HTML – Overview

HTML stands for **H**ypertext **M**arkup **L**anguage, and it is the most widely used language to write Web Pages. The first version of HTML was written by Tim Berners-Lee in 1993. Since then, there have been many different versions of HTML. The most widely used version throughout the 2000's was **HTML 4.01.**

1. What is the HTML?

Documents on the web are generally coded in a markup language called Hypertext Markup Language (HTML). HTML is used to describe the structure of a document and links in a hypertext document. HTML adds <u>tags</u> that identify elements in a document such as headings, subheadings, paragraphs, and appendices. The HTML codes embedded in the document text explicitly describe the text, providing information to the web client about how to interpret it. The primary focus of HTML is the content of the document, not its appearance. It is a language for describing structured documents.

- **Hypertext** refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a **Markup Language** which means use HTML to simply "mark-up" a text document with tags that tell a Web browser how to structure it to display.

Advantages of HTML

- HTML is used to build websites.
- It is supported by all browsers.
- It can be integrated with other languages like **CSS**, **JavaScript**, etc.

Disadvantages of HTML

- HTML can only create static web pages. For dynamic web pages, other languages have to be used.
- A large amount of code has to be written to create a simple web page.
- The security feature is not good.

Basic HTML Document

In its simplest form, following is an example of an HTML document –

```html
<!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>
```

```
1 ─────────────── <!DOCTYPE html>

  ┌──────────── <html>

    ┌──────── <head>
    │         <meta charset="utf-8"> ────── 4
  3 │         <title>Title here</title> ──── 5
    └──────── </head>

2 ┤ ┌──────── <body>
  │ 6        Page content goes here.
  │ └──────── </body>

  └──────────── </html>
```

It is a document type declaration (also called DOCTYPE declaration) that identifies this document as an HTML5 document.

The entire document is contained within an html element. The html element is called the **root element** because it contains all the elements in the document, and it may not be contained within any other element. It is used for both HTML and XHTML documents.

Within the html element, the document is divided into a **head** and a **body**.

The **head element**: contains descriptive information about the document itself, such as its title, the style sheet(s) it uses, scripts, and other types of "meta" information.

The meta elements within the head element provide information about the document itself

Also in the head is the mandatory title element. According to the HTML specification, every document must contain a descriptive title.

Finally, the **body element** contains everything that we want to show up in the browser window.
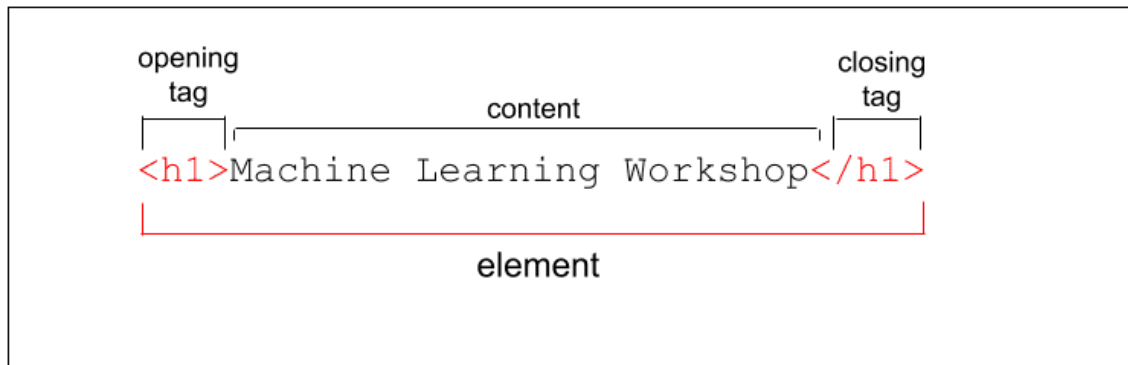
HTML Tags

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.

To learn HTML, need to study various tags and understand how they behave, while formatting a textual document. Learning HTML is simple as users have to learn the usage of different tags in order to format the text or images to make a beautiful webpage.

