

Paper: Web Technologies**UNIT – I****Part 1:**

World Wide Web: Introduction, Web page, home page, Web site, Static and dynamic website, client server computing concepts. Web client and web server, web browser, client side and server-side scripting languages.

Part 2:

HTML overview: Introduction to HTML, HTML Document structure tags, HTML comments, Text formatting, inserting special characters, anchor tag, adding images and Sound, lists types of lists, tables, frames and floating frames, Developing Forms, Image maps. [No. of Hrs: 11]

Unit 1 PART 2 Notes:**Static Web Development: HTML Introduction to HTML- What is HTML?**

- HTML: Standard markup language for creating web pages. (Markup means it uses tags to define elements and add information.)
- **HTML** stands for Hyper Text Markup Language. It is used to design web pages using markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. Markup language is used to define the text document within tag which defines the structure of web pages. This language is used to annotate (make notes for the computer) text so that a machine can understand it and manipulate text accordingly. Example:
 - `<p>`This is the simple text within the paragraph tag.`</p>`

Output

This is the simple text within the paragraph tag.

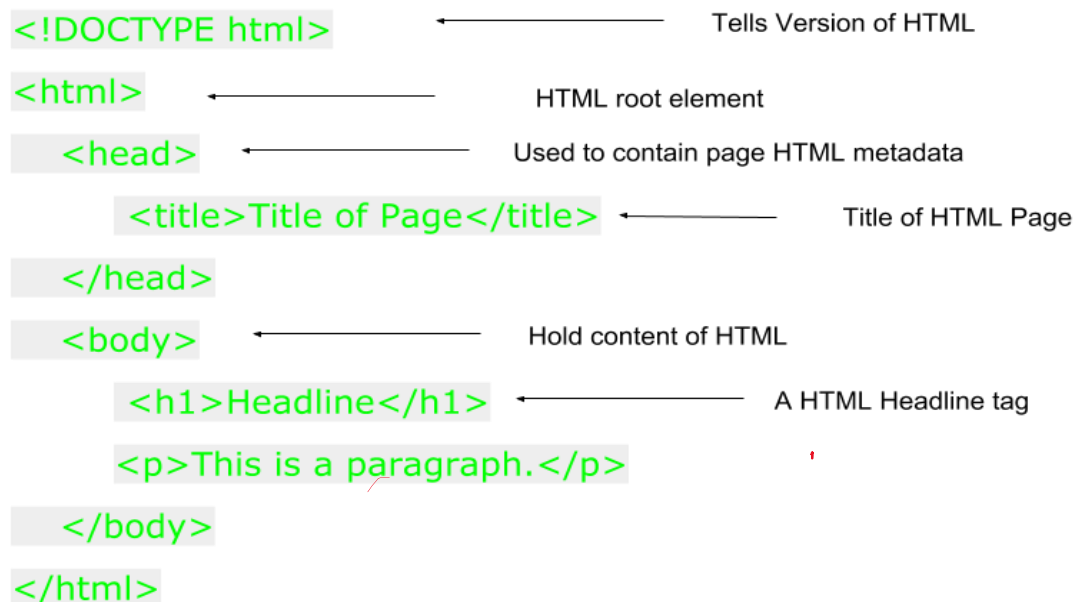
The above example showing the text information within the **opening**(`<p>`) and **closing**(`</p>`) tag. The paragraph tag contains the **less than**(`<`) and **greater**(`>`) sign to create a markup language tag element.

- HTML stands for Hyper Text Markup Language. A skeleton to structure our website well. Helps in -Website creation, web development, build static websites easily.
- HTML is
 - Simple
 - Browser/Platform Independent
 - Not Case Sensitive
 - A medium for User Interface
- Web Pages are coded in HTML. HTML documents are stored on the web server and are downloaded as part of a response to a request from the client.
- An HTML document is a text file that contains the elements a browser uses to display text, multimedia objects, and hyperlinks.
- A hyper link connects one document to another document.
- Markup Language is a language that has codes for indicating layout and styling (such as boldface, italics, paragraphs, placement of graphics, etc.) within a text file.
- **Markup language is entirely different from a programming language. A markup language is a system for annotating a document in a way that is syntactically distinguishable from the text.**
- HTML is derived from Standard Generalized Markup Language (SGML). SGML is a language used to define other languages.
- Tim Berners-Lee invented the World Wide Web, HTML, HTTP and Universal Resource Locators (URLs). He is currently the director of the World Wide Web Consortium(W3C) the group that sets technical standards for the Web.
- HTML tags are not case sensitive, <body> means the same as <BODY>
- HTML using ASCII (plain text) format, hence platform independent.
- HTML is interpreted by the browser, not like other programming languages.
- HTML form elements are used to create a GUI.

