HTML Structured Notes with Hands-on Practice

1. HTML Document Structure

Every HTML page starts with a basic structure. This structure helps the browser understand how to display the content.

```html
<!DOCTYPE html>
<html>
  <head>
    <title>My First Page</title>
  </head>
  <body>
    <!-- All visible content will go here -->
  </body>
</html>
```

Key Elements:

- <!DOCTYPE html>: Declares HTML5 document
- <html>: Root element
- <head>: Contains metadata, title, links
- <body>: Contains all visible content

Hands-on 1:

Create a file named index.html.

Write the basic HTML structure inside it.

Change the <title> to your name.
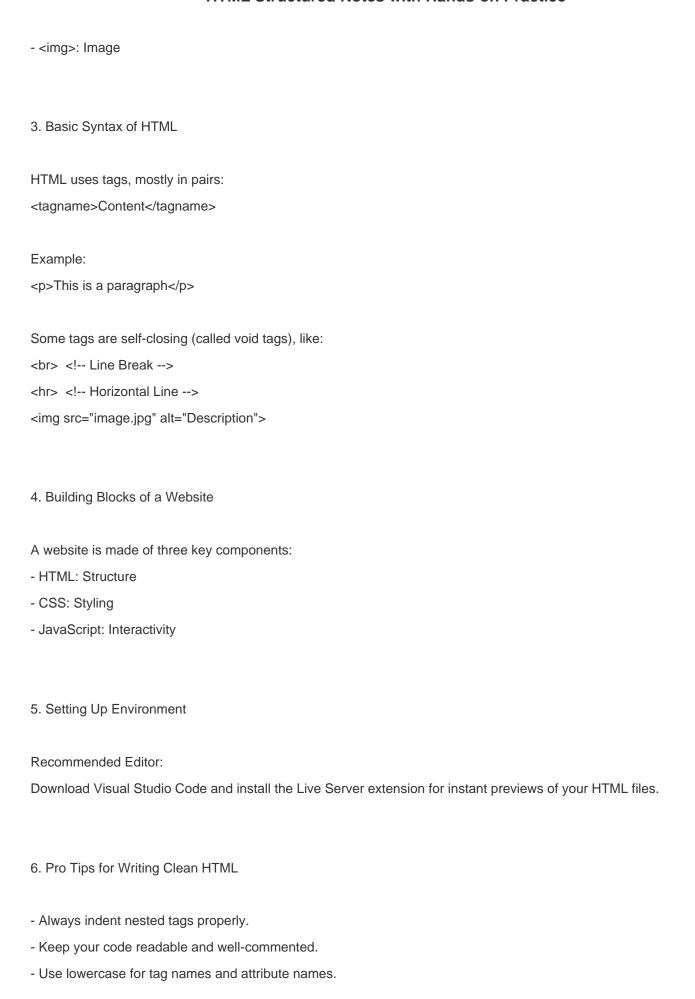
2. What is HTML?

HTML stands for HyperText Markup Language.

It is used to create the structure of a website.

HTML is not a programming language-it's a markup language, meaning it uses tags to describe content.

Examples:

- <p>: Paragraph
- <h1>: Heading

- <img>: Image

3. Basic Syntax of HTML

HTML uses tags, mostly in pairs:

<tagname>Content</tagname>

Example:

<p>This is a paragraph</p>

Some tags are self-closing (called void tags), like:

  <!-- Line Break -->

<hr> <!-- Horizontal Line -->

<img src="image.jpg" alt="Description">

4. Building Blocks of a Website

A website is made of three key components:

- HTML: Structure

- CSS: Styling

- JavaScript: Interactivity

5. Setting Up Environment

Recommended Editor:

Download Visual Studio Code and install the Live Server extension for instant previews of your HTML files.

6. Pro Tips for Writing Clean HTML

- Always indent nested tags properly.

- Keep your code readable and well-commented.

- Use lowercase for tag names and attribute names.

7. Meta Tags & Head Section

Inside the <head>, we define meta information like character set, viewport settings, etc.

```
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Your Title Here</title>
</head>
```

8. HTML Attributes

Attributes provide additional information about an element.

