Coding Bootcamp

HTML

Understanding HTML

Learning Objectives

By the end of this lesson, you will be able to:

- Analyze the basic concepts of HTML for creating effective, efficient, and accessible web content

- Identify the types of elements to create well-structured and effective web pages

- Illustrate the concept of tags and their types to enhance semantic structure and code maintenance

- Define the usage of lists in HTML to organize content logically and enhance readability and accessibility

TECHNOLOGY

What Is HTML?

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What Is HTML?

Hyper Text Markup Language (HTML) is the standard language used to create and design web pages.

It provides the structure of a webpage, allowing content such as text, images, videos, and links to be displayed in a web browser.

HTML Page Structure

An HTML page is structured in a way that helps browsers understand and render the content appropriately.

```
<html>

    <head>

        <title>Page title</title>

    </head>

    <body>

            <h1>This is a heading</h1>

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

            <p>This is another paragraph.</p>

    </body>

</html>
```

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Web Pages and Tags

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Web Pages: Overview

An HTML web page consists of a structured set of elements that define the content and layout of the page.

HTML provides the basic structure of a web page using elements like headings, paragraphs, lists, links, images, and more.

Web Pages

The web pages are accessed using uniform resource locator (URL), which are addresses used to locate resources on the internet.

Text

Graphics

Hyper Links and files

The content displayed on a web page is encapsulated within HTML tags, which structure and format the content.

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Tags

A tag is assigned to information inserted into the page's source code.

Represents the root of an HTML document

Defines the document's body

```
<!DOCTYPE html>

<html>

<body>

<h1>My First Heading </h1>

<p>My First Paragraph</p>

</body>

</html>
```

Creating the First Web Page

Problem Statement:

You have been asked to develop a web page using HTML.

Outcome:

By completing this task, you will develop a web page using HTML by creating an HTML file and viewing the results in a local browser.

Note: Refer to the demo document for detailed steps:
01_Creating_the_First_Web_Page

ASSISTED PRACTICE

Assisted Practice: Guidelines

Steps to be followed:
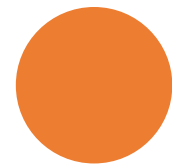
1. Create a HTML file
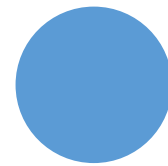2. View the results in the local browser
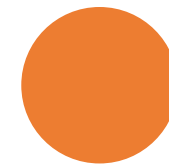
Elements

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Elements

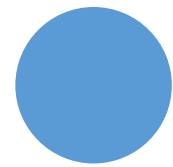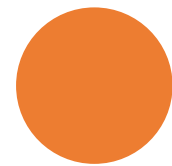HTML elements are the building blocks of web pages. Here are the common HTML elements:
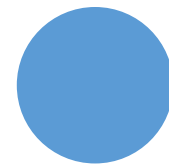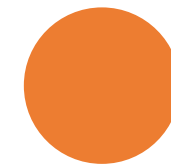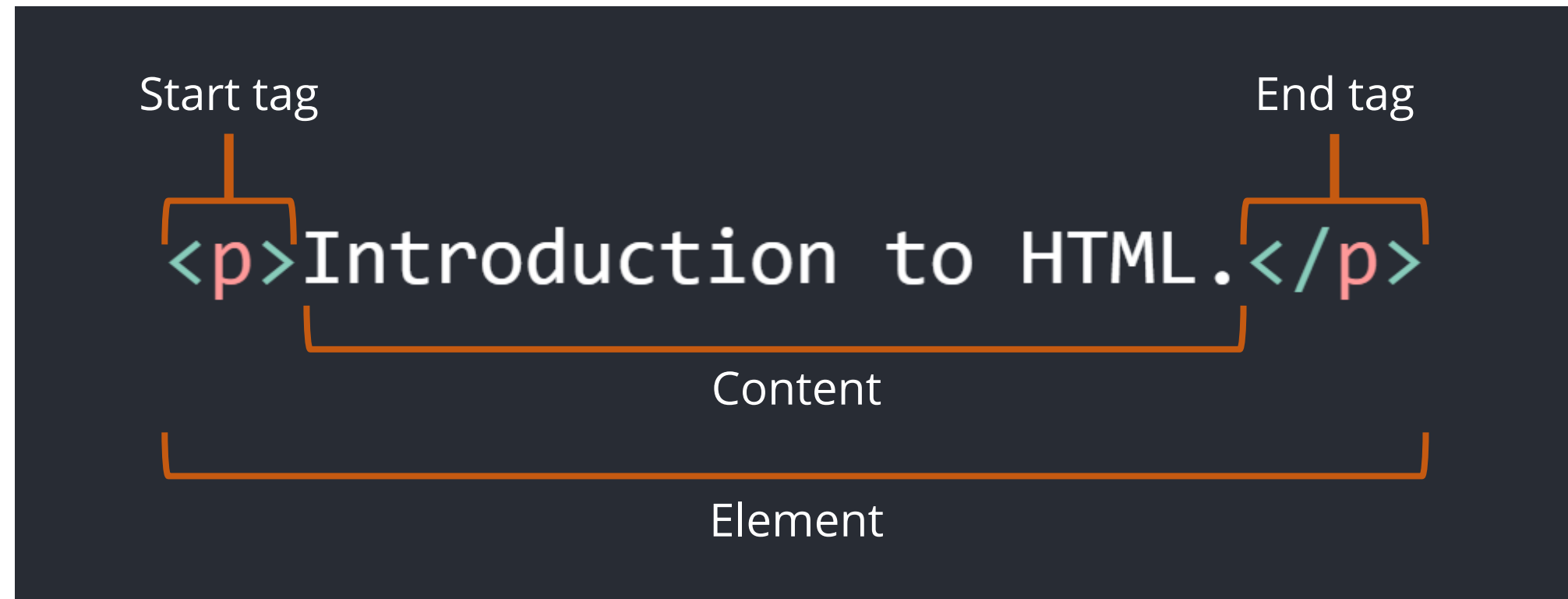
Heading

