Introduction to HTML

HTML stands for HyperText Markup Language, which is the most widely used language on the web to develop web pages. A markup language is a set of markups tags. HTML documents are described by HTML tags. Each HTML tag describes different document content

HTML tags are keywords (tag names) surrounded by angle brackets. For example <tagname> contents </tagname>. HTML tags normally come in pairs like and . The first tag in a pair is the start tag, the second tag is the end tag. The end tag is written like the start tag but with a slash before the tag name.
HTML was created by Tim Berners Lee in late 1991 but “HTML 2.0” was the first standard HTML specification which was published in 1995. HTML 4.01 was a major version of HTML and it was published in late 1999.
Though HTML 4.01version is widely used but currently, we are having HTML 5 version which is an extension to HTML 4.01 and this version was published in 2012.

In short

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

Example:

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

Example Explained
The <!DOCTYPE html> declaration defines that this document is an HTML5 document
The <html> element is the root element of an HTML page
The <head> element contains meta information about the HTML page
The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
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.
The <h1> element defines a large heading
The element defines a paragraph
DOCTYPE

On the HTML document there is a <!DOCTYPE html> declaration before the <html> tag. HTML <! DOCTYPE> tag is used to inform the browser about the version of HTML used in the document. It is called as the document type declaration (DTD).

Technically <!DOCTYPE > is not a tag/element, it just an instruction to the browser about the document type. It is a null element which does not contain the closing tag, and must not include any content within it.

HTML Elements

An HTML element usually consists of a start tag and end tag, with the content inserted in between, for example <tagname>Content goes here...</tagname>. The HTML element is everything from the start tag to the end tag. for example: This is paragraph tag .

HTML elements can be nested (elements can contain elements). All HTML documents consist of nested HTML elements.

HTML elements with no content are called empty elements.
 is an empty element without a closing tag (the
 tag defines a line break). Empty elements can be "closed' in the opening tag like this
.

HTML5 does not require empty elements to be closed. But if we want stricter validation, or if we need to make our document readable by XAL parsers, we must close all HTML elements properly.

HTML tags are not case sensitive: <P> means the same as The HTML5 standard does not require lowercase tags, but W3C recommends lowercase in HTML, and demands lowercase for stricter document types like XHTML.

Syntax:
<tagname>Content goes here...</tagname>

Examples of some HTML elements:

```
<h1>My First Heading</h1>
<p>My first paragraph.</p>
```

HTML Attributes

- HTML attributes are special words which provide additional information about the elements or attributes are the modifier of the HTML element.
- Each element or tag can have attributes, which defines the behaviour of that element.
- Attributes should always be applied with start tag.
- The Attribute should always be applied with its name and value pair.
- The Attributes name and values are case sensitive, and it is recommended by W3C that it should be written in Lowercase only.
- You can add multiple attributes in one HTML element, but need to give space between two attributes.

Syntax:

```
<element attribute_name="value"> Content Here </element>
```

Example 1 :

```
<!DOCTYPE html>
<html>
<head>
</head>
```

```
<body>
   <h1> This is Style attribute</h1>
  <p style="height: 50px; color: blue">It will add style property in element</p>
   <p style="color: red">It will change the color of content</p>
</body>
</html>
```

Example 2:

```
<a href="https://www.w3schools.com">Visit W3Schools</a>
```

HTML Headings

HTML headings are titles or subtitles that we want to display on a webpage.
HTML headings are defined with the <h1> to <h6> tags.
<h1> defines the most important heading.
<h6> defines the least important heading.

Syntax:

<heading type> Heading title </heading type>

Example:

```
<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>
```

Search engines use the headings to index the structure and content of your web pages.
Users often finds a page by its headings. It is important to use headings to show the document structure.
<h1> headings should be used for main headings, followed by <h2> headings, then the less important <h3>, and so on.

HTML Paragraph

The HTML element defines a paragraph. These have both opening and closing tags. So anything mentioned within and is treated as a paragraph
A paragraph always starts on a new line.

Syntax:

<paragraph tag> Paragraph content here </paragraph tag>

Example:

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

HTML Comment

The comment tag (<!-- Comment-->) is used to insert comments in the HTML code. Contents inside the comment tag are not displayed in the browser. It is a good practice to use comments in our code for better understanding of codes.