World Wide Web Consortium (W3C) recommends to use lowercase tags starting from HTML4.

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>

So here **<p>....</p>** is an HTML element, **<h1>...</h1>** is another HTML element. There are some HTML elements which don't need to be closed, such as **<img.../>**, **<hr />** and **
** elements. These are known as **void elements**.

HTML documents consists of a tree of these elements and they specify how HTML documents should be built, and what kind of content should be placed in what part of an HTML document.

Nested HTML Elements

It is very much allowed to keep one HTML element inside another HTML element –

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Nested Elements Example</title>
  </head>
  <body>
    <h1>This is <i>italic</i> heading</h1>
    <p>This is <u>underlined</u> paragraph</p>
  </body>

</html>
```
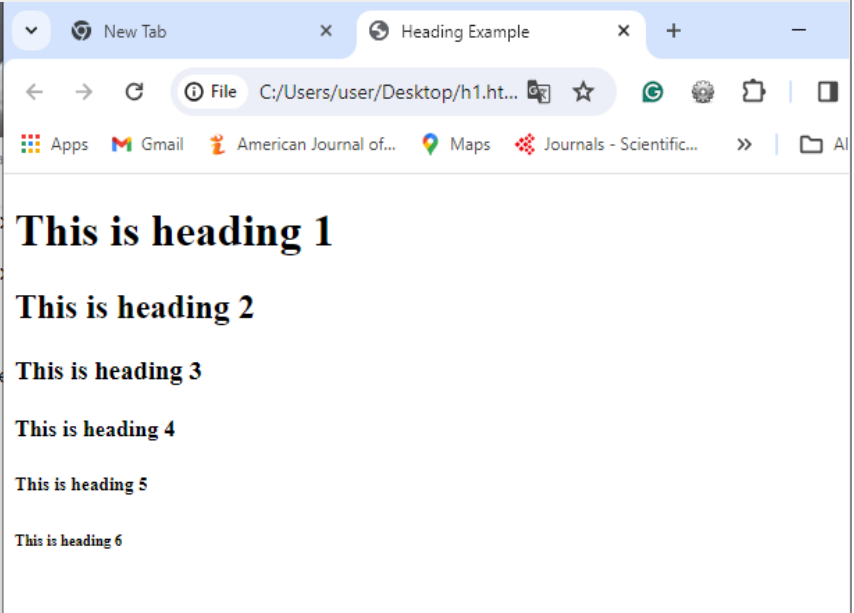
Note: It doesn't matter which tag is first, but they must be closed in the proper order

HTML - Basic Tags

Heading Tags

Any document starts with a heading. we can use different sizes for headings. HTML also has six levels of headings, which use the elements **<h1>, <h2>, <h3>, <h4>, <h5>,** and **<h6>**. While displaying any heading, <u>browser adds one line before and one line after that heading</u>.
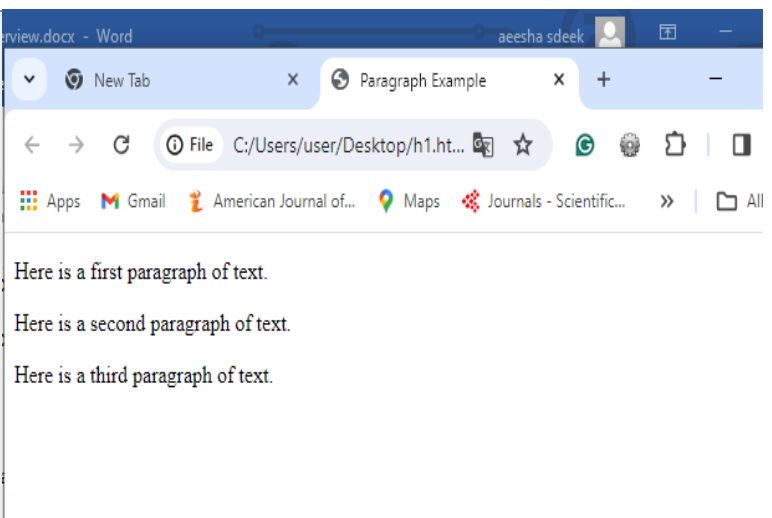
Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>Heading Example</title>
  </head>

  <body>
    <h1>This is heading 1</h1>
    <h2>This is heading 2</h2>
    <h3>This is heading 3</h3>
    <h4>This is heading 4</h4>
    <h5>This is heading 5</h5>
    <h6>This is heading 6</h6>
  </body>

</html>
```