Paragraphs

Bullet points

Images

Videos

Forms

Tables

Elements

Here is how HTML elements are structured and how they encapsulate content within a web page:

Start tag   End tag

`<p>Introduction to HTML.</p>`

Content

Element

Elements: Example

Heading element:

`<h1>Heading 1</h1>`

Start tag   End tag

Content tag

Paragraph element:

`<p1>My first paragraph</p1>`

Start tag   End tag
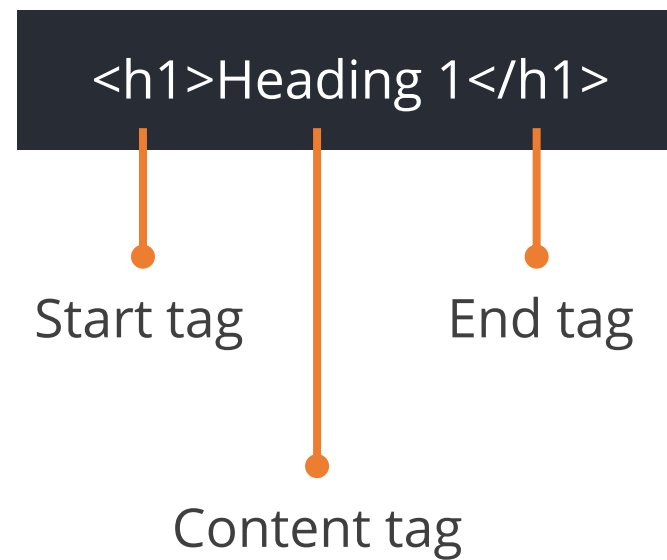
Content tag
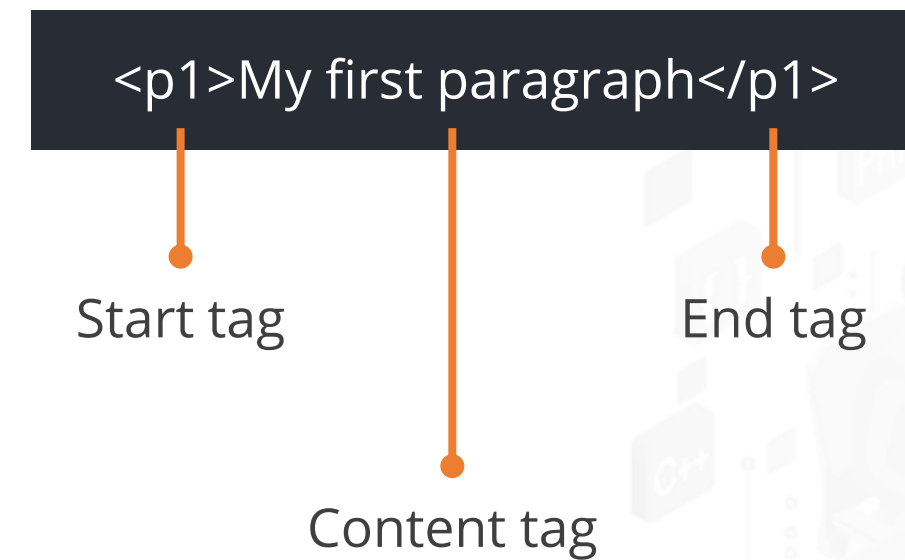
The empty element <br> neither has content nor an end tag.

Nested Elements

A nested element is a part that contains other elements within the start and end tags.

