CHAPTER 3

HTML Basics

What is HTML?

- HTML is Hypertext Markup Language
- used for structuring and presenting content on the World Wide Web
- It serves as the backbone of web pages, defining the structure and organization of the content displayed in a web browser.
- HTML utilizes a set of tags to mark up elements within a web page.
- These tags, enclosed in angle brackets ("<>" and "</>"), provide instructions to the web browser on how to interpret and display the content.
- The structure of HTML documents typically consists of an opening <html> tag followed by <head> and <body> sections.
- Within the <head> section, various metadata and settings are defined, such as the document title, character encoding, linked stylesheets, and scripts. The actual content of the web page resides within the <body> section.

What is HTML?

- HTML tags are used to define different types of elements, such as headings, paragraphs, links, images, lists, tables, forms, and more.

- Tags can also include attributes to provide additional information or modify the behavior of an element.

- For example, the <a> tag is used to create hyperlinks and can include attributes like href to specify the target URL.

- By combining different HTML tags, attributes, and content, developers can structure and present information in a logical and organized manner.

- Web browsers then interpret the HTML code and render it visually, allowing users to interact with and navigate web pages.

- HTML is not case sensitive. This means that the capitalization of tags does not affect how HTML is interpreted by web browsers.

- <p>This is a paragraph.</p>   or   <P>This is a paragraph.</P>

   or   <P>This is a Paragraph.</p>

What is html document?

- An HTML document, also known as an HTML file or webpage, is a text file that contains HTML code.

- It is the basic unit of a web page and defines the structure and content of the page.

- An HTML document is created using HTML, which consists of a series of tags that enclose elements and provide instructions to the web browser on how to display the content.

- HTML documents can also include CSS (Cascading Style Sheets) and JavaScript code to further enhance the presentation and functionality of the page.

- HTML documents are typically saved as text files with the .html or .htm file extension.

HyperText and HyperLink

 GOOGLE

Hypertext: Hypertext is the concept of interconnected text documents. It is simply a text that direct user to a link. In this example, the text "GOOGLE" serves as the hypertext. It represents the clickable text that the user sees and interacts with.

- Hyperlink: The hyperlink is created using the <a> tag in HTML. The href attribute within the <a> tag specifies the destination URL or web address to which the link will navigate the user when clicked. In this example, the hyperlink is 'http://www.google.com'. When the user clicks on the "GOOGLE" text, they will be redirected to the URL specified in the href attribute, which is the Google website.

Overall, the <a> tag creates a hyperlink, and the text "GOOGLE" serves as the hypertext that users click on to navigate to the specified URL.

Basic structure of html document:

The basic structure of an HTML document consists of 5 elements:

1. <!DOCTYPE>
2. <html>
3. <head>
4. <title>
5. <body>

Basic structure of html document:

```
<!DOCTYPE html>
<html>
  <head>
     <title>Title goes here</title>
  </head>
  <body>
    Content goes here
  </body>
</html>
```

Basic structure of html document:

```html
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My Webpage</title>
  </head>
  <body>
    <h1>Welcome to My Webpage</h1>
    <p>This is a sample paragraph.</p>
    <!-- More HTML content goes here -->
  </body>
</html>
```

DOCTYPE

- In HTML, the DOCTYPE declaration (short for Document Type Declaration) is an instruction placed at the very beginning of an HTML document to specify the version of HTML or XHTML used in the document.

- It informs web browsers and other parsers about the markup language and version in which the document is written, allowing them to correctly interpret and render the content.

- The declaration is not an HTML tag. It is an "information" to the browser about what document type to expect.

- The DOCTYPE declaration ensures that web browsers and other tools use the appropriate rendering mode and standards compliance for the HTML document.

- It helps ensure consistency in how web pages are displayed across different browsers and versions, reducing compatibility issues.

- Including the DOCTYPE declaration is considered good practice, and it should be the first line of any HTML document.

- In HTML5, the DOCTYPE declaration is simplified and standardized ie.

