Front End Web Development

INTRODUCTION TO HTML

Lesson1 - What is front end development?

Front-end web development is the development of the graphical user interface of a website, through the use of HTML, CSS and JavaScript, so that users can view and interact with that website.

A front-end developer uses the following basic tools;

▶ HTML – the language that gives web content structure and meaning.

▶ CSS – the language used to style web pages

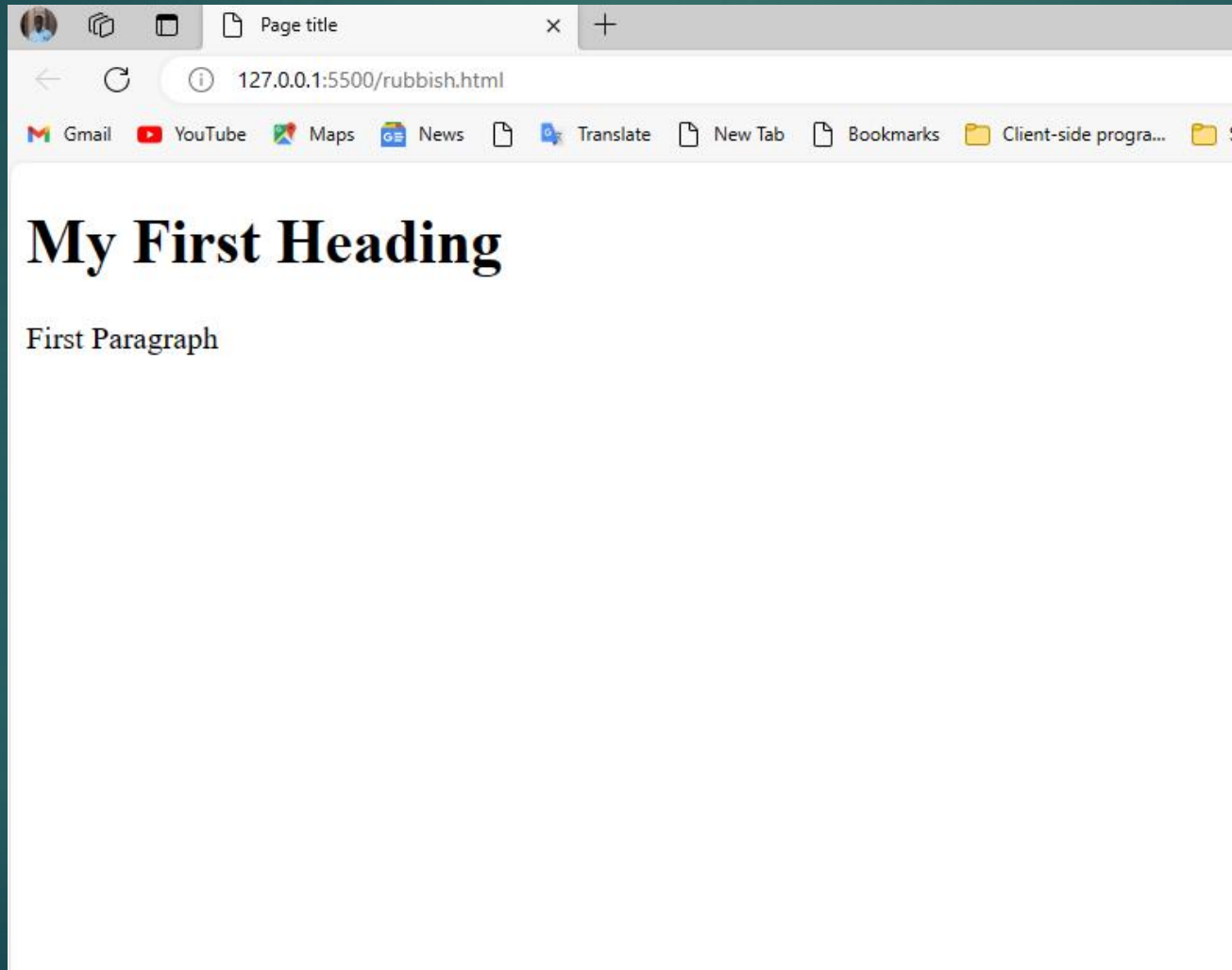▶ JavaScript – the scripting language used to create dynamic functionality on the web