Example:

```
<a href="https://openai.com">Visit OpenAI</a>
<img src="myphoto.jpg" alt="My Photo" width="200">
```

Hands-on 2:

In your index.html, add:

- A heading with your name

- A paragraph introducing yourself

- A link to your LinkedIn profile using <a>

- A horizontal line using <hr>
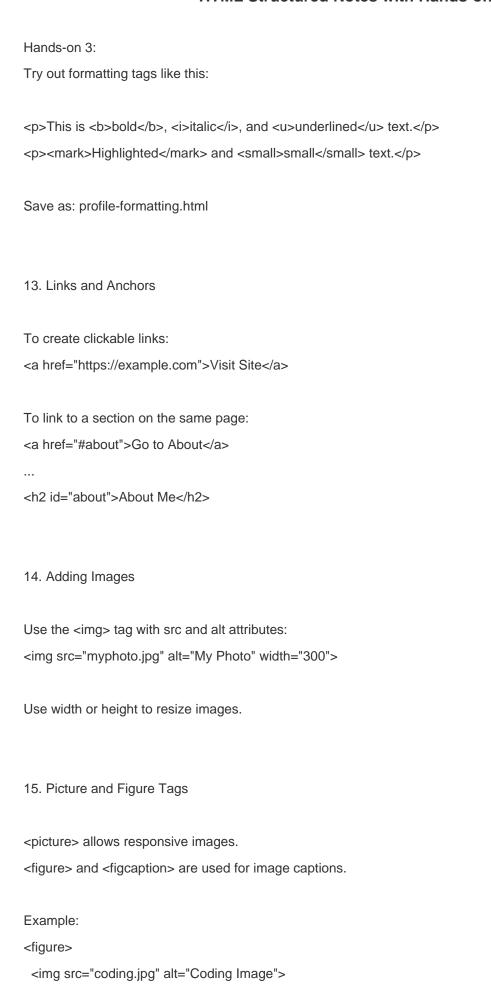
Save as: profile-basic.html

9. Headings and Paragraphs

Headings:

<h1> to <h6> are used for headings. <h1> is the largest and most important, while <h6> is the smallest.

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Paragraph:

<p>This is a simple paragraph.</p>

10. Line Breaks and Horizontal Rules

-
 creates a line break within a paragraph.

- <hr> draws a horizontal line to separate content.

Example:

<p>Line 1
Line 2
Line 3</p>

<hr>

11. Comments in HTML

Comments help you describe your code and are not visible on the webpage.

<!-- This is a comment -->

12. Text Formatting Tags

HTML provides several tags to format your text:

<b>   Bold text

<i>   Italic text

<u>   Underlined text

<strong> Important text

<em>   Emphasized text

<mark>   Highlighted text

<small> Smaller text

<del>   Deleted text

<ins>   Inserted text

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Hands-on 3:

Try out formatting tags like this:

```
<p>This is <b>bold</b>, <i>italic</i>, and <u>underlined</u> text.</p>
<p><mark>Highlighted</mark> and <small>small</small> text.</p>
```

Save as: profile-formatting.html

13. Links and Anchors

To create clickable links:

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

To link to a section on the same page:

```
<a href="#about">Go to About</a>
...
<h2 id="about">About Me</h2>
```

14. Adding Images

Use the <img> tag with src and alt attributes:

```
<img src="myphoto.jpg" alt="My Photo" width="300">
```

Use width or height to resize images.

15. Picture and Figure Tags

<picture> allows responsive images.

<figure> and <figcaption> are used for image captions.

Example:

```
<figure>
  <img src="coding.jpg" alt="Coding Image">
```

```
 <figcaption>Coding is fun!</figcaption>
</figure>
```

16. Lists in HTML

Unordered List:
```
<ul>
  <li>HTML</li>
  <li>CSS</li>
</ul>
```

Ordered List:
```
<ol>
  <li>Wake up</li>
  <li>Code</li>
</ol>
```

17. Tables in HTML

Basic structure:
```
<table border="1">
  <tr>
    <th>Name</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Shivam</td>
    <td>23</td>
  </tr>
</table>
```

Use attributes like colspan, rowspan for advanced layout.

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Mini Project - My Profile Page

Now let's combine everything into one page!

Create my-profile.html with:

- Proper HTML document structure

- Title: "My Profile"

- Heading: Your name

- Paragraph: About you

- Image: Your photo

- Anchor tag linking to your social media

- List of your hobbies or skills

- Table of your education or experience

- Formatting tags to style the content

- Internal anchor for "Top" and "Bottom"