    <!DOCTYPE html>

- In HTML4, it is complicated because the declaration must refer to a DTD (Document Type Definition) ie.

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

HTML element

<html lang="en" dir="ltr"> </html>

- The HTML element is the root element of an HTML document.

- It wraps all the other elements and signifies that the document is an HTML document.

- It is denoted by the opening <html> tag and closed by </html> tag.

➢lang:

Description: Specifies the primary language for the content of the HTML document.

➢dir:

Description: Specifies the direction of the text content within the HTML document (left-to-right or right-to-left).

- The <html> element tells the browser that the page will be formatted in HTML and, optionally, which world language the page content is in.

HEAD element

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

- The head element contains metadata (data about data) and other information about the document.
- It is not directly visible on the webpage but includes elements like title, scripts, stylesheets, and more. It is denoted by the opening <head> tag.
- The <head> element surrounds all the special "behind the scenes" elements of a web document. Most of these elements do not get displayed directly on the web page.

HEAD element -> META element

```
<head>

   <meta charset="UTF-8">

   <meta name="viewport" content="width=device-width, initial-scale=1.0">

   <meta name="keywords" content="HTML, web development, metadata">

</head>
```

- Immediately after the <head> line, we place this <meta> element

- It provide information about document to web browser and search engine.

- There can be multiple <meta> lines in the same web page.

- The <meta> element is often used to provide additional information such as page keywords, a page description, and the author(s) of a web document.

- The <meta charset="UTF-8"> tag specifies the character encoding for the HTML document. UTF-8 is widely used and supports a broad range of characters.

- The <meta name="viewport" content="width=device-width, initial-scale=1.0"> tag is commonly used for responsive web design. It ensures that the webpage is displayed properly on different devices and adjusts the viewport width and initial zoom level accordingly.

HEAD element -> TITLE element

<head>

    <title>My Webpage</title>

 </head>

- The title element is placed within the head element and defines the title of the webpage, which appears in the browser's title bar or tab. It is denoted by the opening <title> tag.

- It is always placed inside the head section.

- Each page of your website should have a unique title.

BODY element

<body>

Actual html page content goes here..

</body>

- The body element holds the visible content of the webpage, such as text, images, links, headings, paragraphs, and other HTML elements.

- The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

- It is denoted by the opening <body> tag and closed as </body>

HTML Tags

- HTML tags are **keywords** which defines that how web browser will format and display the content.

- **keywords** are predefined words with a specific use

- Browser distinguish between HTML and simple content with the help of tags.

- HTML tags contain 3 main part: **Opening tag, content and closing tag.**

- But some HTML tag are unclosed ie. singular or unpaired tag.

- Browser reads HTML document from top to bottom, left to right.

- HTML tags are used to create HTML document and render their properties.

Syntax: <tag_name> content </tag_name>

Types of tags in HTML:

1. Paired tag(Opening and Closing tags)

2. Unpaired tag (Singular Tag)

Paired tag(Opening and Closing tags)

- Paired tags consist of an opening tag and a closing tag, which enclose the content or elements that they affect.

- The opening tag denotes the start of the element, and the closing tag denotes the end.

- The syntax for paired tags is as follows:

  <opening_tag> Content or nested elements </closing_tag>

- Here's an example of a paired tag using the <p> tag to define a paragraph:
  - ➤<html> </html>
  - ➤<head></head>
  - ➤<title></title>
  - ➤<body></body>
  - ➤<p> This is a paragraph of text. </p>etc.

Unpaired Tags (Singular Tags)

- Unpaired tags, also known as singular tags or self-closing tags, do not require a separate closing tag.

- These are also called non-container tag because they do not contain any content.

- The syntax for unpaired tags is as follows:

- Here's an example of an unpaired tag using the <img> tag to display an image:
     - ➢<img/>
     - ➢
     - ➢<hr/>
     - ➢<meta/>
     - ➢<link>
     - ➢<input> etc.