Lesson2 : Introduction to HTML

- HTML meaning Hyper Text Markup Language

- HTML is a markup language used to create and define the structure of a Web pages

- HTML consist of a series of elements

- HTML elements tell the browser how to display the content

- HTML elements perform different functions. Some element are used for heading, some for paragraph, others for links and so on.

A Simple HTML Document

```
<!DOCTYPE html>
<html>
    <head>
        <title>Page title</title>
    </head>
    <body>
        <h1>My First Heading</h1>
        <p>First Paragraph</p>
    </body>
</html>
```

Lesson 3: Adding and formatting text 1- Paragraph and header tag

Text elements in HTML are used to display and format text content within web pages. Key points:

▶ `<p>` (Paragraph): Used for structuring blocks of text into paragraphs. Each `<p>` element typically represents a distinct paragraph.

▶ `<h1>` to `<h6>` (Heading): Provide headings of different levels, with `<h1>` being the most important and `<h6>` the least. Used for titles, headings, and subheadings to organize content hierarchically.

▶ `<strong>` and `<em>` (Strong and Emphasis): `<strong>` renders text in a strong emphasis, usually displayed as bold. `<em>` renders text in emphasis, usually displayed as italic.

▶ `<blockquote>` (Block Quote): Indicates that the enclosed text is a longer quotation from another source. Usually indented or styled differently from surrounding text.

▶ These text elements provide flexibility in formatting and structuring text content on web pages, enabling clear communication and effective presentation of information.

Lesson 4: Adding and formatting text 2- Other text tags

▶ **<span>**: Generic inline container for phrasing content. Used for styling or targeting specific parts of text with CSS or JavaScript.

▶ **
** (Line Break): Inserts a line break within text content, breaking to the next line without starting a new paragraph.

▶ **<hr>** (Horizontal Rule): Inserts a thematic break, typically a horizontal line, to separate content sections.

▶ **<pre>** (Preformatted): Preserves whitespace and line breaks within text content, displaying it exactly as written in the HTML source code.

Lesson 5 – Creating Lists

The list tag in HTML includes <ul> (unordered list) and <ol> (ordered list).

▶ creates a list without specific order, using <li> for each item.

▶ creates a numbered or lettered list, also using <li> for each item.

Example

     Apple

     Mango

     Orange

Lesson 2 - Inserting links : anchor tag <a>

The anchor tag, <a>, is a fundamental element in HTML used to create hyperlinks, allowing users to navigate between web pages or to specific sections within the same page. Its primary attribute, href, specifies the URL destination the link points to. Additionally, the anchor tag can include optional attributes like target to define how the linked resource should be displayed (e.g., in a new browser tab or window) and title to provide additional information about the link when hovered over. When creating accessible websites, it's essential to include descriptive text within the anchor tag to inform users about the purpose of the link.

Lesson 6: Adding images: <img> tag

The image tag, <img>, is an essential element in HTML used to embed images into web pages. It does not have a closing tag hence, it is called a self closing element. The src attribute specifies the URL or file path of the image to be displayed. The alt attribute is crucial for accessibility, providing a textual description of the image for users who may not be able to see it.. Including descriptive and meaningful alt text enhances the usability and accessibility of web pages for all users.

Lesson 7 - Creating tables

The <table> tag is a fundamental element in HTML used to create tables, which allow you to organize and display data in rows and columns on a web page.

Rows - Within the <table> element, you define rows using the <tr> (table row) tag.