HTML Elements (tags and attributes)

- An HTML file contains markup tags that tell the browser how to display the page. Tags can contain plain text, other elements, or both.
- HTML tags are case insensitive. **HTML tags are the hidden keywords**
- `<TAG> Text here..... </TAG>`
 - **Container tags:** Tags that have starting as well as ending part.
 - e.g.: `<TITLE>Title of the Web Page </TITLE>`
 - **Empty tags:** Tags that do not have the closing part.
 - e.g. `
`, `<HR>`
- (HTML instructions + text to which the instructions apply)= HTML elements.
- An attribute is an additional feature you can use to configure the element, Attributes are optional. Attributes always come in name/value pairs like this: `name="value"`.
- e.g.: `<H1 ALIGN = "CENTER"> This is a heading </H1>`

HTML PAGE STRUCTURE



Tag	Description
<code><!DOCTYPE...></code>	This tag defines the document type and HTML version.
<code><html></code>	This tag encloses the complete HTML document and mainly comprises of document header which is represented by <code><head>...</head></code> and document body which is represented by <code><body>...</body></code> tags.
<code><head></code>	This tag represents the document's header which can keep other HTML tags like <code><title></code> , <code><link></code> etc.
<code><title></code>	The <code><title></code> tag is used inside the <code><head></code> tag to mention the document title.
<code><body></code>	This tag represents the document's body which keeps other HTML tags like <code><h1></code> , <code><div></code> , <code><p></code> etc.

- The `<!DOCTYPE>` Declaration.
- The declaration tag is used by the web browser to understand the version of the HTML used in the document. The Doctype is not an element or tag, it lets the browser know about the version of or standard of HTML or any other markup language that is being used in the document.
- HTML document requires a document type declaration to ensure that the pages are displayed in the way they are intended to be displayed.
- Current version of HTML is 5 and it makes use of the following declaration:
 - `<!DOCTYPE html>`
- There are many other declaration types which can be used in HTML document depending on what version of HTML is being used.

HTML – BASIC TAGS

Heading Tags

Any document starts with a heading. You can use different sizes for your headings. 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. `<h1>` most important with largest font and `<h6>` least important with smallest font.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Heading Example</title>
</head>
<body>                                <!-- Body section of website- A comment -->
<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>
```

This will produce the following result:

Paragraph Tag

The <p> tag offers a way to structure your text into different paragraphs. The <p> tag defines a paragraph of text. It is a block-level element and always starts on a new line. Before and after each paragraph, browsers add margin automatically. 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>
```

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```
<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- in html **
**

(XHTML) 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 `
` tag has a space between the characters `br` and the forward slash. 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 `
` **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 on time.<br />
Good<br />
Deepika</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>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, 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>
```

Another example: <HR ALIGN = "right" WIDTH = "50%" NOSHADE >

Some attributes are:

-

Attribute	Value	Description
align	left right center	<i>Deprecated</i> – Specifies the alignment of the horizontal rule.
noshade	noshade	<ul style="list-style-type: none"> • <i>Deprecated</i> – Removes the usual shading effect that most browsers display. Renders the bar without surrounding shadow.
size	pixels or %	<ul style="list-style-type: none"> • <i>Deprecated</i> – Specifies the height of the horizontal rule. Sets the line thickness
width	pixels or %	<i>Deprecated</i> – Specifies the width of the horizontal rule.

HR tag is horizontal rule tag. It is a straight line going across the screen horizontally. It inserts a line break directly below it. We can adjust the width either by entering a number, which will indicate the width in pixels. Or by entering percentage, that indicates that the horizontal rule will occupy that percentage of the screen width. Eg: if resolution is 640 pixels, the Width= “50%”, then HR will measure 320 pixels.

Size=1, size=2, size=3- this attribute gives height of the horizontal rule, in pixels.

(XHTML)- <hr />

Again `<hr />` tag is an example of the empty element, where you 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 you omit this space, older browsers will have trouble rendering the horizontal line, while if you miss the forward slash character and just use `<hr>` it is not valid in XHTML.

Preserve Formatting

Sometimes, you want your text to follow the exact format of how it is written in the HTML document. In these cases, you can 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>
```

Nonbreaking Spaces

Alternatively called a fixed space or hard space, NBSP (**non-breaking space**) is used in programming and word processing to create a space in a line that cannot be broken by word wrap.

