)

Flex-end:

Items are packed towards end of the container.

Center:

Items are centered along the main axis.

Space-between:

Items are evenly distributed in the line.

Space-around:

Items are divided with same space around them.

Space-evenly:

Items are divided with equal space around them including edges.

* **Preprocessors:**

These are useful to write the code more efficiently. They add extra features to css making it easier to write and manage the styles. Like sass, less and stylus.

Uses:

1. Variable:Stores the values in variables and reuse them like clrs, fonts.($primary-color: blue)
2. Nesting: Organize css rules in a hierarchy, like html.
3. Mixins: Reuse chunks of code.(@mixin rounded corner{ border-radius:3px}) @include rounded corner.
4. Calculations can be done directly in css.

* To use preprocessor, we need to install sass tool ,need to write code using variables, nesting, mixins, then we need convert sass input.scss output.css
* If we want to link style sheet we need to use output.css in href.

JAVASCRIPT-29/5

EMBER JS-30/5

API-31/5