Columns - inside each <tr> element, you define individual cells using either the <td> (table data) tag for regular cells or the <th> (table header) tag for header cells.

Attributes - The <table> tag can include attributes to specify additional properties of the table, such as border, cellpadding, cellspacing, and width.

Attributes like border control the appearance of the table border, cellpadding sets the space between the cell content and the cell border, cellspacing sets the space between cells, and width sets the width of the table.

header) tag for header cells.

Lesson 8– Designing forms 1: form tag

The \<form\> tag in HTML is used to create interactive forms on web pages. Key points:

- It serves as a container for form elements like input fields, buttons, etc.

- Attributes like action and method define where and how form data is sent.

- Input elements collect user data, and submit buttons trigger form submission.

- HTML5 offers built-in validation features for form fields.

Lesson 9: Designing Form 2 - input tag

The <input> tag is a versatile element in HTML used to create various types of input fields in forms. Key points:

▶ It allows users to enter data interactively on web pages.

▶ Attributes like type, name, and value define the input's behavior, name, and initial value, respectively.

▶ Common types include text, password, email, number, checkbox, radio, and submit.

▶ Additional attributes like placeholder, required, min, max, and pattern provide functionality and validation.

Lesson 10: Designing Form 3 - textarea tag

The <textarea> tag in HTML is used to create a multiline text input field, allowing users to input longer pieces of text, such as comments or messages.

▶ It provides a larger area for text input compared to a single-line <input> field.

▶ Attributes like rows and cols can be used to define the size of the textarea in terms of rows and columns.

▶ The content between the opening and closing <textarea> tags represents the initial value of the textarea.

▶ The value entered by the user is submitted along with the form data, just like any other form input.

Lesson 11: Designing Form 4 - button tag

The <button> tag in HTML is used to create a clickable button on web pages. Key points:

▶ It allows users to perform actions or submit forms with a single click.

▶ The type attribute determines the behavior of the button, such as "submit", "reset", or "button".

▶ Inside the <button> element, you can include text or other HTML elements.

▶ It is more versatile than the <input> tag's button type as it can contain other elements, like images or icons.

Lesson 12: Multimedia Embedding- audio tag

The <audio> tag in HTML is used to embed audio content, such as music or sound effects, into a web page. Key points:

▶ It allows you to play audio files directly in the browser without requiring external plugins.

▶ The src attribute specifies the URL of the audio file to be played.

▶ Additional attributes like controls, autoplay, loop, and preload control the behavior and appearance of the audio player.

▶ The <audio> tag supports various audio formats, including MP3, WAV, and OGG, ensuring compatibility across different browsers.

Lesson 13: Multimedia Embedding- video tag

The <video> tag in HTML is used to embed video content directly into web pages. Key points:

► It enables seamless playback of video files within the browser without requiring external plugins.

► The src attribute specifies the URL or file path of the video file to be played.

► Additional attributes like controls, autoplay, loop, and preload control the behavior and appearance of the video player.

► The <video> tag supports various video formats, including MP4, WebM, and OGG, ensuring compatibility across different browsers.

► You can include multiple <source> elements within the <video> tag to provide alternative video formats for broader browser support.

Lesson 14: HTML 5 semantic elements

HTML5 semantic elements introduce meaningful structure and improve accessibility in web documents. Key points:

- Semantic elements like \<header>, \<footer>, \<nav>, \<article>, and \<section> provide clearer understanding of content and its purpose.

- \<header> typically contains introductory content or navigation links for a section or the entire page.

- \<footer> holds footer content, such as copyright information or contact details.

- \<nav> defines a section with navigation links.

- \<article> represents self-contained content, such as blog posts or news articles.

- \<section> groups related content together and typically has its own heading.

- Semantic elements enhance search engine optimization (SEO) by providing clearer context for search engine crawlers.

- They improve accessibility by helping screen readers and other assistive technologies better understand the structure of a webpage.