Syntax:
<!-- Comments here -->

Notice that there is an exclamation point (!) in the start tag, but not in the end tag

Example:
<!-- This is a comment -->
This is a paragraph.
<!-- Remember to add more information here -->

HTML Formatting
Text formatting in HTML refers to the way text is displayed on a web page. It is the process of applying various styles, colors, fonts, sizes, and other visual enhancements to text content within an HTML document. HTML offers a range of tags that can be used to format text, including:

<b> - Bold text
 - Important text
<i> - Italic text
 - Emphasized text
<mark> - Marked text
<small> - Smaller text
<del> - Deleted text
<ins> - Inserted text
<sub> - Subscript text
<sup> - Superscript text

Phrase Elements
Phrase elements are designed for special purpose. They add structural information to text fragments. The usual meanings of phrase elements are following −

<abbr> Indicates an abbreviated form like pvt. inc. etc.
<acronym> Indicates an acronym (e.g., WAC, radar, etc.).
 Indicates emphasis.
 Indicates stronger emphasis.
<cite> Contains a citation or a reference to other sources.
<dfn> Indicates that this is the defining instance of the enclosed term.
<code> Designates a fragment of computer code.
<samp> Designates sample output from programs, scripts, etc.
<kbd> Indicates text to be entered by the user.
<var> Indicates an instance of a variable or program argument.

HTML Lists
HTML offers web authors three ways for specifying lists of information. All lists must contain one or more list elements. Lists may contain −

 − An unordered list. This will list items using plain bullets.
 − An ordered list. This will use different schemes of numbers to list your items.
<dl> − A definition list. This arranges your items in the same way as they are arranged in a dictionary.

HTML Unordered Lists

An unordered list is a collection of related items that have no special order or sequence. This list is created by using HTML <ul> tag. Each item in the list is marked with a bullet. We can use type attribute for <ul> tag to specify the type of bullet we like. By default, it is a disc.

<ul type=”square”>
<ul type=”disc”>
<ul type=”circle”>

Example:

```
<!DOCTYPE html>
<html>
   <head>
      <title>HTML Unordered List</title>
   </head>
   <body>
      <ul type = "square">
         <li>Beetroot</li>
         <li>Ginger</li>
         <li>Potato</li>
         <li>Radish</li>
      </ul>
   </body>
</html>
```

This will produce the following result −

- Beetroot
- Ginger
- Potato
- Radish

HTML Ordered Lists

If you are required to put your items in a numbered list instead of bulleted, then HTML ordered list will be used. This list is created by using <ol> tag. The numbering starts at one and is incremented by one for each successive ordered list element tagged with <li>.

You can use type attribute for <ol> tag to specify the type of numbering you like. By default, it is a number. Following are the possible options −

<ol type = "1"> - Default-Case Numerals.
<ol type = "I"> - Upper-Case Numerals.
<ol type = "i"> - Lower-Case Numerals.
<ol type = "A"> - Upper-Case Letters.
<ol type = "a"> - Lower-Case Letters.

Example:

```
<!DOCTYPE html>
<html>
   <head>
      <title>HTML Ordered List</title>
   </head>
   <body>
      <ol type = "1">
         <li>Beetroot</li>
         <li>Ginger</li>
         <li>Potato</li>
         <li>Radish</li>
```

```
      </ol>
   </body>
</html>
```

This will produce following output

1. Beetroot
2. Ginger
3. Potato
4. Radish

HTML Definition Lists

HTML and XHTML supports a list style which is called definition lists where entries are listed like in a dictionary or encyclopedia. The definition list is the ideal way to present a glossary, list of terms, or other name/value list.

(XHTML stands for EXtensible HyperText Markup Language. It is the next step to evolution of internet. The XHTML was developed by World Wide Web Consortium (W3C). It helps web developers to make the transition from HTML to XML)

Definition List makes use of following three tags.

<dl> − Defines the start of the list
<dt> − A term
<dd> − Term definition
</dl> − Defines the end of the list

```
<!DOCTYPE html>
<html>
   <head>
      <title>HTML Definition List</title>
   </head>
   <body>
      <dl>
         <dt><b>HTML</b></dt>
         <dd>This stands for Hyper Text Markup Language</dd>
         <dt><b>HTTP</b></dt>
         <dd>This stands for Hyper Text Transfer Protocol</dd>
      </dl>
   </body>
</html>
```

This will produce following output

HTML
This stands for Hyper Text Markup Language
HTTP
This stands for Hyper Text Transfer Protocol

Nested Lists

HTML nested lists simply mean a list inside another list. It can be an unordered list or an ordered list

```
<!DOCTYPE html>
<html>
   <head>
      <title>HTML Nested List</title>
```

```
   </head>
   <body>
<ul>
    <li>Recipes</li>
        <ul>
            <li>Christmas Recipes</li>
                <ul>
                    <li>Rolled Sugar Cookies</li>
                    <li>Sweet Potato Casserole</li>
                    <li>Apple Pie</li>
                </ul>
            <li>Fall Recipes</li>
                <ul>
                    <li>Pasta</li>
                    <li>Pancakes</li>
                        <ul>
                            <li>Pancakes 1</li>
                            <li>Pankes 2</li>
                        </ul>
                    <li>Pumpkin Pie</li>
                </ul>
            <li>Indian Recipes</li>
                <ul>
                    <li>Butter Chicken</li>
                    <li>Chicken Tikka</li>
                    <li>Chicken Biryani</li>
                </ul>
        </ul>
    <li>Ingredients</li>
    <li>Kitchen Tips</li>
</ul>
</body>
</html>
```