HTML & CSS for Web Development

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Introduction

Welcome!

In this session we shall cover the essentials of HTML and CSS. The goal is to provide participants with the fundamental knowledge in WEB technologies required to support them in their web application development journey.

We begin with HTML, the standard language of the web; and then proceed through to CSS, the standard web presentational tool.

Introduction To HTML

HTML is the standard and the most widely used language for publishing web pages.

- HTML stands for Hypertext Markup Language
- Hypertext: Hypertext is a text with references to other text or material. It allows extensive cross-referencing between related sections of text and associated graphic material
- Markup Language: This is a system which specifies codes for formatting both the layout and style within a text file in a way that is syntactically distinguishable from the text. The code used to define elements within the document are called Tags.
- HTML documents are also called web pages
- HTML documents are read and displayed by Browsers

HTML Tags

- HTML tags are keywords surrounded by angle brackets <...>
- They are the main instructional codes
- They usually come in pairs with an opening tag and a closing tag
- Example: <tag_name> </tag_name> or <tag_name />

Types of HTML Tags

There are two types, namely:

- Container Tags: e.g. < html > ... < /html >
- Non Container (Empty) Tags: $\langle br \rangle$, $\langle img \rangle$, $\langle input \rangle$

HTML Elements

An HTML element is everything from the start/opening tag to the end/closing tag. Specifically, this includes:

- The opening and closing tags
- The Content in the case of container tags
- Required/Optional Attributes

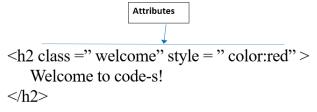
E.g.: < img src = "logo.jpg" width = "200" height = "200" > < p >Never thought programming could be made so simple < /p >

Block and Inline Elements

- Block Elements: They are displayed vertically. E.g. ..., < div > ... < /div >
- Inline Elements: They are displayed horizontally.
 E.g. < a href = "#" > Link < /a >, < span > .. < /span >

HTML Attributes

- Attributes are features of HTML tags which provide additional information about the HTML tags. They serve to extend the capabilities of the tags
- They are always defined in the opening tag (in the case of container tags) and appear in the body of empty tags.
- They come in name value pairs
- Some are tag specific
- These four attributes, style, title, class and id are common to most HTML tags



HTML Document Structure

Every basic web page or HTML document must define the following:

- Document Type Declaration
- HTML container
- Head Section
- Body Section

Below is an illustration

Rules and Conventions

HTML is a loosely typed and very much forgiving language. It does not implement any strict and fast rules. However, the following are worthy of note.

- HTML files are saved with the extension .html
- HTML is not case sensitive
- HTML does not recognize white space
- Though HTML tags and attributes are case insensitive, it is often recommended that they are typed in lowercase letters.
- It is also recommended to use lowercase attribute names and attribute values
- Empty tags need not be closed
- HTML elements/tags can be nested (i.e. Placing one tag inside another tag)

Comments In HTML

A comment is any part of the HTML document which is not interpreted by the browser. It is usually inserted in the HTML code to make it more readable and understandable. Comments are ignored by the browser and are not displayed.

Comments are declared like this:

<!- - commented text - ->

The words **commented text** will not appear in the browser window when the webpage is loaded.

COMMON HTML TAGS

The following tags are basic and you'll find yourself using most of them frequently

Name	Structure	Use
Headers	<hi><hi></hi></hi>	Define document headings
	where $i = 1, 2,, 6$	
Paragraph		Defines a paragraph
Line	< $br >$ or $<$ br $/>$	Inserts a new line
Break		
Pre-	<pre></pre>	Displays text exactly as shown
formatted		in HTML source file
Center	<center><center></center></center>	Centers content
Horizontal	<hr $>$ or $<$ hr $/>$	Inserts a horizontal line across
Rule		page to indicate break between
		sections

Name	Structure	Use
Bold		Makes text bold face
Underline	<u></u>	Underlines text
Italic	<i></i>	Applies italic text property
Emphasis		Usually displays text in italics
Anchor	<a href="link</th><th>For creating hyperlinks</th></tr><tr><th></th><th>path">	
Image	<img src="image</th><th>Inserts images</th></tr><tr><th></th><th>url"/>	
Division	<div></div>	Contains block content
Span	<pre></pre>	Contains in-line content
List		Used with either the order or
		numbered list tag to create list
		of items

Name	Structure	Use
Table		Used with other tags to create
		tables
Table head		Creates table headings
Table data		Creates table cells
Form	< form>	Creates user forms
Input	< input>	Creates form controls

Name	Structure	Use
Ordered	 	Surrounds the list tag to create
List		numbered list
Unordered		Surrounds the list tag to create
List		bulleted list
Definition	<dt></dt>	Specifies the term to be defined
Term		
Definition	<dd></dd>	Specifies the actual definition
Def. List	<dl></dl>	Used around <dt></dt>
		and $< dd > < /dd > to create$
		a list of definitions
Table		Used with other tags to create
		tables
Table		Creates table headings
head		
Table		Creates table cells
data		

Creating Links

Absolute Referencing

Links to external files/pages

E.g. Click Here

Relative Referencing

Links to files/pages within your project

E.g. Register

Embedded Referencing

Creates links within the same page or document

E.g. **Step 1:** Name the target/section of the page you want to link to

Step 2: Next create the hyperlink/clicking hot spot

 click here to go to SECTION

Inserting Images

Inside the **src** attribute, specify the full path to the image resource including the image name with the extension. Common extensions are jpeg(.jpg), .png, and .gif

- When image is in the same location as the html file< img src="background.jpg" width="1000" height="600" >
- When image is in a folder one level above the html file < img src="images/background.jpg" width="1000" height="600" >

Creating Lists

Ordered lists

```
<ol>
<li>Apples</li>
<li>Mangoes</li>
</ol>
```

Unordered lists

```
    Books
    Pencils
    Erasers
```

Definition lists

Reading Assignment

Creating Tables

Creating Forms

Activity 1

Let's practice!

Create an HTML document or a web page with the following instructions:

- Publish a few description about yourself including a 220 by 200 sized photograph.
- Create a list of schools you have attended
- Create a list of your favourite subjects or courses over the years of your education
- Create a definition list of your favourite five words
- Mark out the individual sections of the web page with appropriate headings
- Again, use appropriate tags to make the individual sections of your web page stand out clearly from each other

Activity 1

Continuation

- The content of your web page should be enough to make the page scrollable in the browser. Add additional content of your choice if necessary
- Create embedded links to help visitors quickly access the top and bottom sections of your web page. You can consider the labels TOP and BOTTOM as the clicking hot spots.