With HTML, allows you to create multiple spaces that are visible on a web page and not only in the source code.

A commonly used entity in HTML is the non-breaking space: ** **;

A non-breaking space is a space that will not break into a new line.

Two words separated by a non-breaking space will stick together (not break into a new line). This is handy when breaking the words might be disruptive.

Examples:

- § 10
 - 10 km/h
 - 10 PM
- ✓ Another common use of the non-breaking space is to prevent browsers from truncating spaces in HTML pages.
- If you write 10 spaces in your text, the browser will remove 9 of them. To add real spaces to your text, you can use the ** **;
- ** is called a character entity.

Examples:-

1. Suppose you want to use the phrase "12 Angry Men." Here, you would not want a 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 you do not want the client browser to break text, you should use a nonbreaking space entity ** **; instead of a normal space. For example, when coding the "12 Angry Men" in a paragraph, you should 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 named as the following:
"12&nbsp;Angry&nbsp;Men."</p></body>
</html>

```

HTML Tag vs. Element

- An HTML element is defined by a starting tag. If the element contains other content, it ends with a closing tag.
- For example, <p> is starting tag of a paragraph and </p> is closing tag of the same paragraph but
 <p>This is paragraph</p> is a paragraph element.
- An attribute is used to define the characteristics of an HTML element and is placed inside the element's opening tag. All attributes are made up of two parts: a name and a value:
- The name is the property you want to set. For example, the paragraph <p> element in the example carries an attribute whose name is align, which you can use to indicate the alignment of paragraph on the page.
 The value is what you want the value of the property to be set and always put within quotations.
- The below example shows three possible values of align attribute: left, center and right.

Attribute names and attribute values are case-insensitive. However, the World Wide Web Consortium (W3C) recommends lowercase attributes/attribute values in their HTML 4 recommendation.

Core Attributes

The four core attributes that can be used on the majority of HTML elements (although not all) are:

- **Id**
- **Title**

- **Class**
- **Style**

The Id Attribute

The id attribute of an HTML tag can be used to uniquely identify any element within an HTML page. There are two primary reasons that you might want to use an id attribute on an element:

- If an element carries an id attribute as a unique identifier, it is possible to identify just that element and its content.
- If you have two elements of the same name within a Web page (or style sheet), you can use the id attribute to distinguish between elements that have the same name.

The title Attribute

The title attribute gives a suggested title for the element. The syntax for the title attribute is similar as explained for id attribute:

The behavior of this attribute will depend upon the element that carries it, although it is often displayed as a tooltip when cursor comes over the element or while the element is loading.

The class Attribute

The class attribute is used to associate an element with a style sheet, and specifies the class of element.

The style Attribute

The style attribute allows you to specify Cascading Style Sheet (CSS) rules within the element.

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>The style Attribute</title>
```

</head>

<body>

<p style="font-family:arial; color:#FF0000;">Some text...</p>

</body>

</html>

HTML Document – Body

Enclosed in <BODY> </BODY> tag.

Some important attributes of the BODY tag were:

BGCOLOR = “color” / “#rrggbb”

Specifies the background color

BGPROPERTIES=FIXED

Fixes the background image so that it doesn't scroll.

BACKGROUND = “url of the image”

Specifies an image to be tiled as background.

TEXT = “color” / “#rrggbb”

Specifies the color of text in the page.

LEFTMARGIN = n

Specifies the left margin for the entire page

LINK = “color” / “#rrggbb”

Specifies the link color.

ALINK = “color” / “#rrggbb”

Specifies the active link color.

VLINK = “color” / “#rrggbb”

Specifies the visited link color.

TOPMARGIN = n

Specifies the top margin for the entire page.

Colors are defined using a hexadecimal notation for the combination of Red, Green, and Blue color values (RGB).

