HTML

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HTML vs CSS vs JAVASCRIPT

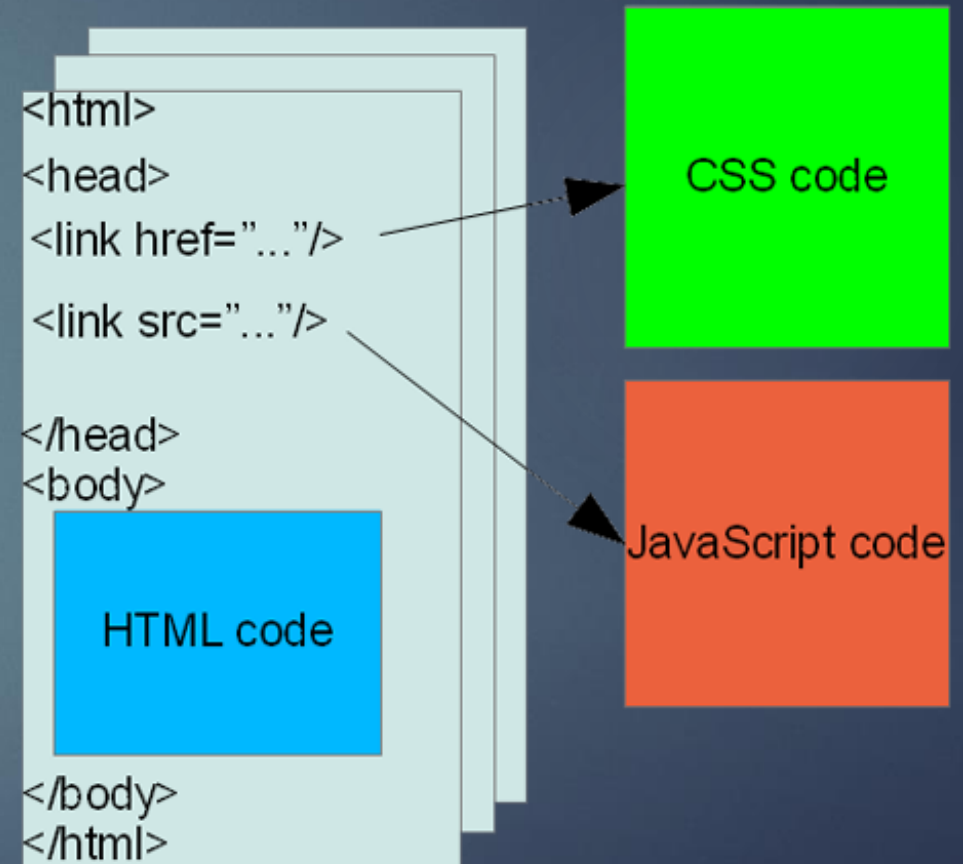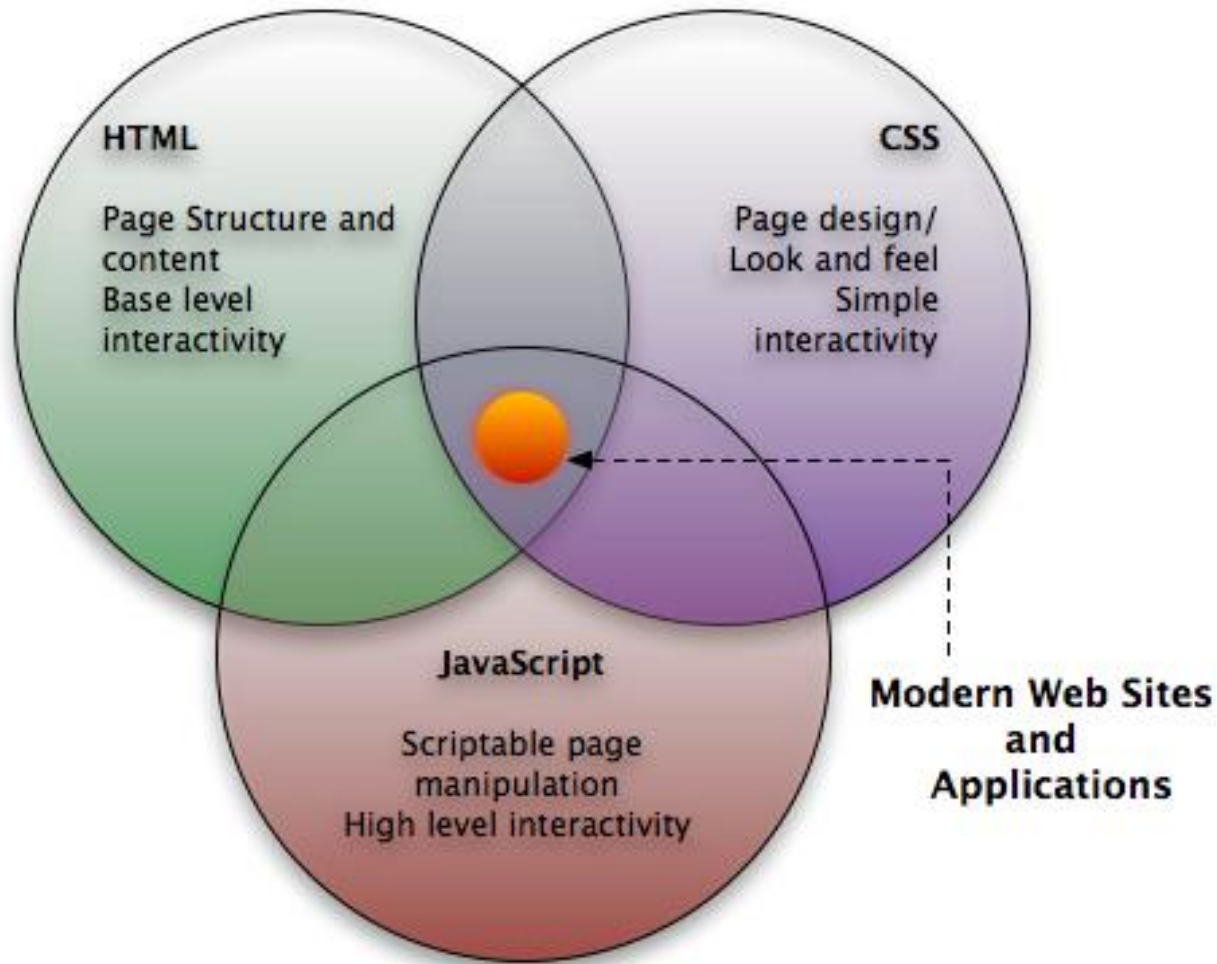## Overview