Paragraph Tag

The **<p>** tag offers a way to structure text into different paragraphs. Each paragraph of text should go in between an opening <p> and a closing </p> tag as shown below in the example –
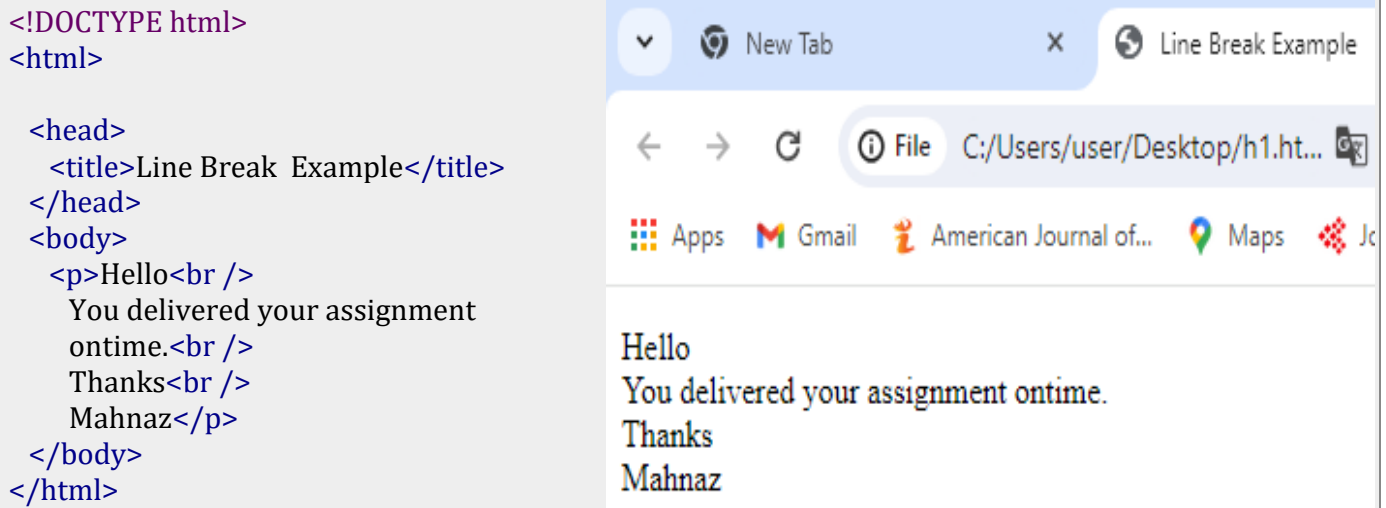
Example

```
<!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 using the **
** element, anything following it starts from the next line. This tag is an example of an **empty** element, where 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. If we omit this space, older browsers will have trouble rendering the line break, while if miss the forward slash character and just use <br> it is not valid in XHTML.
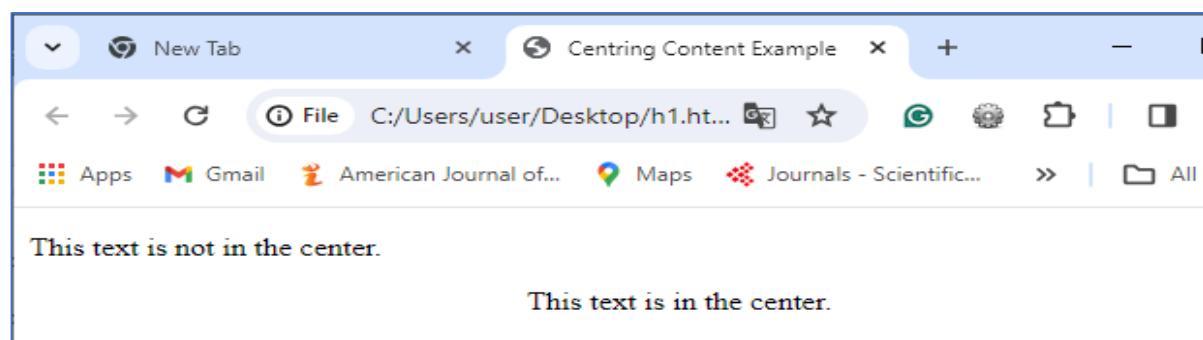
Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>Line Break  Example</title>
  </head>
  <body>
    <p>Hello<br />
    You delivered your assignment
    ontime.<br />
    Thanks<br />
    Mahnaz</p>
  </body>
</html>
```