The lowest value that can be given to one light source is 0 (hex #00). The highest value is 255 (hex #FF).

A collection of color names like blue, green, cyan etc. are also supported by most of the browsers.

```
<html>
<head>
  <title>Background color</title>
</head>
<body bgcolor="cyan">
  <h1> Contents </h1>
</body>
</html>
```

HTML Comments:

The comment tag is used to insert comments in the source code. Comments are not displayed in the browsers.

HTML comments are placed in between `<!-- ... -->` tags. So, any content placed with-in `<!-- ... -->` tags will be treated as comment and will be completely ignored by the browser.

Example

```
<!DOCTYPE html>
<html>

  <head> <!-- Document Header Starts -->
    <title>This is document title</title>
  </head> <!-- Document Header Ends -->

  <body>
    <p>Document content goes here....</p>
  </body>

</html>
```

Rules:- Comments do not nest which means a comment cannot be put inside another comment. Second the double-dash sequence "--" may not appear inside a comment except as part of the

closing --> tag. You must also make sure that there are no spaces in the start-of comment string i.e < and ! shouldn't have space.

Multiline comment: <!--

This is a multiline comment and it can span through as many as lines you like.

-->

HTML Text Formatting

Text Formatting Tags: Formatting elements were designed to display special types of text:

1. **** - Bold text
2. **** - Important text
3. **<i>** - Italic text
4. **** - Emphasized text
5. **<mark>** - Marked text
6. **<small>** - Smaller text
7. **** - Deleted text
8. **<ins>** - Inserted text
9. **<sub>** - Subscript text
10. **<sup>** - Superscript text

This text is emphasized.

Do not forget to buy **milk** today.

This is some smaller text.

My favorite color is ~~blue~~.

My favorite color is ~~blue~~ red.

This is _{subscripted} text. H₂O

This is ^{superscripted} text.

Browsers display as , and as <i>. However, there is a difference in the meaning of these tags: and <i> defines bold and italic text, but and means that the text is "important".

The following word uses a **bold** and **strong** with *italicized* typeface.

The following word uses a underlined typeface and a ~~striketrough~~ typeface.

The following word uses a `monospaced` typeface.

The following word uses a ^{superscript} typeface and _{subscript} typeface.

I want to drink ~~wine~~ cola

The following word uses a big and small typeface.

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

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

The following word uses a small typeface.

The following word uses a **mark** and *emphasized* typeface.

.tfel ot thgir og lliw txet sihT

For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.

Amit is in Spain, "I think I am wrong".

The Scream by Edward Munch. Painted in 1893.

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>
```

This will produce the following result:
The following word uses a **bold** typeface.

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 a <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>
```

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```

</head>
<body>
<p>The following word uses a <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>

```

Monospaced Font

The content of a <tt>...</tt> element is written in monospaced font. Most of the fonts are known as variable-width fonts because different letters are of different widths (for example, the letter 'm' is wider than the letter 'i'). In a monospaced font, however, each letter has the same width.

Example

```

<!DOCTYPE html>
<html>
<head>
<title>Monospaced Font Example</title>
</head>
<body>
<p>The following word uses a <tt>monospaced</tt> 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>
```

Inserted Text & 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>I want to drink <del>cola</del> <ins>wine</ins></p>
</body>

```

This will produce the following result:

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>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.

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>The following word uses a <em>emphasized</em> typeface.</p>
</body>
</html>

```

Marked Text

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

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yellow ink.

Strong Text

Anything that appears within `...` element is displayed as important text.

Text Direction

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

Example:

```
<p><bdo dir="rtl">This text will go right to left.</bdo></p>
```

Will produce mirror image text

Special Terms

The `<dfn>...</dfn>` element (or HTML Definition Element) allows you to specify that you are introducing a special term. It's usage is similar to italic words in the midst of a paragraph. Typically, you would use the `<dfn>` element the first time you introduce a key term. Most recent browsers render the content of a `<dfn>` element in an italic font.

Quoting Text

When you want to quote a passage from another source, you should put it in between `<blockquote>...</blockquote>` tags.

Text inside a `<blockquote>` element is usually indented from the left and right edges of the surrounding text, and sometimes uses an italicized font.

Short Quotations

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