What is HTML?

- Tim Berners-Lee was the author of html, with his team at CERN.

- The HTML that Tim invented was strongly based on SGML (Standard Generalized Mark-up Language).

- Hypertext Markup Language (First Version of HTML) was formally published on June 1993.

- Platform independent.

- HTML is a format that tells a computer how to display a web page.

- The documents themselves are plain text files (ASCII) with special "tags" or codes that a web browser knows how to interpret and display on your screen.

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HTML Versions

- HTML 2.0
  - HTML 2.0 was developed by the Internet Engineering Task Force HTML Working Group in 1996.
- HTML 3.2
- HTML 4.0
- HTML 4.01
  - HTML 4.01 was released as a W3C Recommendation 24. December 1999.
  - HTML 4.01 is a minor update of corrections and bug fixes in HTML 4.0.
  - W3C will not continue to develop HTML. Future W3C work will be focusing on XHTML.

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- XHTML 1.0
  - XHTML 1.0 reformulates HTML 4.01 in XML.
  - XHTML 1.0 was released as a W3C Recommendation 20. January 2000.
- HTML5
  - Web Hypertext Application Technology Working Group(WHATWG) and W3C came up with this in 2007
  - HTML 5 is a combination of HTML 4.01 and XHTML 1.0.
  - Many browsers are going to start supporting this in the future.
  - HTML 5 is backwards compatible.

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You can write your HTML code in almost any available text editor, including notepad.

Open source text editor

Brackets http://brackets.io/   Notepad++ https://notepad-plus-plus.org/

or

We'll use Eclipse which has built-in HTML Editor.

HTML Document will always be saved in **.html** extension or an **.htm** extension.

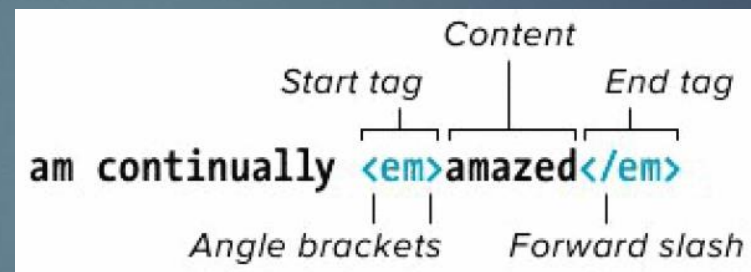Sujata Batra

HTML Tags and Elements

Tags are enclosed in angle brackets < >

For Eg.: <html> Opening Tag, **</html>** Closing Tag.

Element is the combination of (opening & closing Tags and the content between them).

For Eg.:

Element
<h1>About Google</h1>
Opening tag   Closing tag

Content
Start tag   End tag
am continually amazed
Angle brackets   Forward slash
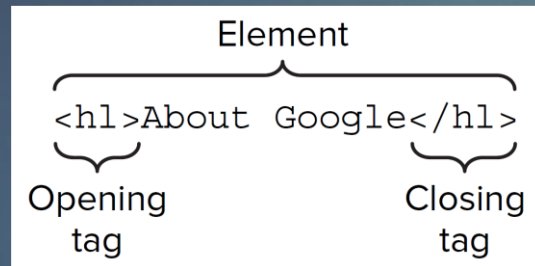
<p>Part of this text is ****bold****. **</p>** is a PARAGRAPH element that contains a BOLD element

An HTML document is a collection of elements (text/media with context).

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Empty tags vs Container tags

Some elements which does not requires **closing tags**, are known as **Empty Tags** or **Elements**.

For Eg.:   **<img** src="peoplestrategists_logo.jpg" alt="People Strategists Logo" **/>**

   **
** begining of new line. **BR** stands for **BReak**.

   <hr > puts a line across the page. **HR** stands for **H**orizontal **R**ule.

The elements which requires **opening** and **closing tags**, are known as **Container Tags** or **Elements**.

For Eg.:   **<h1>** This is a heading **</h1>**

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

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HTML Attributes and Values

HTML elements can have <u>attributes</u> which provides additional information about an element.

Always specified in the opening tag and should contained value.

For Eg.:

```
href is an attribute of a                                    rel is also an attribute of a
                        Value for href                                  Value for rel

<a href="http://en.wikipedia.org/wiki/Linum_lewisii" rel="external"</a>
```

```
<!DOCTYPE html>
<html>
<head>
<title>Align Attribute  Example</title>
</head>
<body>
<p align="left">This is left aligned</p>
<p align="center">This is center aligned</p>
<p align="right">This is right aligned</p>
</body>
</html>
```

This is left aligned

This is center aligned

This is right aligned

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Some Important Attributes

Attribute	Options	Function
title	User Defined	"Pop-up" title of the elements.
href	User Defined	The link address is specified in the href attribute opens.
class	User Defined	Classifies an element for use with Cascading Style Sheets.
id	User Defined	Names an element for use with Cascading Style Sheets.
bgcolor	numeric, hexidecimal, RGB values	Places a background color behind an element
background	URL	Places a background image behind an element
align	right, left, center	Horizontally aligns tags
valign	top, middle, bottom	Vertically aligns tags within an HTML element.
width	Numeric Value	Specifies the width of tables, images, or table cells.
height	Numeric Value	Specifies the height of tables, images, or table cells.