Centering Content

<center> tag used 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>This text is not in the center.</p>
      <center>
    <p>This text is in the center.</p>
    </center>
  </body>
</html>
```
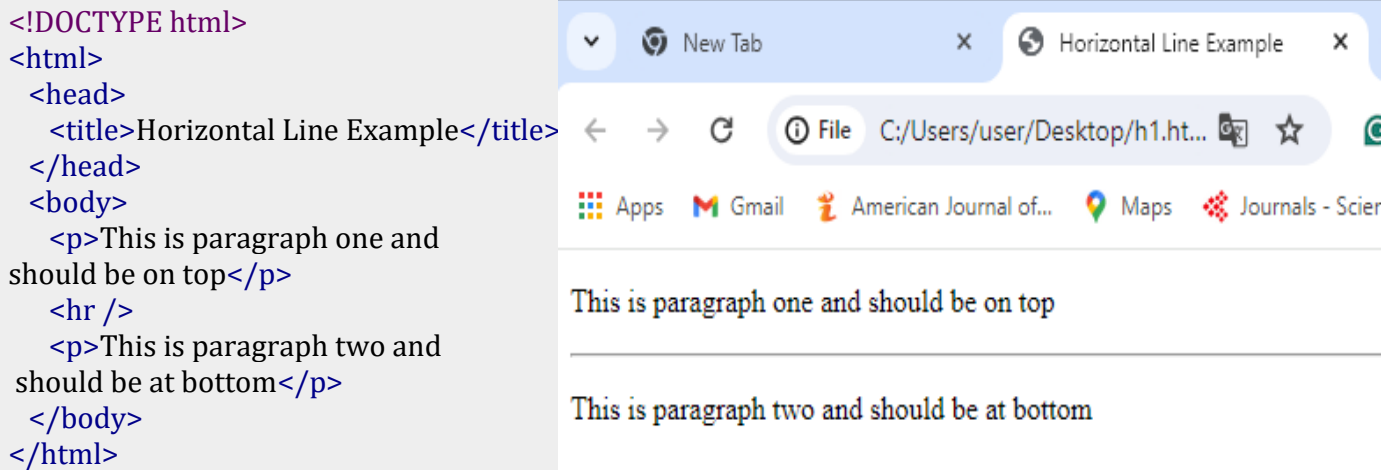
Horizontal Lines

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, 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>
```