```
<p>Amit is in Spain, <q>I think I am wrong</q>.</p>
```

Output: Amit is in Spain, “I think I am wrong”.

Address Text

The `<address>...</address>` element is used to contain any address.

`<cite>` Tag:

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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.).

Inserting special characters/entities

Some characters are reserved in HTML and they have special meaning when used in HTML document. For example, you cannot use the greater than and less than signs or angle brackets within your HTML text because the browser will treat them differently and will try to draw a meaning related to HTML tag.

Syntax to use such entities are

`&entity_name;`

OR

`&#entity_number;`

To display a less than sign (<) we must write: **<** or **<**

Eg:- Non breaking space

A commonly used entity in HTML is the non-breaking space: ** **

A non-breaking space is a space that will not break into a new line.

Two words separated by a non-breaking space will stick together (not break into a new line). This is handy when breaking the words might be disruptive.

Examples:

- § 10
- 10 km/h
- 10 PM

Another common use of the non-breaking space is to prevent browsers from truncating spaces in HTML pages.

If you write 10 spaces in your text, the browser will remove 9 of them. To add real spaces to your text, you can use the ** ** character entity.

Examples:- HTML Character Entities

Result	Description	Entity Name	Entity Number
--------	-------------	-------------	---------------

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	non-breaking space	 	
<	less than	<	<
>	greater than	>	>
&	Ampersand	&	&
"	double quotation mark	"	"
'	single quotation mark (apostrophe)	'	'
¢	Cent	¢	¢
£	Pound	£	£
¥	Yen	¥	¥
€	Euro	€	€
©	Copyright	©	©
®	registered trademark	®	®

Note: Entity names are case sensitive.

Example If you want to write `<div id= “character”>` as a code, then you will have to write as follows:

```
<body>
```

```
&lt;div id=&quot; character&quot;&gt;
```

```
</body>
```

Anchor tag: Linking Documents

A link is specified using HTML tag `<a>`. This tag is called anchor tag and anything between the opening `<a>` tag and the closing `` tag becomes part of the link and a user can click that part to reach to the linked document. Following is the simple syntax to use `<a>` tag.

```
<a href="Document URL" ... attributes-list>Link Text</a>
```

The Anchor Tag and the Href Attribute:- HTML uses the `<a>` (anchor) tag to create a link to another document. An anchor can point to any resource on the Web: an HTML page, an image, a sound file, a movie, etc.

The syntax of creating an anchor:

```
<a href="url">Text to be displayed</a>
```

- Use the <a> element to define a link
- Use the href attribute to define the link address
- Use the target attribute to define where to open the linked document
- Use the element (inside <a>) to use an image as a link
- Use the mailto: scheme inside the href attribute to create a link that opens the user's email program

The <a> tag is used to create an anchor to link from, the href attribute is used to address the document to link to, and the words between the open and close of the anchor tag will be displayed as a hyperlink.

This anchor defines a link to W3Schools:

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

The line above will look like this in a browser:

Visit W3Schools!

The Target Attribute

With the target attribute, you can define where the linked document will be opened.

The line below will open the document in a new browser window:

```
<a href=http://www.w3schools.com/target="_blank">Visit W3Schools!</a>
```

```
<a href="deep1.html">This is my previous html created file </a>
```

The **target** attribute can have one of the following values:

- **_self** - Default. Opens the document in the same window/tab as it was clicked
- **_blank** - Opens the document in a new window or tab
- **_parent** - Opens the document in the parent frame
- **_top** - Opens the document in the full body of the window

Link to email address and phone no.:

<p> My email id is abc.def@gmail.com Click on it to go to mail address. </p>

Phone

The Anchor Tag and the Name Attribute

The name attribute is used to create a named anchor. When using named anchors we can create links that can jump directly into a specific section on a page, instead of letting the user scroll around to find what he/she is looking for.

Below is the syntax of a named anchor:

Text to be displayed

The name attribute is used to create a named anchor. The name of the anchor can be any text you care to use.

The line below defines a named anchor:

Useful Tips Section

To link directly to the "tips" section, add a # sign and the name of the anchor to the end of a URL, like this:

Jump to the Useful Tips Section

A hyperlink to the Useful Tips Section from WITHIN the file "html_links.asp" will

look like this:

Jump to the Useful Tips Section

Working of name attribute in anchor tag to create internal linking:-

Internal linking allows us to assign a location name to any individual point in html file. This location name can then be added to the page URL, enabling us to link to that specific point on the page instead of being limited to linking to the top of the page.

<body>

<h3> The features of internet is </h2>

 go to favorite ceo

<h2>Topic 3</h2>