Structural Elements

A standard HTML document has two main structural elements

<u>head</u> contains setup information for the browser & the Web page

For E.g., the title for the browser window, style definitions, JavaScript code, …

<u>body</u> contains the actual content to be displayed in the Web page

```html
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <title>My first HTML document</title>
</head>
  <body>
    <p> Hello world! </p>
  </body>
</html>
```

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Comments and doctype

HTML has a mechanism for embedding comments that are not displayed when the page is rendered in a browser.

Eg.: `<!-- This is comment text -->`

Besides tags, text content, and entities, an HTML document must contain a doctype declaration as the **first line**. **For**

Eg.:

```
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8" />
 <title>My first HTML document</title>
</head>
 <body>
  <p> Hello world! </p>
 </body>
</html>
```

Current version of HTML is 5 and it makes use of the following declaration: `<!DOCTYPE html>`

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doctype

▶ DOCTYPE tells the consuming user agent (web browsers, web crawlers, validation tools) what type of document the file is. Using it ensures that the consumer correctly parses the HTML as you intended it.

▶ HTML 4.01 Strict

    ▶ This DTD contains all HTML elements and attributes, but does NOT INCLUDE presentational or deprecated elements (like font).

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

▶ HTML 4.01 Transitional

    ▶ This DTD contains all HTML elements and attributes, INCLUDING presentational and deprecated elements (like font).

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

doctype

- **HTML 4.01 Frameset**
  - This DTD is equal to HTML 4.01 Transitional, but allows the use of frameset content.
    - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN" "http://www.w3.org/TR/html4/frameset.dtd">`

- **HTML 5**
  - `<!DOCTYPE html>`

\<head\> and \<body\> Elements

- THE **\<HEAD\>** ELEMENT IS WHERE YOU INCLUDE A **\<TITLE\>** ELEMENT (THAT APPEARS IN THE TITLE BAR OF THE BROWSER).

- YOU CAN ALSO INCLUDE LOTS OF OTHER TYPE OF INFORMATION IN THE **\<HEAD\>** ELEMENT.

  - Cascading Style sheet information, or a link to an external style sheet (or several).

  - "Meta" data, such as who authored the page, the type of content, and clues that search engines may (or may not) use to help categorize your page.

  - JavaScript code.

- THE **\<BODY\>** ELEMENT CONTAINS THE MAIN BULK OF THE MATERIAL TO BE DISPLAYED ON THE WEBPAGE.

  - Paragraphs.

  - Tables and lists.

  - Images.

  - JavaScript code.

  - PHP code can be included here too (if passed through a PHP parser before being served to the client's browser).

  - Other embedded objects (videos, etc).

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<head> Elements

Meta tags

The <meta> tag provides metadata about the HTML document.

Meta elements are typically used to specify page description, keywords, author of the document, last modified, and other metadata.

Some examples –

Example 1 - Define keywords for search engines:

    <meta name="keywords, description " content="HTML, CSS, XML, XHTML, JavaScript">

Example 3 - Define the author of a page:

    <meta name="author" content="Hege Refsnes">

Example 4 - Refresh document every 30 seconds:

