LAB REPORT-01

Course Title   **:** Web Engineering Lab

Course Code   **:** CSE416

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Lab Title: Exploring 30 HTML Tags and Their Applications

Objective:

To learn and demonstrate the use of 30 essential HTML tags by writing code snippets, identifying their attributes, and showcasing the output of each tag or group of tags within a small integrated website layout.

Tags, Descriptions, Code Snippets, and Outcomes-----

Below is the detailed list of 30 HTML tags, including their purpose, attributes, example code, and the observed output.

<html>

Description: Defines the root of an HTML document.

Attributes: lang

Code Example:

```
<html lang="en">
```

Outcome: Wraps the entire HTML content.

<head>

Description: Contains meta-information about the document.

Code Example:

```
<head>
 <title>My HTML Tag Lab</title>
</head>
```

Outcome: Does not display content directly on the page.

<title>

Description: Defines the document title shown in the browser tab.

Code Example:

```
<title>HTML Lab Report</title>
```

Outcome: Displays "HTML Lab Report" in the browser tab.

<meta>

Description: Defines metadata.

Attributes: charset, name, content

Code Example:

```
<meta charset="UTF-8">
```

Outcome: Ensures proper character encoding.

<body>

Description: Defines the document's body containing visible content.

Code Example:

```
<body>
 ...
</body>
```

Outcome: Holds the structure and visible elements of the website.

<header>

Description: Defines the introductory section.

Code Example:

```
<header>
 <h1>Welcome to My Lab Website</h1>
</header>
```

Outcome: Adds a header with a headline.

<nav>

Description: Defines navigation links.

Code Example:

```
<nav>
 <a href="#about">About</a>
 <a href="#contact">Contact</a>
</nav>
```

Outcome: Displays navigation links horizontally.

<main>

Description: Defines the main content of the document.

Code Example:

```
<main>
 <p>Main content goes here.</p>
</main>
```

Outcome: Separates the central content.

<section>

Description: Defines a section in the document.

Code Example:

```
<section id="about">
 <h2>About Me</h2>
</section>
```

Outcome: Helps organize content into meaningful sections.

<article>

Description: Defines independent content.

Code Example:

```
<article>
 <h3>My Blog</h3>
 <p>This is an article block.</p>
</article>
```

Outcome: Suitable for blog posts or news feeds.

<aside>

Description: Defines content aside from the main content.

Code Example:

```
<aside>
  <p>Related links go here.</p>
</aside>
```

Outcome: Adds complementary info like sidebars.

<footer>

Description: Defines the footer section.

Code Example:

```
<footer>
  <p>&copy; 2025 Nasimul Elahi</p>
</footer>
```

Outcome: Marks the page end.

<h1> to <h6>

Description: Define headings.

Code Example:

```
<h1>Heading 1</h1>
<h2>Heading 2</h2>
...
<h6>Heading 6</h6>
```

Outcome: Hierarchical headings for content structure.

<p>

Description: Defines a paragraph.

Code Example:

```
<p>This is a paragraph of text.</p>
```

Outcome: Creates readable content blocks.

<a>

Description: Defines a hyperlink.

Attributes: href, target

Code Example:

```
<a href="https://www.google.com" target="_blank">Visit
Google</a>
```

Outcome: Creates a clickable link.

<img>
Description: Embeds an image.

Attributes: src, alt, width, height

Code Example:

```
<img src="logo.png" alt="Logo" width="100">
```

Outcome: Displays an image.

**<ul>, <ol>, **
Description: Define lists.

Code Example:

```
<ul>
 <li>Item 1</li>
</ul>
<ol>
 <li>First</li>
</ol>
```

Outcome: Creates unordered and ordered lists.

<table>, <tr>, <th>, <td>
Description: Define tables.

Code Example:

```
<table>
 <tr><th>Name</th><th>Age</th></tr>
 <tr><td>Nasimul</td><td>23</td></tr>
</table>
```

Outcome: Displays tabular data.

<form>, <input>, <label>

Description: Define forms.

Code Example:

```
<form>
 <label for="name">Name:</label>
 <input type="text" id="name" name="name">
</form>
```

Outcome: Captures user input.

<button>

Description: Creates a clickable button.

Code Example:

```
<button>Submit</button>
```

Outcome: Adds interactivity.

**
**

Description: Inserts a line break.

Code Example:

```
Line one<br>Line two
```

Outcome: Breaks the line.

<hr>

Description: Inserts a horizontal rule.

Code Example:

```
<hr>
```

Outcome: Visually separates sections.

**, **

Description: Applies emphasis.

Code Example:

> *Important Note*

Outcome: Applies bold or italic style.

****
Description: Inline container for styling.

Code Example:

> *Red text*

Outcome: Useful for styling inline text.

<div>
Description: Generic container for layout.

Code Example:

> *<div class="container">Content Block</div>*

Outcome: Wraps content for layout control.

<iframe>
Description: Embeds another page.

Code Example:

> *<iframe src="https://example.com"></iframe>*

Outcome: Embeds external content.

<code>, <pre>
Description: Displays code snippets.

Code Example:

> *<pre><code><h1>Code Example</h1></code></pre>*

Outcome: Preserves formatting for code.

<mark>
Description: Highlights text.

Code Example:

```
<mark>Highlighted</mark>
```

Outcome: Applies a background color.

<abbr>

Description: Defines an abbreviation.

Code Example:

```
<abbr title="HyperText Markup Language">HTML</abbr>
```

Outcome: Provides a tooltip with full form.

<time>

Description: Defines a time or date.

Attributes: datetime

Code Example:

```
<time datetime="2025-05-27">May 27, 2025</time>
```

Outcome: Semantic display of dates/times.

Conclusion:

All 30 HTML tags showcased above are vital in structuring a semantic and interactive website. Using tags like <section>, <article>, and <nav> improved readability and organization. Forms and buttons allowed interaction. Display tags like <img>, <table>, and <iframe> enhanced visual elements. The site structure became clearer and more functional by combining them meaningfully.

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