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>My new project website</title>
<meta name="description" content ="New project">
<meta name="author" content="John Doe">
<link rel="stylesheet" href="css/styles.css?y=1.0">
    <script>
    function myFunction(){
    document.getElementById("demo").innerHTML = "This is super script";
    </script>
</head>
    <body>
    <script src="js/scripts.js"></script>
    </body >
</html>
```

Nested Elements: Example

```
<!DOCTYPE html>
<html>
<body>
<h1> My First Heading </h1>
<p> My First Paragraph </p>
</body>
</html>
```
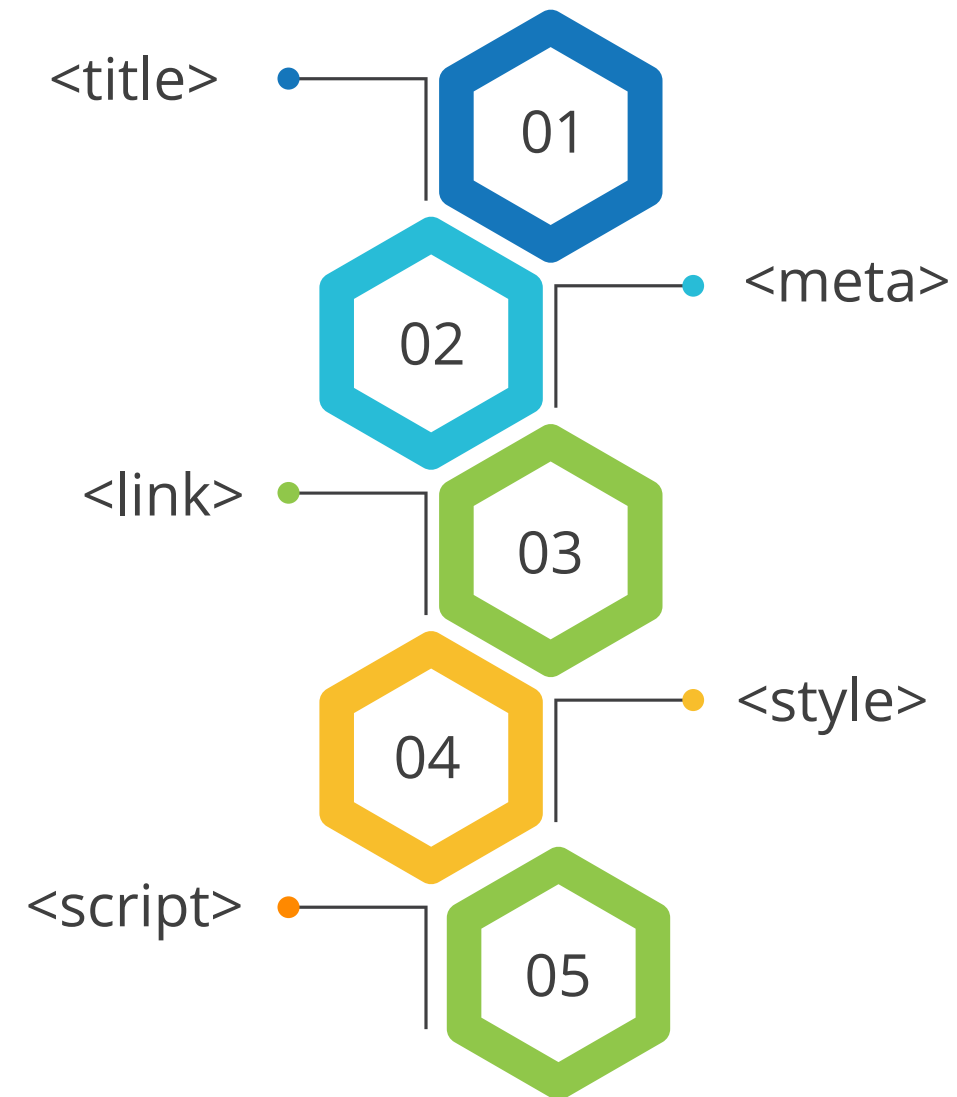
Types of Tags

Head Tag

The **<head>** tag is placed within the **<html>** element and is used to define information about the element.

<title> —— 01

02 —— <meta>

<link> —— 03

04 —— <style>

<script> —— 05

Head Tag: Example

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Title of the document</title>
</head>
<body>

<h1>Greetings</h1>
<p>Welcome to our company website. </p>

</body>
</html>
```
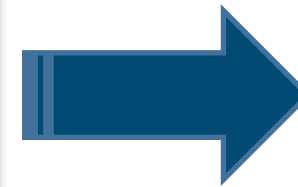
Output

Greetings
Welcome to our company website.