    <meta http-equiv="refresh" content="30">

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<head> Elements (Cont.)
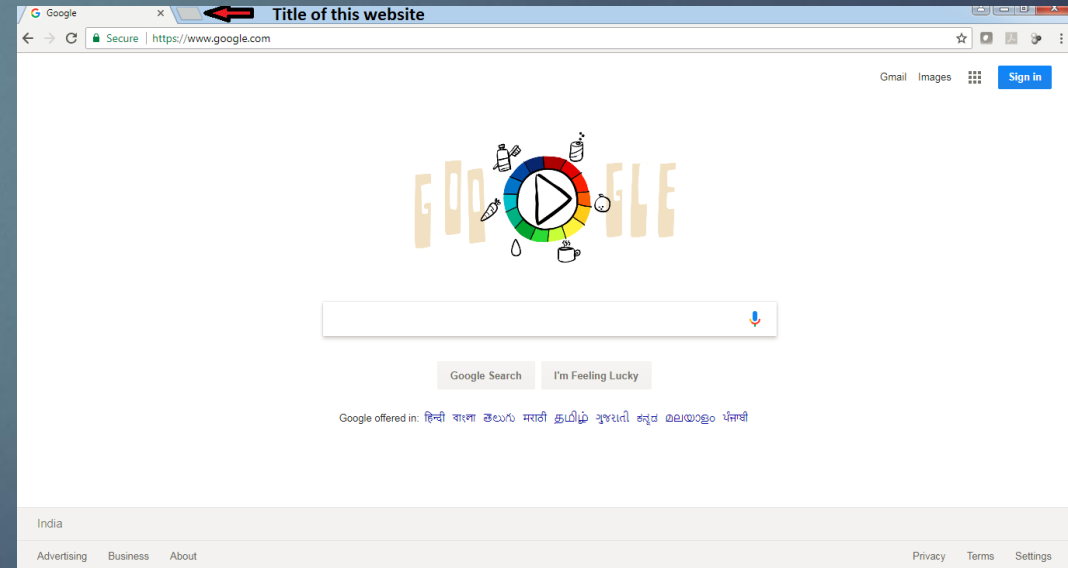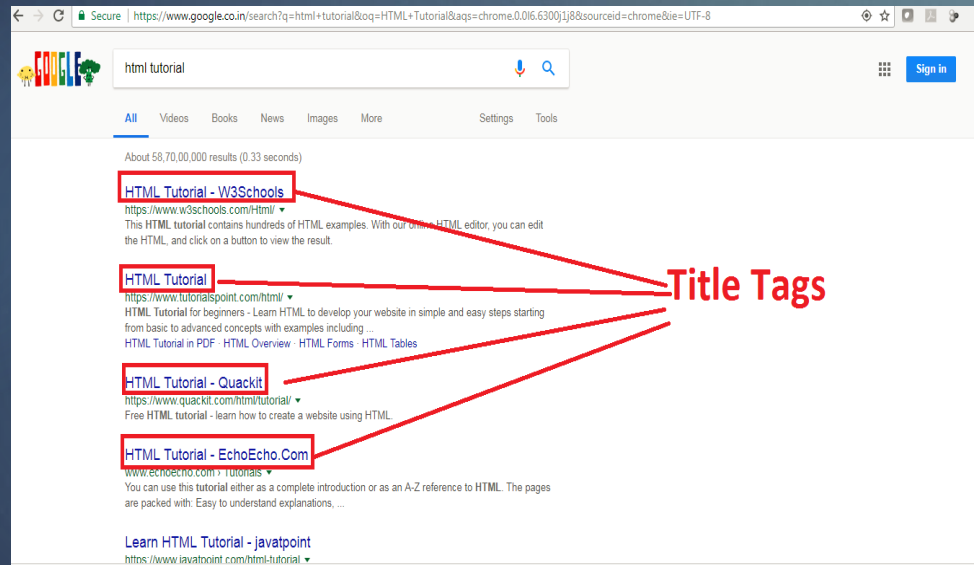
Title Tag

The <title> tag is required in all HTML documents and it defines the title of the document.

The <title> element: Defines a title in the browser toolbar.

Provides a title for the page when it is added to favorites.

Displays a title for the page in search-engine results.

Eg.:

<head> Elements (Cont.)

Link Tag

The <link> tag defines a link between a document and an external resource.

