Introduction to Web Development

Learning Outcomes

1. Build and style a static webpage using HTML and CSS.

2. Use VS Code and development tools (e.g., Live Server) to streamline coding and testing.

3. Understand foundational concepts required for advanced topics

Development Environment Setup

Code Editor

- Visual Studio Code

Extensions

- Web Starter Extension Pack

Database

- Workbench

Version Control

- Git
- GitHub

What is HTML?

- **HTML = HyperText Markup Language**

- **HTML** is the standard language for creating web pages. It acts as the **skeleton** of a webpage, defining structure and content.

- **HyperText**: Allows linking between pages
e.g :- Contact Us

- **Markup**: Uses **tags** (enclosed in < >) to organize content
e.g :- headings, paragraphs, images

Why is HTML Important?

- **Every Website Uses HTML**:
  - Browsers (Chrome, Firefox) rely on HTML to display text, images, links, and forms.
    e.g:-
    - Without **\<img\>**, you can't display images;
    - without **\<input\>**, you can't create input fields.

- **Accessibility**:
Proper HTML structure helps screen readers interpret content for visually impaired users.

How Browsers Handle HTML

1. **Fetch HTML File**: The browser requests the HTML file from the server.

2. **Parse HTML**: The browser reads the tags and builds the **DOM (Document Object Model)**, a tree-like structure.

3. **Render**: The browser displays the parsed content visually.

Example HTML code

```
<html>
 <head>
  <title>My Page</title>
 </head>
 <body>
  <h1>Welcome</h1>
 </body>
</html>
```

Basic HTML Tags

Tag	Purpose	Example
<h1>–<h6>	Headings (h1 = largest)	Main Title
<p>	Paragraph	This is a paragraph.
<a>	Hyperlink	Go to Google
<img>	Image (self-closing tag)	<img src="cat.jpg" alt="A cat">
,	Unordered list and list items	Item 1

Practical: Create Your First HTML Page

1. Create a new folder named week1_project.

2. Inside it, create a file called index.html (this is the default filename browsers look for).

3. Write the following code:
```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>My First HTML Page</title>
</head>
<body>
  <h1>Hello, World!</h1>
  <p>This is my first webpage. I'm learning HTML!</p>
  <a href="https://example.com">Visit Example.com</a>
</body>
</html>
```

4. Save the file and open it in a browser:
   Right-click the file → "Open With" → Choose Chrome/Firefox.

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What is CSS?

- CSS **(Cascading Style Sheets)** is used to style and layout web pages.

- It is used to, add colors, fonts, spacing, and positioning to HTML elements.

- *CSS in the Web Development Triad:*

  - ***HTML***: *Structure*

  - ***CSS***: *Styling*

  - ***JavaScript***: *Interactivity*

How CSS Works with HTML

- **Inline CSS**: Styles applied directly within HTML tags

e.g., <p style="color: red;">

- **Internal CSS**: Styles written inside a **<style>** tag in the **<head>** section.

- **External CSS**: Styles written in a separate **.css** file and linked to **HTML** using **<link>**.

Basic CSS Syntax

- **Selector**: Targets HTML elements

e.g., h1, .class, #id

- **Property**: Defines what to style

e.g., color, font-size, background

- **Value**: Specifies the style

e.g., red, 20px, #ffffff

Inline CSS

(CSS is written inside the HTML tag)

```
<!DOCTYPE html>

<html>

<head>

    <title>Inline CSS Example</title>

</head>

<body>

    <h1 style="color: blue; font-size: 24px;">This is Inline CSS</h1>

</body>

</html>
```

Internal CSS

(CSS is written inside a **<style>** tag within the **<head>** section)

```
<!DOCTYPE html>

<html>

<head>

  <title>Internal CSS Example</title>

  <style>

    h1 {color: red;

       font-size: 24px;}

  </style>

</head>

<body>

  <h1>This is Internal CSS</h1>

</body>

</html>
```

External CSS

(CSS is written in a separate file and linked to HTML)

Create a **CSS** file (**styles.css**):

```
h1 {
    color: green;
    font-size: 24px;
}
```

Link it in an **HTML** file:

```
<!DOCTYPE html>
<html>
<head>
    <title>External CSS Example</title>
    <link rel="stylesheet" type="text/css" href="styles.css">
</head>
<body>
    <h1>This is External CSS</h1>
</body>
</html>
```

Referring Sources

- HTML: https://www.w3schools.com/html

- CSS: https://www.w3schools.com/Css

- JavaScript: https://www.w3schools.com/js