Body Tag

The **<body>** tag in HTML is a fundamental element that contains all the content that will be displayed on the web page.

```
<!DOCTYPE html>
<html>
<body>

<h1>Heading</h1>
<p>Content</p>

</body>
</html>
```

Body Tag

The **<body>** tag contains:
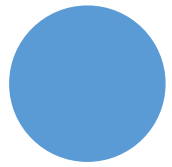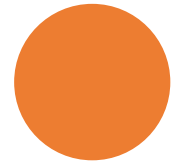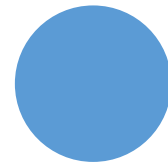
Heading	Paragraphs	Images	Links	Tables
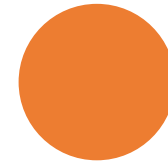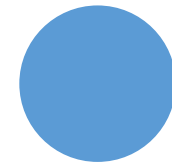
Body Tag: Example

```
<!DOCTYPE html>
<html>
<head>
    <title>Welcome</title>
</head>
<body>
    <h1>Greetings</h1>
<p>Welcome to our company website. </p>
<p>Hello, I am John</p>
</body>
</html>
```

Output

Greetings
Welcome to our company website.
I am John.

HTML Paragraph Tag

The **<p>** tag in HTML is used to define a paragraph. By default, browsers add some space above and below each paragraph.

```
<p>This is the first paragraph.</p>
<p>This is the second paragraph.</p>
```

Line Breaks Tag

A paragraph always begins on a new line.

To start a new line, the user must create a line break.

Line Breaks Tag

The **\<br\>** tag creates a line break.

A line break in HTML is used to insert a new line in the text content

```
<!DOCTYPE html>
<html>
<head>
<title>Welcome</title>
</head>
<body>
<p>Hello,<br> I am<br> John<br> </p>
</body>
</html>
```

Output

Hello,
I am
John

Non-Breaking Spacing Tag

It is used to insert a space that will not break into a new line, keeping elements like phone numbers, dates, or words together.

It is a character entity.

To insert a non-breaking space, ** ** can be used.

Non-Breaking Spacing Tag: Example

```
<!DOCTYPE html>
<html>
    <head>
        <title>Nonbreaking Spaces
</title>
    </head>
    <body>
        <p>This has appeared in the
movie "12 Angry Men."</p>
    </body>
</html>
```

Output

This has appeared in the movie "12 Angry Men."

Adding Title, Headings, and Paragraphs in the Web Page

Problem Statement:

You have been asked to develop a web page that includes a title, headings, and paragraphs.

Outcome:

By completing this task, you will develop a web page that includes a title, headings, and paragraphs by creating an index.html file, adding appropriate HTML elements for titles, headings, and paragraphs, and then viewing the results in your local browser.

Note: Refer to the demo document for detailed steps:
02_Adding_Title,_Headings,_and_Paragraphs_in_the_Web_Page

ASSISTED PRACTICE

Assisted Practice: Guidelines

Steps to be followed:

1. Create the index.html file
2. Add titles, headings, and paragraphs in the webpage
3. View the results in your local browser

Text Formatting

Text Formatting

It involves using various HTML tags to change the appearance and structure of text on a webpage.

Formatting tags are used to make the text:

B   *I*   <u>U</u>

Bold   *Italicized*   <u>Underlined</u>

Categories of Formatting Tags

Here are the tags that HTML offers to format text:

Tag	Description
<b>	Bold the text between it
<strong>	Help the browser identify whether the text is important
<i>	Italicize the text
<em>	Display italicized content
<mark>	Highlight text
<u>	Underline text written between it
<tt>	Make the text appear in teletype

Categories of Formatting Tags

Here are the tags that HTML offers to format text:

Tag	Description
<strike>	Draw a strikethrough on a section of text
<sup>	Display the content slightly above the normal line
<sub>	Specify the inline text that needs to be represented as subscript
<del>	Display the deleted content
<ins>	Display the content which is added
<big>	Increase the font size by one conventional unit
<small>	Decrease the font size by one unit from the base font size

Formatting Tags: Example

```
<!DOCTYPE>
<html>
<head>
<title>HTMLTextFormatting</title>
</head>
<body>
<p><b>This is bold text</b></p>
<p><strong>This is a</strong> strong text</p>
<p><i>This is a italic text</i></p>
<p><em>This is  a em </em>text</p>
<p>This is a <mark>mark tag</mark></p>
<p>This is a <u>underline text</u></p>
<p><strike>This is a strike text</strike></p>
<p>Hiii<tt>This paragraph in the monospaced font</tt></p>
<p>Hello<sub>This is a superscript text</sub>
<p>Hiii<del>Delete this paragraph</del></p>
<p><del>Hello</del><ins>How are you!</ins></p>
<p>Hello<big>This is a larger font<big></p>
<p>Hiii<small>This is a small font</small></p>
</body>
</html>
```

Output

This is bold text

This is a strong text

This is a italic text

This is a em text

This is a ==mark tag==

This is a <u>underline text</u>

~~This is a strike text~~

Hiii`This paragraph in the monospaced font`

Hello_{This is a superscript text}

Hiii~~Delete this paragraph~~

~~Hello~~<u>How are you!</u>

HelloThis is a larger font

HiiiThis is a small font

Text Decoration

Text Decoration

It refers to styling the text to change its appearance in specific ways. Here are the two types of text decoration:

