HTML

1. Introduction to HTML

What is HTML? (HyperText Markup Language)

How HTML works (structure of a webpage)

The relationship between HTML, CSS, and JavaScript.

* Examples:

html

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<!DOCTYPE html>

<html>

<head>

<title>My First HTML Page</title>

</head>

<body>

<h1>Hello, World!</h1>

<p>This is a simple HTML page.</p>

</body>

</html>

* Exercise: Create a basic webpage with a heading and a paragraph.

2. HTML Structure

* Objective: Teach the anatomy of an HTML document.
* Topics:
  + The <!DOCTYPE> declaration.
  + Basic HTML tags: <html>, <head>, <body>.
  + Metadata tags: <title>, <meta>.
* Examples:

html

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<!DOCTYPE html>

<html>

<head>

<title>About Me</title>

<meta charset="UTF-8">

</head>

<body>

<h1>Welcome to My Page</h1>

<p>This page is all about me.</p>

</body>

</html>

* Exercise: Create an HTML document with a title and metadata description.

3. HTML Tags and Elements

* Objective: Explore common HTML tags.
* Topics:
  + Headings: <h1> to <h6>
  + Paragraphs: <p>
  + Line breaks: <br>
  + Bold and Italics: <b>, <strong>, <i>, <em>
  + Lists:
    - Ordered: <ol>, <li>
    - Unordered: <ul>, <li>
* Examples:

html

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<h2>Fruits I Like:</h2>

<ul>

<li>Apples</li>

<li>Bananas</li>

<li>Oranges</li>

</ul>

<h2>Steps to Make Tea:</h2>

<ol>

<li>Boil water</li>

<li>Add tea leaves</li>

<li>Pour into cup</li>

</ol>

* Exercise: Create a page with a heading, a paragraph, and both types of lists.

4. Working with Links and Images

* Objective: Introduce interactivity and multimedia in HTML.
* Topics:
  + Links: <a href="URL">
  + Images: <img src="URL" alt="description">
  + Attributes: href, src, alt, target.
* Examples:

html

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<p>Visit <a href="https://www.example.com" target="\_blank">Example Website</a>.</p>

<img src="https://via.placeholder.com/150" alt="Placeholder Image">

* Exercise: Create a page with a link to your favorite website and an image.

5. HTML Forms

* Objective: Learn to gather user input.
* Topics:
  + Form tags: <form>, <input>, <textarea>, <button>
  + Form attributes: method, action
  + Input types: text, email, password, submit, radio, checkbox.
* Examples:

html

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<form action="/submit" method="POST">

<label for="name">Name:</label>

<input type="text" id="name" name="name"><br><br>

<label for="email">Email:</label>

<input type="email" id="email" name="email"><br><br>

<input type="submit" value="Submit">

</form>

* Exercise: Create a form that collects name, email, and a message from the user.

6. Semantic HTML

* Objective: Understand the importance of meaningful HTML tags.
* Topics:
  + Semantic tags: <header>, <nav>, <main>, <section>, <article>, <footer>.
  + Accessibility benefits.
* Examples:

html

Copy code

<header>

<h1>My Blog</h1>

<nav>

<a href="#home">Home</a>

<a href="#about">About</a>

<a href="#contact">Contact</a>

</nav>

</header>

<main>

<section>

<h2>Latest Article</h2>

<p>This is my latest article.</p>

</section>

</main>

<footer>

<p>&copy; 2024 My Blog</p>

</footer>

* Exercise: Structure a simple webpage with a header, navigation bar, main content, and footer.

7. Tables

* Objective: Learn how to display tabular data.
* Topics:
  + Table tags: <table>, <tr>, <td>, <th>.
  + Attributes: colspan, rowspan, border.
* Examples:

html

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<table border="1">

<tr>

<th>Name</th>

<th>Age</th>

</tr>

<tr>

<td>John</td>

<td>25</td>

</tr>

<tr>

<td>Jane</td>

<td>28</td>

</tr>

</table>

* Exercise: Create a table displaying your team’s names and roles.

8. HTML Media

* Objective: Embed multimedia elements.
* Topics:
  + Audio: <audio>
  + Video: <video>
  + Attributes: controls, autoplay, loop.
* Examples:

html

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<audio controls>

<source src="audio.mp3" type="audio/mpeg">

Your browser does not support the audio element.

</audio>

<video controls width="320">

<source src="video.mp4" type="video/mp4">

Your browser does not support the video tag.

</video>

* Exercise: Embed an audio clip and a video on a webpage.

9. HTML Best Practices

* Objective: Encourage good habits.
* Topics:
  + Proper nesting of tags.
  + Use of comments: <!-- Comment -->
  + Indentation and readability.
  + Validating HTML with W3C Validator.
* Examples:

html

Copy code

<!-- This is a comment -->

<div>

<p>Properly nested elements!</p>

</div>

* Exercise: Review and fix a poorly structured HTML example.

10. HTML Project

* Objective: Apply everything learned.
* Task: Build a small, functional webpage (e.g., a personal portfolio, a product landing page, or a team bio page).
* Requirements:
  + Use headings, paragraphs, lists, images, links, and forms.
  + Include semantic tags and a navigation bar.