```

<p>paragraph 1
.....</p>
<h2>Topic 4</h2>
<p>paragraph 1
.....</p>
<h2>Topic 5</h2>
<p>paragraph 1
.....</p>
<h2>Topic 6</h2>
<p>paragraph 1
.....</p>
<h2>Topic 7</h2>
<p>paragraph 1
.....</p>
<h2>Topic 8</h2>
<p>paragraph 1
.....</p>
<h2>Topic 9</h2>
<p>paragraph 1
.....</p>
<h2>Topic 10</h2>
<p>paragraph 1
.....</p>
<a name="ceos"> </a>
<p>Topic My favorite CEOs </p></h2>
<h2> <a href="#features"> go to favorite features </a> </h2>
<ol>
<li>Bill Gates </li>
<li> Steve Jobs </li>
</ol>
</body>

```

HTML 4 and earlier versions used the name attribute to form internal links. HTML 5 uses the **ID attribute** instead. ID attribute tags allow site visitors to click a link and be transported to a bookmarked location within the same document.

1. LINK ON SAME PAGE:- Internal Link using id attribute:

It is used to navigate from one portion of our webpage to other portion of our webpage.

Creating a Bookmark Link for a Webpage

A bookmark is a link that can be used to jump to specified portion of a webpage. Bookmarks are very useful if a webpage is quite long.

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Steps to create a bookmark are:

1. Using the id attribute, create a bookmark.

`<h2 id="T17">Topic 17</h2>`

<pre> <!DOCTYPE html> <html> <body> <p>Jump to Topic 11</p> <p>Jump to Topic 17</p> <p>Jump to Topic 20</p> <h2>Topic 1</h2> <p>paragraph 1 </pre>	<pre> <h2>Topic 10</h2> <h2 id="T11">Topic 11</h2> <p>paragraph 1 </body> </html> </pre>
---	--

Example with id and name attributes:

```

<!DOCTYPE html>
<html>
<head>
</head>
<body>
  <a href="#lesson1">Lesson.1</a><br />
  <a href="#lesson2">Lesson.2</a><br />
  <a href="#lesson3">Lesson.3</a><br />
  <a href="#lesson4">Lesson.4</a><br />

  <a name="lesson1">Introduction of Lesson.1</a>
  <p>This is sub topic.1</p>
  <p>This is sub topic.2</p>

  <h2 id="lesson2">Introduction of Lesson.2</h2>

```

```

        <p>This is sub topic.1</p>
        <p>This is sub topic.2</p>
    </div>
    <a name="lesson3">Introduction of Lesson.3</a>
    <p>This is sub topic.1</p>
    <p>This is sub topic.2</p>
    </div>
    <a name="lesson4">Introduction of Lesson.4</a>
    <p>This is sub topic.1</p>
    <p>This is sub topic.2</p>
</body>
</html>

```

An **absolute URL** (a full web address) in the **href** attribute.

A local link (a link to a page within the same website) is specified with a **relative URL** (without the "https://www" part):

Absolute link in html:- Absolute links are links that are given an exact destination. Creating an absolute link can be done with an anchor tag, or a tag. These tags require a destination which is basically where you want the user to go to upon clicking it.

Giving your anchor tag a destination is done by giving a value to the href attribute.

```

<!DOCTYPE html>
<html>
  <head>
    <title>Absolute Links</title>
  </head>
  <body>
    <h1>Search the web!</h1>
    <p>
      <a href="https://www.google.com">Google</a>
    </p>
  </body>
</html>

```

Relative Links

Absolute links are cool, but what if you just want to link to a file in the same page/directory/folder? This is where relative links come into play.

For example, if you have two files in the same directory/folder, index.html and food.html, you can link from index.html to food.html by doing something like this:

```
<a href="food.html">This is a link to food.html!</a>
```

A local link (a link to a page within the same website) is specified with a **relative URL** (without the "https://www" part):