None	Overline
Does not decorate the text so the text looks normal Syntax: **text-decoration:none;**	Adds a line on the top of the text with a 1px size Syntax: **text-decoration:overline;**

Text Decoration: Example

```
<!DOCTYPE>
<html>
<head>
<title>HTMLTextFormatting</title>
</head>
<body>
<p><b>This is bold text</b></p>
<p><strong>This is a</strong> strong text</p>
<p><i>This is a italic text</i></p>
<p><em>This is  a em </em>text</p>
<p>This is a <mark>mark tag</mark></p>
<p>This is a <u>underline text</u></p>
<p><strike>This is a strike text</strike></p>
<p>Hiii<tt>This paragraph in the monospaced font</tt></p>
<p>Hello<sub>This is a superscript text</sub></p>
<p>Hiii<del>Delete this paragraph</del></p>
<p><del>Hello</del><ins>How are you!</ins></p>
<p>Hello<big>This is a larger font<big></p>
<p>Hiii<small>This is a small font</small></p>
</body>
</html>
```

Output

Example of overline property

This is a first paragraph

Example of line-through property

~~This is a second paragraph~~

Example of underline

This is a third paragraph

Inline Text Formatting

Inline Text Formatting

It refers to using HTML tags that apply styles directly to specific portions of text within a block-level element without affecting the entire block.

Here are the common inline formatting tags:

Bold   **I**talicize   🔗 **Link**

Text Formatting: Purpose

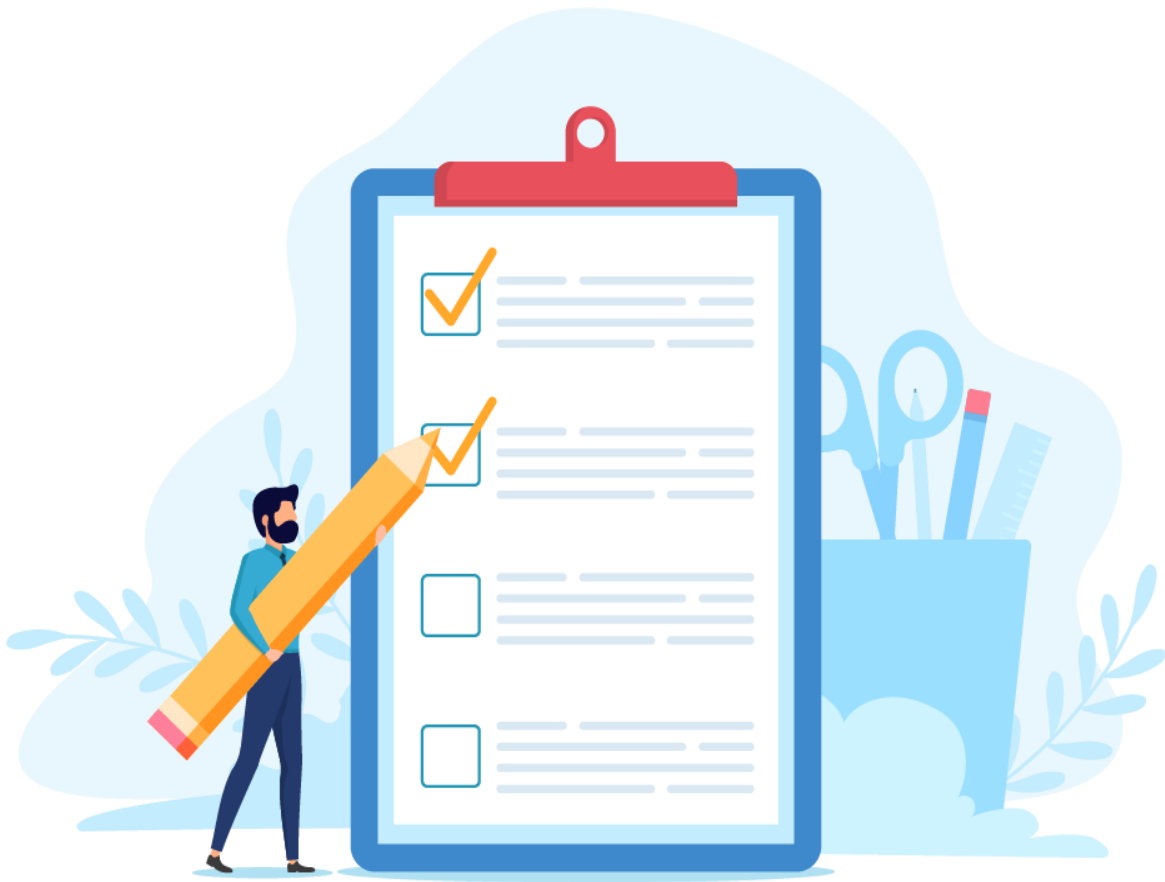Formatted text can be used for a variety of purposes, including:

