Friday, September 13, 2024

HTML

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1. **HTML Document Structure**

   - `<!DOCTYPE html>` : Declares the document type and HTML version. For HTML5, it's `<!DOCTYPE html>`.

   - `<html>` : The root element that contains all other HTML elements.

   - `<head>` : Contains meta-information about the document, such as title, links to stylesheets, and scripts.

   - `<body>` : Contains the content of the document, such as text, images, and links.

2. **Elements and Tags**

   - Elements : Fundamental building blocks of HTML. An element typically consists of an opening tag, content, and a closing tag.

For example, `<p>This is a paragraph.</p>`.

   - Tags : Define elements in the HTML. Tags are enclosed in angle brackets (e.g., `<h1>`, `<div>`).

Tags come in pairs: opening (`<tag>`) and closing (`</tag>`).

3. **Attributes**

   - Provide additional information about elements. Attributes are placed in the opening tag and come in name-value pairs.

For example,

`<img src="image.jpg" alt="Description">`. Common attributes include `id`, `class`, `src`, and `href`.

4. **Headings**

   - Define the headings of your document.
   - HTML provides six levels of headings, from `<h1>` (largest) to `<h6>` (smallest). Example: `<h1>Main Heading</h1>`.

5. **Paragraphs and Text Formatting**

   - `<p>` : Defines a paragraph.

   - Text Formatting Tags : Tags like `<b>` (bold), `<i>` (italic), `<u>` (underline), and `<strong>` (strong importance) are used to style text.

6. **Lists**

   - Ordered Lists (`<ol>`) : Numbered lists. Each item is defined with `<li>`.

   - Unordered Lists (`<ul>`) : Bulleted lists. Each item is also defined with `<li>`.

7. **Links and Anchors**

   - `<a>` : Defines hyperlinks.

The `href` attribute specifies the URL.

Example: `<a href="https://www.example.com">Visit Example</a>`.

8. **Images**

   - `<img>` : Embeds images. The `src` attribute specifies the image source, and `alt` provides alternative text.

Example: `<img src="image.jpg" alt="Description">`.

9. **Tables**

   - `<table>` : Creates a table.
   - `<tr>` : Defines a table row.
   - `<td>` : Defines a table data cell.

- `<th>` : Defines a table header cell.

10. **Forms**

   - `<form>` : Collects user input. It can contain elements like text fields, checkboxes, radio buttons, and submit buttons.
   - `<input>` : Defines an input control.
   - `<label>` : Provides a label for input elements.
   - `<textarea>` : Defines a multiline text input control.
   - `<button>` : Defines a clickable button.

11. **Semantic Elements**

   - Provide meaning to the content. Examples include `<header>`, `<footer>`, `<article>`, `<section>`, and `<nav>`.

These elements help in structuring the content meaningfully.

12. **Media Elements**

   - `<audio>` and `<video>` : Embed audio and video files. They can include attributes like `controls`, `autoplay`, and `loop`.

13. **IFrames**

   - `<iframe>` : Embeds another HTML document within the current page. Example: `<iframe src="https://www.example.com"></iframe>`.

14. **Scripts**

   - `<script>` : Defines client-side JavaScript. It can be placed in the `<head>` or `<body>` and can include JavaScript directly or via a `src` attribute to link external scripts.

15. **Styles**

   - `<style>` : Embeds CSS styles directly within the HTML document.

For external styles, use the `<link>` tag in the `<head>`.

Example: `<link rel="stylesheet" href="styles.css">`.

16. **Meta Information**

   - `<meta>` : Provides metadata such as character set, viewport settings, and author information. Example: `<meta charset="UTF-8">`.

These concepts form the foundation of HTML and web development. They help structure content, create interactive features, and ensure that web pages are well-organized and accessible.