This is paragraph one and should be on top

This is paragraph two and should be at bottom

Again **<hr />** tag is an example of the **empty** element, where do not need opening and closing tags, as there is nothing to go in between them.
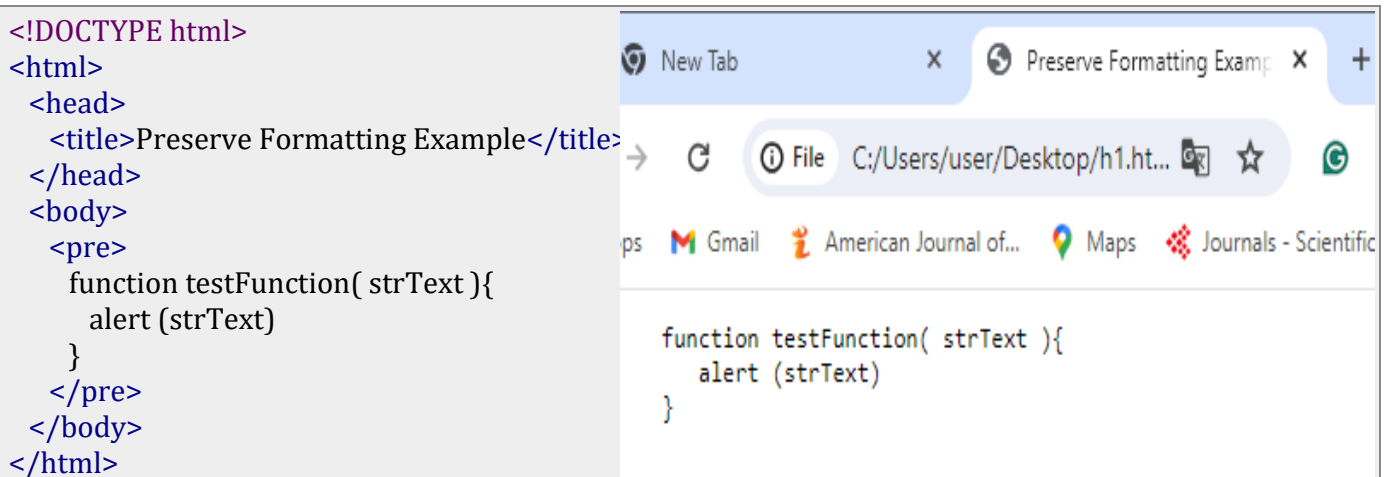
The **<hr />** element has a space between the characters **hr** and the forward slash. If omit this space, older browsers will have trouble rendering the horizontal line, while if the forward slash character missed and just use **<hr>** it is not valid in XHTML

Preserve Formatting

This tag used where text follow the exact format of how it is written in the HTML document. In these cases, use the preformatted tag **<pre>**.

Any text between the opening **<pre>** tag and the closing **</pre>** tag will preserve the formatting of the source document.

Example

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

```
function testFunction( strText ){
    alert (strText)
}
```

Try using the same code without keeping it inside **<pre>...</pre>** tags

Nonbreaking Spaces

To use the phrase "12 Angry Men." Here, and not allow the browser to split the "12, Angry" and "Men" across two lines –

An example of this technique appears in the movie "12 Angry Men."

In cases, where the client do not want browser to break text, should use a nonbreaking space entity ** ** instead of a normal space. For example, when coding the "12 Angry Men" in a paragraph, use something similar to the following code –

Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>Nonbreaking Spaces Example</title>
  </head>

  <body>
    <p>An example of this technique appears in the movie "12 Angry Men."</p>
  </body>