- To draw attention to specific parts of a document

- To emphasize important information

- To set certain words or phrases apart for better clarity and emphasis
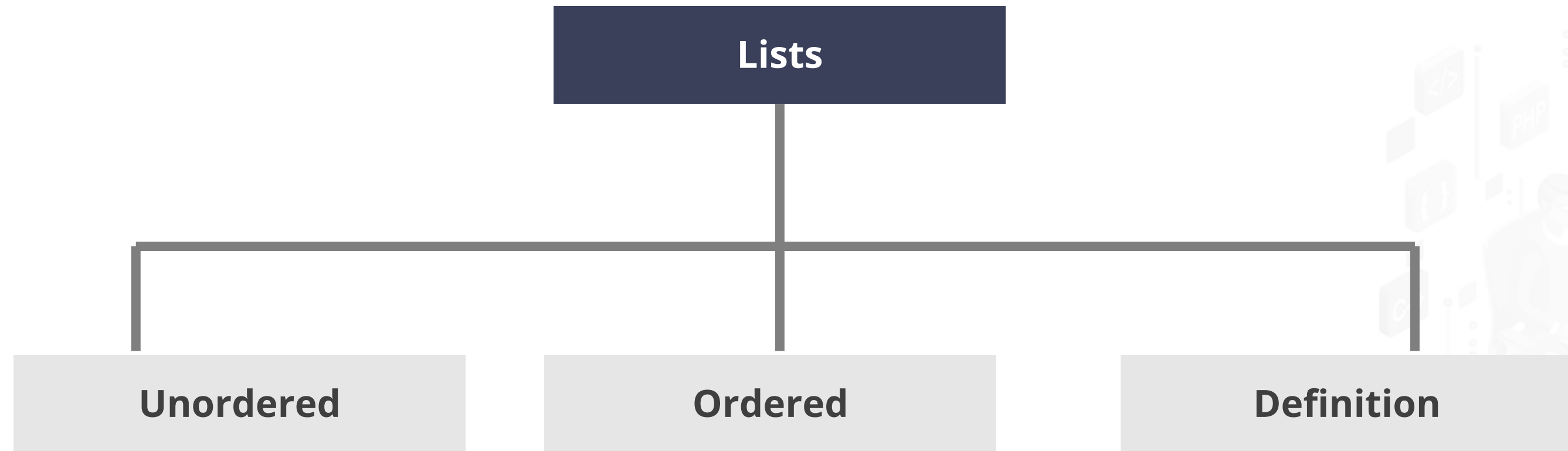
Lists

Lists

Lists are used to group a set of related items in a specific order or sequence.

- Lists are used for organizing, structuring, and presenting content in a clear and accessible manner.

- They can be used for navigating menus, grouping related links, creating nested structures, defining terms, and more.
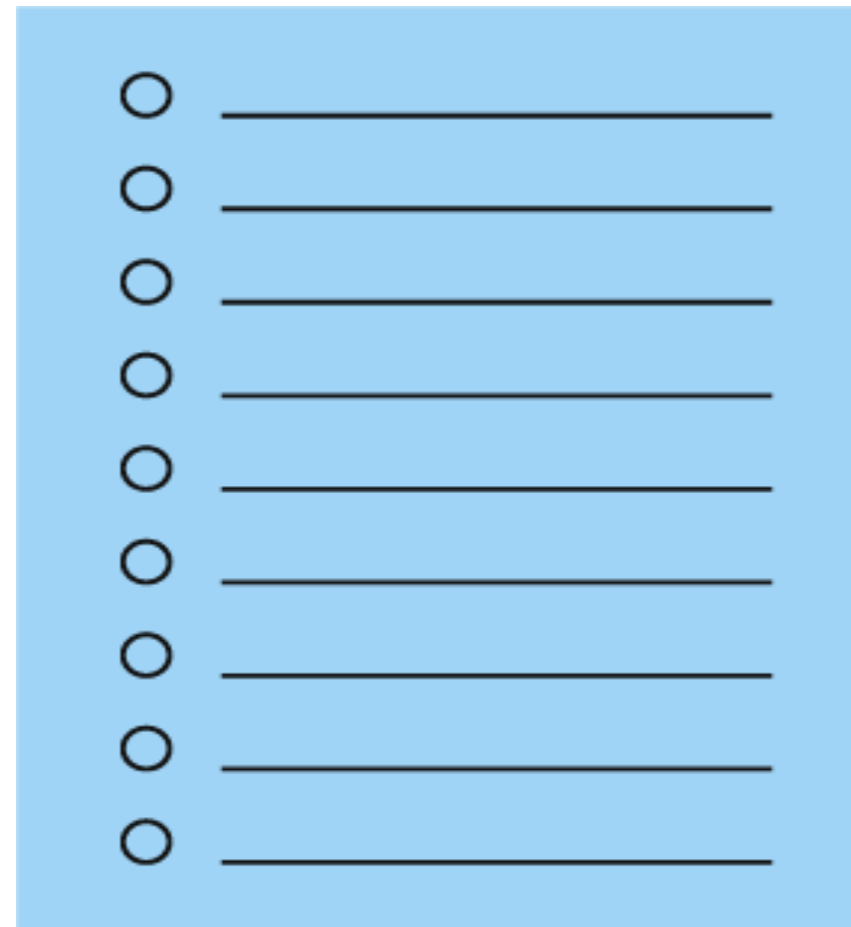
Lists: Types