In HTML the <link> tag has no end tag.

Some Imp. Attributes –   charset, - To know browser, which character encoding is used.
                             href, - hyperlink.
                             rel, - Relation between linked document.
                             target. – It specifies where to open the linked document.

Example –

```
<head>
<link rel="stylesheet" type="text/css" href="theme.css">
</head>
```

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<head> Elements (Cont.)

Script Tags

The <script> tag is used to define a client-side script, such as a JavaScript.

The <script> element either contains scripting statements, or it points to an external script file through the src attribute.

Example -

```
<html>
<head>
<title>Align Attribute  Example</title>
</head>
<body>

<p id="demo"></p>

<script>document.getElementById("demo").innerHTML
= "Hello JavaScript!"; </script>

</body>
</html>
```

Hello JavaScript!

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<head> Elements (Cont.)

Style Tag

The <style> tag is used to define style information for an HTML document.

Inside the <style> element you specify how HTML elements should render in a browser.

Example-

```
<html>
<head>
h1 {color:red;}
p {color:blue;}
</head>
<body>
<h1>A heading</h1>
<p>A paragraph.</p>
</body>
</html>
```

This is a heading

This is a paragraph.

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Elements for the BODY section

Block-level elements

The BODY of a document consists of multiple block elements. If plain text is found inside the body, it is assumed to be inside a paragraph P. See the syntax rules for an explanation of the syntax used in the overview.

Headings
H1 - Level 1 header
H2 - Level 2 header
H3 - Level 3 header
H4 - Level 4 header
H5 - Level 5 header
H6 - Level 6 header

Text containers
P - Paragraph
PRE - Preformatted text
BLOCKQUOTE - Large quotation
ADDRESS - Address information

Text Level Elements
Logical Markups
Physical Markups
Special Markups

Lists
UL - Unordered list
OL - Ordered list
DIR - Directory list
MENU - Menu item list
LI - List item
DL - Definition list
    DT - Definition term
    DD- Definition

Others
DIV - Logical division
CENTER - Centered division
FORM - Input form
HR - Horizontal rule
TABLE - Tables

Elements for the BODY section

Headings

There are 6 types of heading tags.

Eg.: –

```
<html>
<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>
<p><b>Tip:</b> Use h1 to h6 elements only for headings.
Do not use them just to make text bold or big. Use other tags
for that.</p>
</body>
</html>
```

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

Tip: Use h1 to h6 elements only for headings. Do not use them just to make text bold or big. Use other tags for that.

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Elements for the BODY section (Cont.)

<p> - Paragraph Tag and <pre> - Preformatted Tag

<p> Tag - Another way to structure your text in paragraph forms.

<Pre> Tag - is used to apply structural exactness.

Eg.:

<html>
<body>
<p>This is a paragraph of text.</p>
<p>This is a second paragraph of text.</p>
<pre>This is preformatted text with   exact space, line and breaks.</pre>
</body>
</html>

This is a paragraph of text.

This is a second paragraph of text.

```
This is preformatted text with        exact space,
line and breaks.
```

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<blockquote> Tag and <address> Tag

Blockquote Tag - Indicates that the enclosed text is an extended quotation.

Address Tag - Address Information of the Author/Owner.

Eg.:

```
<html>
<body>
<blockquote cite="http://www.sujatabatra.com/">
 <p>This is a quotation taken from the Sujata Batra.</p>
</blockquote>

<address>
Written by
<a href="mailto:sujatabatra@hotmail.com">Sujata
Batra</a>.<br>
Visit us at:<br>
www.SujataBatra.com<br>
S1, TowerX, Some Business Bay,<br>
Outer Ring Road, Delhi.
</address>
</body>
</html>
```

This is a quotation taken from the Sujata Batra.

Written by Sujata Batra.
Visit us at:
www.SujataBatra.com
S1, TowerX, Some Business Bay,
Outer ring road, Delhi.