</html>
```

HTML - Formatting

To make text bold, italicized, or underlined; these are just three of the ten options available to indicate how text can appear in HTML

Bold Text

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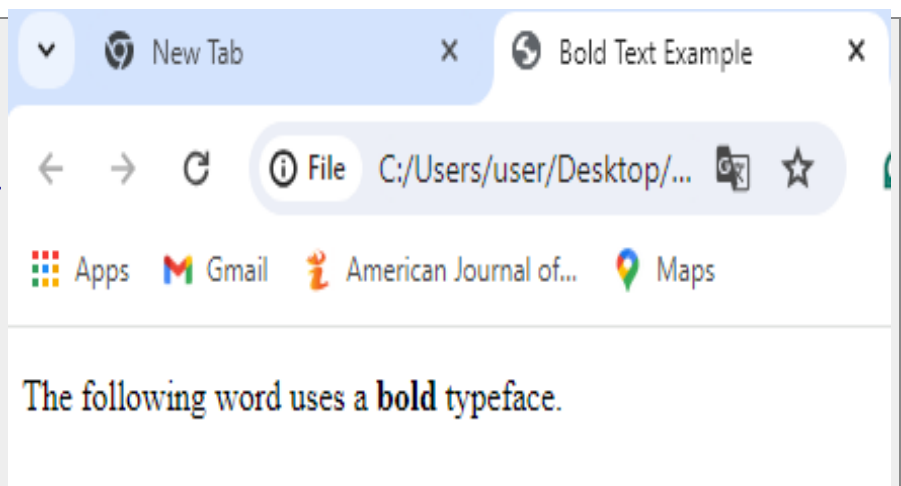
Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>Bold Text Example</title>
  </head>

  <body>
    <p>The following word uses a
<b>bold</b> typeface.</p>
  </body>

</html>
```
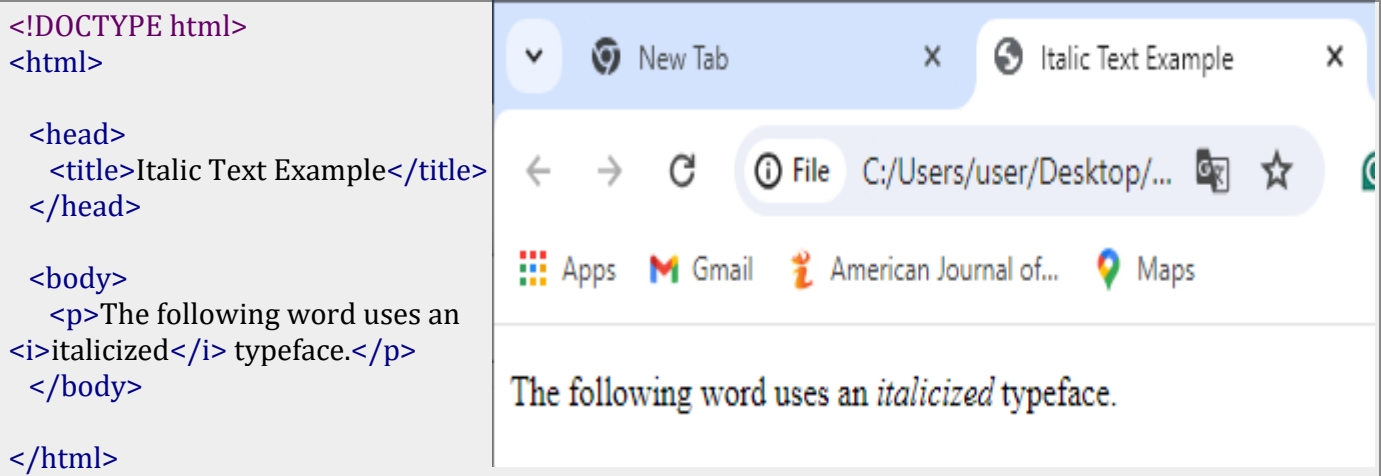
Italic Text

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>The following word uses an
<i>italicized</i> typeface.</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>The following word uses an <u>underlined</u> typeface.</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>The following word uses a <strike>strikethrough</strike> typeface.</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>The following word uses a <sup>superscript</sup> typeface.</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>The following word uses a <sub>subscript</sub> typeface.</p>
  </body>
</html>
```

Deleted Text

Anything that appears within **~~...~~** element, is displayed as deleted text.

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Deleted Text Example</title>
  </head>
  <body>
    <p>I want to drink <del>cola</del> <ins>wine</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

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Larger Text Example</title>
  </head>
  <body>
    <p>The following word uses a <big>big</big> typeface.</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

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Smaller Text Example</title>
  </head>
 <body>
    <p>The following word uses a <small>small</small> typeface.</p>
  </body>
</html>
```

The result for the rest of text formatting tags in HT ML examples shown below: