FUNDAMENTALS OF HTML

HTML stands for **H**yper**t**ext **M**arkup **L**anguage, and it is the most widely used language to write Web Pages.

Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage are called Hypertext.

Basic HTML Document Example

```
<!DOCTYPE html>
<html>
<head>
<title>This is document title</title>
</head>
<body>
<h1>This is a heading</h1>
<p>Document content goes here.....</p>
</body>
</html>
```

HTML Tags

As told earlier, HTML is a markup language and makes use of various tags to format the content. These tags are enclosed within angle braces **<Tag Name>**. Except few tags, most of the tags have their corresponding closing tags. For example **<html>** has its closing tag **</html>** and **<body>** tag has its closing tag **</body>** tag etc. A browser does not display the HTML tags, but uses them to determine how to display the document. HTML tags are not case sensitive.

HTML Document Structure

A typical HTML document will have following structure:
Document declaration tag
<html>
  <head>
    Document header related tags
  </head>

  <body>
    Document body related tags
  </body>
</html>

The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration tag is used by the web browser to understand the type and version of the HTML used in the document. The <!DOCTYPE> declaration is not case sensitive. Current version of HTML is 5 and it makes use of the following declaration:

<!DOCTYPE html>

HTML Basic Tags

Heading Tags
HTML also has six levels of headings, which use the elements **<h1>, <h2>, <h3>, <h4>, <h5>, and <h6>**. While displaying any heading, browser adds one line before and one line after that heading.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Heading Example</title>
</head>
<body>
<h1>Hello LPU </h1>
<h2>Hello LPU </h2>
<h3>Hello LPU </h3>
<h4>Hello LPU </h4>
<h5>Hello LPU </h5>
<h6>Hello LPU </h6>
</body>
</html>
```

Paragraph Tag

The **<p>** tag offers a way to structure your text into different paragraphs. Each paragraph of text should go in between an opening <p> and a closing </p> tag. Browsers automatically add a single blank line before and after each <p> element

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Paragraph Example</title><
/head>
<body>
<p>Here is a first paragraph of text.</p>
<p>Here is a second paragraph of text.</p>
<p>Here is a third paragraph of text.</p>
</body>
</html>
```

Line Break Tag

Whenever you use the **
** element, anything following it starts from the next line. This tag is an example of an **empty** element, where you do not need opening and closing tags, as there is nothing to go in between them.
The <br /> tag has a space between the characters **br** and the forward slash.

NB: If you omit this space, older browsers will have trouble rendering the line break, while if you miss the forward slash character and just use <br> it is not valid in XHTML

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Line Break  Example</title>
</head>
<body>
<p>Hello<br />
LPU<br />
Block -34<br />
CSE </p>
</body>
</html>
```

Centering Content

You can use **<center>** tag to put any content in the center of the page or any table cell.
Example
```
<!DOCTYPE html>
<html>
<head>
<title>Centring Content Example</title>
</head>
<body>
<p>Welcome to LPU</p>
<center>Welcome to School of CSE</center>
</body>
</html>
```

Horizontal Lines

Horizontal lines are used to visually break up sections of a document. The **<hr />** tag creates a line from the current position in the document to the right margin and breaks the line accordingly.

For example you may want to give a line between two paragraphs as in the given example below:

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Horizontal Line Example</title>
</head>
<body>
<p>This is paragraph one and should be on top</p>
<hr />
<p>This is paragraph two and should be at bottom</p>
</body>
</html>
```

Preserve Formatting

Sometimes you want your text to follow the exact format of how it is written in the HTML document. In those cases, you can use the preformatted tag <pre>.

The <pre> tag defines preformatted text.

Text in a <pre> element is displayed in a fixed-width font, and the text preserves both spaces and line breaks. The text will be displayed exactly as written in the HTML source code.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Preserve Formatting Example</title>
</head>
<body>
<pre>function testFunction( strText )
{
alert (strText)
}
</pre>
</body>
</html>
```

HTML Elements

An **HTML element** is defined by a starting tag. If the element contains other content, it ends with a closing tag, where the element name is preceded by a forward slash as shown below with few tags:

Start Tag	Content	End Tag
<p>	This is paragraph content.	</p>
<h1>	This is heading content.	</h1>
<div>	This is division content.	</div>

NB: There are some HTML elements which don't need to be closed, such as <img.../>, <hr /> and <br /> elements. These are known as **void/empty elements**.

Nested HTML Elements

Elements can be nested, which means you can write an element, and before closing that element, you can start and finish another element within that outer element.

Example