In HTML, there are three types of lists:

```
                    ┌─────────────┐
                    │    Lists    │
                    └──────┬──────┘
        ┌──────────────────┼──────────────────┐
┌───────────────┐  ┌───────────────┐  ┌───────────────┐
│   Unordered   │  │    Ordered    │  │   Definition  │
└───────────────┘  └───────────────┘  └───────────────┘
```

Unordered List

Unordered lists are collections of objects which don't have to be in any order.
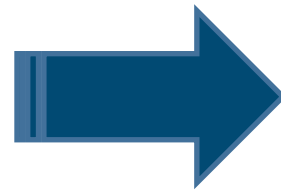
<ul> tag defines an unordered list.

An unordered list starts with the **<ul>** tag, and the list item begins with the **<li>** tag.

Unordered List: Example

```
<!DOCTYPE html>
<html>
<body>
  <h1>An unordered list</h1>
  <ul>
    <li>Apple</li>
    <li>Orange</li>
    <li>Grapes</li>
  </ul>
</body>
</html>
```

Output

An unordered list

- Apple
- Orange
- Grapes

Ordered List

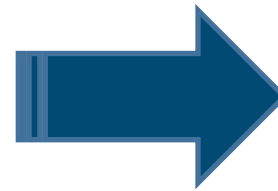An ordered list is a collection of objects denoted by numbers or some other form of notation.

An ordered list starts with the **\<ol\>** tag, and the list item begins with the **\<li\>** tag.

Ordered List: Example

```
<!DOCTYPE html>
<html>
<body>
  <h1>An ordered list</h1>
  <ol>
    <li>Apple</li>
    <li>Orange</li>
    <li>Grapes</li>
  </ol>
</body>
</html>
```
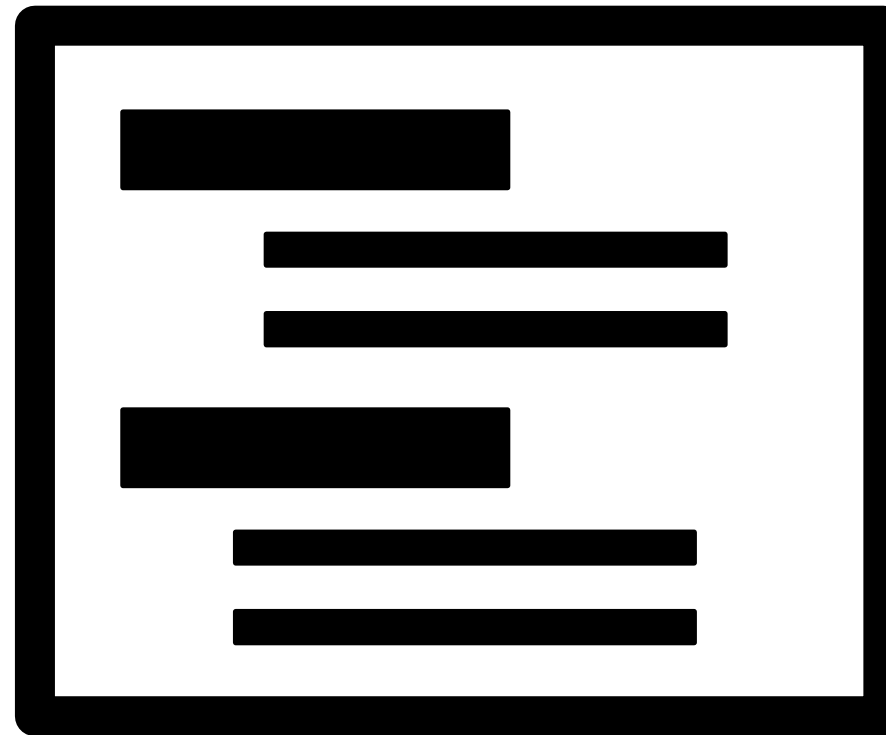
Output

An ordered list

1. Apple
2. Orange
3. Grapes

Definition List

The **<dl>** tag element can be used to create a definition list.

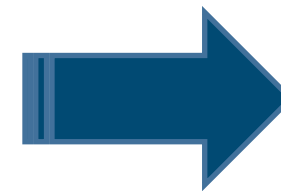

The **<dt>** tag defines a descriptive word inside the **dl>../dl>** tag.