```
<h2>Absolute URLs</h2>
```

```
<p><a href="https://www.w3.org/">W3C</a></p>
```

```
<p><a href="https://www.google.com/">Google</a></p>
```

```
<h2>Relative URLs</h2>
```

```
<p><a href="html_images.asp">HTML Images</a></p>
```

```
<p><a href="/css/default.asp">CSS Tutorial</a></p>
```

ADDING IMAGES AND SOUNDS:

Adding images on a webpage :

The “img” tag is used to add images on a webpage. The “img” tag is an empty tag, which means it can contain only a list of attributes and it has no closing tag.

Syntax :

```

```

Attribute:

- **src:**
src stands for source. Every image has a src attribute which tells the browser where to find the image you want to display. The URL of the image provided points to the location where the image is stored.
- **alt:** If the image cannot be displayed then the alt attribute acts as an alternative description for the image. The value of the alt attribute is a user-defined text.

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
  <title>Inserting an image using "img" tag</title>
```

```
</head>
```

```
<body>
```

```

<p>inserted image using <img> tag:</p>
<img src=
"https://media.geeksforgeeks.org/wp-content/cdn-uploads/20190710102234/download3.png"
alt="GeeksforGeeks logo" width="300" height="300" border="5">

</body>

</html>

```

Using Image as a background: An image can be used a background for a webpage.
Example:

```

<!DOCTYPE html>
<html>

<body style="background-image:url
(https://media.geeksforgeeks.org/wp-content/cdn-uploads/20190710102234/download3.png)">
    <h2>Image As a Background</h2>
    <p>In this example we have specified a
    background for a webpage using an image. </p>
</body>
</html>

```

Example:

```

<!DOCTYPE html>
<html>
<body>

<h2>Spectacular Mountain</h2>


</body>
</html>

```

Adding animated Image: Animated images in .gif format can also be added using the “img” tag.

```

<!DOCTYPE html>
<html>

<h3>Adding a gif file on a webpage</h3>

```

```
<body>
```

```
<img src = "smiley.gif" alt = "smiley"
      style = "width:200px; height:200px;">
```

```
</body>
```

```
</html>
```

Definition and Usage Audio element in HTML:-

The <audio> tag is used to embed sound content in a document, such as music or other audio streams.

The <audio> tag contains one or more [<source>](#) tags with different audio sources. The browser will choose the first source it supports.

The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.

The HTML <audio> element is used to play an audio file on a web page.

The HTML <audio> Element

To play an audio file in HTML, use the <audio> element:

Example

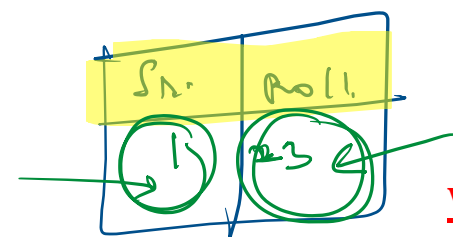
```
<audio controls>
```

```
<source src="horse.ogg" type="audio/ogg">
```

```
<source src="horse.mp3" type="audio/mpeg">
```

Your browser does not support the audio element.

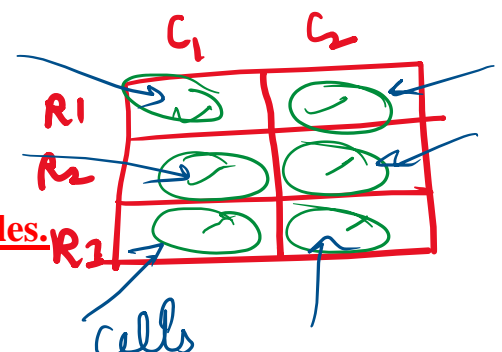
```
</audio>
```



Tables

HTML Tables

With HTML you can create tables.



Tables are defined with the <table> tag. A table is divided into rows (with the <tr> tag), and each row is divided into data cells (with the <td> tag). The letters td stands for "table data," which is the content of a data cell. A data cell can contain text, images, lists, paragraphs, forms, horizontal rules, tables, etc.

The HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells. The HTML tables are created using the tag in which the tag is used to create table rows and tag is used to create data cells.