```
<!DOCTYPE html>
<html>
 <head> <title>Example for Nested HTML Elements</title>
 </head>
 <body> <p>This is my paragraph text with <strong>bold</strong> word.</p>
     </body>
</html>
```

HTML Formatting Tags

Bold Text

Anything that appears within **...** element, is displayed in bold as shown below:

Example
```
<!DOCTYPE html>
<html>
<head>
<title>Bold Text Example</title>
</head>
<body>
<p>Welcome to <b>LPU</b> Jalandhar</p>
</body>
</html>
```

Italic Text

Anything that appears within **<i>...</i>** element is displayed in italicized as shown below:

Example
<!DOCTYPE html>
<html>
<head>
<title>Italic Text Example</title>
</head>
<body>
<p>Welcome to <i>LPU</i> Jalandhar</p>
</body>
</html>

Underlined Text

Anything that appears within **<u>...</u>** element, is displayed with underline as shown below:

Example

<!DOCTYPE html>
<html>
<head>
<title>Underlined Text Example</title>
</head>
<body>
<p>Welcome to <u>LPU</u> Jalandhar</p>
</body>
</html>

Strike Text

Anything that appears within **<strike>...</strike>** element is displayed with strikethrough, which is a thin line through the text as shown below:

Example
```
<!DOCTYPE html>
<html>
<head>
<title>Strike Text Example</title>
</head>
<body>
<p>This is completely <strike>bad</strike>idea</p>
</body>
</html>
```

Superscript Text

The content of a **^{...}** element is written in superscript; the font size used is the same size as the characters surrounding it but is displayed half a character's height above the other characters.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Superscript Text Example</title>
</head>
<body>
<p>An example of <sup>superscript</sup> formatting tag</p>
</body>
</html>
```

Subscript Text

The content of a **_{...}** element is written in subscript; the font size used is the same as the characters surrounding it, but is displayed half a character's height beneath the other characters.

Example
```
<!DOCTYPE html>
<html>
<head>
<title>Subscript Text Example</title>
</head>
<body>
<p>An example of <sub>subscript</sub> formatting tag</p>
</body>
</html>
```

Inserted and Deleted Text

Anything that appears within **<ins>...</ins>** element is displayed as inserted text.
Anything that appears within **~~...~~** element, is displayed as deleted text.

Example
<!DOCTYPE html>
<html>
<head>
<title>Inserted Text Example</title>
</head>
<body>
<p>This is an example of ~~old information~~ and <ins>new information</ins>
</p>
</body>
</html>

Larger Text

The content of the **<big>...</big>** element is displayed one font size larger than the rest of the text surrounding it as shown below:

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Larger Text Example</title>
</head>
<body>
<p>Welcome to <big>LPU</big> Jalandhar</p>
</body>
</html>
```

Smaller Text

The content of the **<small>...</small>** element is displayed one font size smaller than the rest of the text surrounding it as shown below:

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Smaller Text Example</title>
</head>
<body>
<p>Example of <small>small</small> formatting tag</p><
/body>
</html>
```

Emphasized Text

Anything that appears within **\...** element is displayed as emphasized text.

Example
```
<!DOCTYPE html>
<html>
<head>
<title>Emphasized Text Example</title>
</head>
<body>
<p>This is an example of <em>emphasized</em> tag</p>
</body>
</html>
```

Marked Text

Anything that appears with-in **<mark>...</mark>** element, is displayed as marked with yellow ink.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Marked Text Example</title>
</head>
<body>
<p>This is an example of <mark>marked</mark> tag</p>
</body>
</html>
```

Short Quotations

The **\<q\>...\</q\>** element is used when you want to add a double quote within a sentence.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Double Quote Example</title>
</head>
<body>
<p>Welcome to  <q>LPU</q>Jalandhar</p>
</body>
</html>
```

Computer Code

Usually the content of the <code> element is presented in a monospaced font, just like the code in most programming books. Monospaced typefaces are ones in which all or most characters take up the same amount of horizontal space.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Computer Code Example</title>
</head>
<body>
<p>Regular text. <code>This is code.</code> Regular text.</p>
</body>
</html>
```

Comment

<!--This is a comment. Comments are not displayed in the browser-->

Example

<!DOCTYPE html>

<html>

<head>

<title>Using Comment Tag</title>

</head>

 <body>

 <p>This is <!—not--> Internet Explorer.</p>

 </body>

</html>

Style

- The <style> tag is used to define style information for a document.
- Inside the <style> element you specify how HTML elements should render in a browser.

```
<html>
<head>
<style>
  h1 {color:red;}
  p {color:blue;}
</style>
</head>
<body>

<h1>A heading</h1>
<p>A paragraph.</p>

</body>
</html>
```

Example

- Multiple styles for the same elements:

```
<html>
<head>
<style>
 h1 {color:red;}
 p {color:blue;}
</style>
<style>
 h1 {color:green;}
 p {color:pink;}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

Text Direction

The **<bdo>...</bdo>** element stands for Bi-Directional Override and it is used to override the current text direction.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Text Direction Example</title>
</head>
<body>
<p>This text will go left to right.</p>
<p><bdo dir="rtl">This text will go right to left.</bdo></p>
</body>
</html>
```

Citation

- The <cite> tag defines the title of a creative work (e.g. a book, a poem, a song, a movie, a painting, a sculpture, etc.).
- The text in the <cite> element usually renders in *italic*.

```
<!DOCTYPE html>
<html>
<body>
<h1>The cite element</h1>
<p><cite>The Scream</cite> by Edward Munch. Painted in 1893.</p>
</body>
</html>
```