Definition List: Example

```
<dl>
    <dt>Coding</dt>
    <dd>An activity to keep you
happy.</dd>
    <dt>Gossiping</dt>
    <dd>Can't live without
it.</dd>
    <dt>Sleeping</dt>
    <dd>My all-time
favourite.</dd>
</dl>
```

Output

Coding
  An activity to keep you happy
Gossiping
  Can't live without it.
Sleeping
  My all-time favorite.

Adding Hyperlinks, Lists, and Images in the Web Page

Problem Statement:

You have been asked to add hyperlinks, lists, and images in the web page.

Outcome:

By completing this task, you will enhance a web page by adding hyperlinks, lists, and images. You'll start by creating an index.html file, then add HTML elements for hyperlinks, lists, and images. Finally, you'll view the results in your local browser.

> **Note**: Refer to the demo document for detailed steps:
> 03_Adding_Hyperlinks,_Lists,_and_Images_in_the_Web_Page

ASSISTED PRACTICE

Assisted Practice: Guidelines
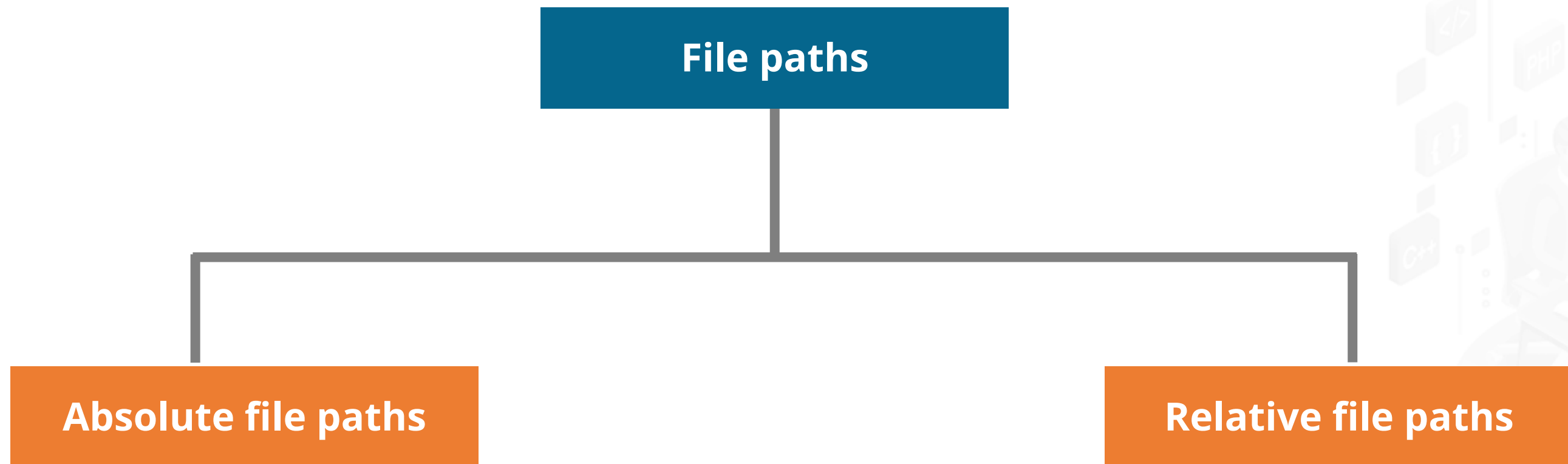
Steps to be followed are:

1. Create the index.html file
2. Add hyperlinks, lists, and images in the index.html file
3. View the results in your local browser

File Paths

File Paths

It is essential for locating and accessing files within a web application or website.

File paths

Absolute file paths

Relative file paths

File Paths: Syntax

Here is the syntax for absolute and relative file paths:

An absolute file path is defined as the full URL to a file.

Syntax:

```
<img src="C:\Users\HP\Downloads\image.jpg" alt="image" >
```

A relative file path indicates the location of a file in relation to the current file's directory.

Syntax:

```
<img src="Downloads\image.jpg" alt="image">
```

Adding HTML Plugins

Problem Statement:

You have been asked to add plugins to the web page

Outcome:

By completing this task, you will enhance a web page by adding plugins. Start by creating an index.html file, then incorporate the desired plugins into the webpage. Finally, view the results in your local browser to ensure proper functionality.

> **Note**: Refer to the demo document for detailed steps:
> 04_Adding_HTML_Plugins

ASSISTED PRACTICE

Assisted Practice: Guidelines

Steps to be followed are:

1. Create the index.html file
2. Add plugins to the webpage
3. View the results in your local browser

Key Takeaways

- Hyper Text Markup Language (HTML) is used to design web page content.

- A web page is a document written in HTML and viewed on a browser.

- A nested element is a part that contains other elements within the start and end tags.

- The body element is one of the most important elements when creating a webpage.

- Text formatting provides a better look and feel to the text.

- Text decoration refers to decorating the text in different ways.

Thank You