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Elements for the BODY section (Cont.)

Text Formatting Elements

Physical markup
TT - Teletype
I - Italics
B - Bold
U - Underline
STRIKE - Strikeout
BIG - Larger text
SMALL - Smaller text
SUB - Subscript
SUP - Superscript

Logical markup
EM - Emphasized text
STRONG - Strongly emphasized
DFN - Definition of a term
CODE - Code fragment
SAMP - Sample text
KBD - Keyboard input
VAR - Variable
CITE - Short citation

Special markup
A - Anchor
IMG - Image
BASEFONT - Default font size
APPLET - Java applet
PARAM - Parameters for Java applet
FONT - Font modification
BR - Line break
MAP - Client-side imagemap
AREA - Hotzone in imagemap

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Elements for the BODY section (Cont.)

Text Formatting Elements (Physical Markup)

Tag	Description
….	- bold.
<i>……</i>	- italic.
<u>….</u>	- underline.
<strike>…</strike>	- strikethrough.
_{….}	- subscript.
^{….}	- superscript.
<big>….</big>	- bigger font (one font size bigger).
….	- small font (one font size smaller).
<tt>….</tt>	- typewriter (monospaced).

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Elements for the BODY section (Cont.)

Text Formatting Elements (Physical Markup)

```
<html>
<body>

<b> Sujata Training. </b> <br>

<i> Java Training. </i> <br>

<u> Powered by – Sujata Batra. </u> <br>

<strike> Text. </strike> <br>

<small> Copyright &copy Sujata Batra Pvt.Ltd. </small>

<sub> Subscipt. </sub>

<sup> Superscript. </sup>

</body>
</html>
```

Sujata Training.
Java Training.
Powered by – Sujata Batra.
~~Text.~~
Copyright © Sujata Batra Pvt.Ltd. Subscipt. Superscript.

S u j a t a   B a t r a

Elements for the BODY section (Cont.)

Text Formatting Elements (Logical Markup)

Tag		Description
<em>	-	Emphasized
<strong>	-	Strongly emphasized
<dfn>	-	A definition
<code>	-	Represents computer code
<kbd>	-	keyboard characters
<var>	-	Program variable
<cite>	-	A citation

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Elements for the BODY section (Cont.)

Text Formatting Elements (Logical Markup)

```
<html>
<body>

<em> Sujata Training. </em> <br>

<strong> Java Training. </strong > <br>

<dfn> Powered by - SujataBatra. </dfn > <br>

<code> Text. </code> <br>

<kbd> Subscipt. </kbd>

<var> Superscript. </var>

<cite> Superscript. </cite>

</body>
</html>
```

Sujata Training.
Java Training.
Powered by - SujataBatra.
Text.
Subscipt. *Superscript. Superscript.*

Elements for the BODY section (Cont.)

Text Formatting Elements (Special markup)

Links and Navigation

Anchor Element-

An anchor can be used to create a link to another document (with the href attribute).

Types –

External : **Our Best Friend**

Internal : **contact**

Image Tag-

The syntax for the tag to insert image into the webpage is-

<img src="url" alt="alternate text">

Eg.: **<img src=**"\images\SomeImage.jpg" alt="Some Image"**>**

Elements for the BODY section (Cont.)

Unordered List and Odered Lists

Unordered Lists - tag. Item lists in <li> tag. The list items will be marked with bullets.

Ordered Lists - tag. Item lists in <li> tag. . The list items will be marked with numbers.

Eg.:

```html
<html>
<body>
<h2>Unordered List </h2>
<ul>
 <li>Java</li>
 <li>Python</li>
 <li>Ruby</li>
</ul>
<h2>Ordered List </h2>
<ol>
 <li>Java</li>
 <li>Python</li>
 <li>Ruby</li>
</ol>
</body>
</html>
```

Unordered List

- Java
- Python
- Ruby

Ordered List

1. Java
2. Python
3. Ruby

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