Handwritten diagram showing the structure of HTML table tags:

```

<table>
  <tr>
    <td>
  </td>
</tr>
<tr>
  </tr>
</table>

```

```

<!DOCTYPE html>
<html>
<head>
<title>HTML Tables</title>
</head>
<body>
<table border="1">
<tr>
<td>Row 1, Column 1</td>
<td>Row 1, Column 2</td>
</tr>
<tr>
<td>Row 2, Column 1</td>
<td>Row 2, Column 2</td>
</tr>
</table>
</body>
</html>

```

How it looks in a browser:

Row 1, Column 1	Row 1, Column 2
Row 2, Column 1	Row 2, Column 2

Handwritten label: <table>

Tables and the Border Attribute

If you do not specify a border attribute the table will be displayed without any borders. Sometimes this can be useful, but most of the time, you want the borders to show.

To display a table with borders, you will have to use the border attribute:

```
<table border="1">
```

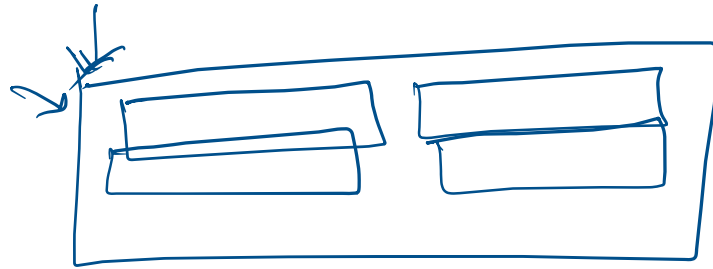
```
<tr>
```

```
<td>Row 1, cell 1</td>
```

```
<td>Row 1, cell 2</td>
```

```
</tr>
```

```
</table>
```



Headings in a Table

Headings in a table are defined with the <th> tag.

```
<table border="1">
```

```
<tr>
```

```
<th>Heading</th>
```

```
<th>Another Heading</th>
```

```
</tr>
```

```
<tr>
```

```
<td>row 1, cell 1</td>
```

```
<td>row 1, cell 2</td>
```

```
</tr>
```

```
<tr>
```

```
<td>row 2, cell 1</td>
```

```
<td>row 2, cell 2</td>
```

```
</tr>
```

```
</table>
```

How it looks in a browser:

Headings in a table are defined with the tag.

Heading	Another Heading
row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

```
<td> _____ </td>
```

Empty Cells in a Table

Table cells with no content are not displayed very well in most browsers.

```
<table border="1">
```

```
<tr>
```

```
<td>row 1, cell 1</td>
```

```
<td>row 1, cell 2</td>
```

```
</tr>
```

```
<tr>
```

```
<td>row 2, cell 1</td>
```


```
<td></td>
```

```
</tr>
```

```
</table>
```


How it looks in a browser:

row 1, cell 1	row 1, cell 2
row 2, cell 1	



Note that the borders around the empty table cell are missing.

To avoid this, add a non-breaking space () to empty data cells, to make the borders visible:

```
<table border="1">
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td>&nbsp;</td>
</tr>
</table>
```

Table Tags

Tag Description

<table> Defines a table

<th> Defines a table header

<tr> Defines a table row

<td> Defines a table cell

<caption> Defines a table caption

<colgroup> Defines groups of table columns

<col> Defines the attribute values for one or more columns in a table

<thead> Defines a table head

<tbody> Defines a table body

<tfoot> Defines a table footer 13

Cellpadding and Cellspacing Attributes

There are two attributes called cellpadding and cellspacing which you will use to adjust the white space in your table cells. The cellspacing attribute defines the width of the border, while cellpadding represents the distance between cell borders and the content within a cell.

```
<!DOCTYPE html>
<html>
<head>
<title>HTML Table Cellpadding</title>
</head>
<body>
<table border="1" cellpadding="5" cellspacing="5">
<tr>
<th>Name</th>
<th>Salary</th>
</tr>
<tr>
<td>Ramesh Raman</td>
<td>5000</td>
</tr>
<tr>
<td>Shabbir Hussein</td>
<td>7000</td>
</tr>
</table>
</body>
</html>
```

OUTPUT:-

Name ✓	Salary ✓
Ramesh Raman	5000
Shabbir Hussein	7000

Colspan and Rowspan Attributes

You will use colspan attribute if you want to merge two or more columns into a single column. Similar way you will use rowspan if you want to merge two or more rows.

```

<!DOCTYPE html>
<html>
<head>
<title>HTML Table Colspan/Rowspan</title>
</head>
<body>
<table border="1">
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
<tr>
<td rowspan="2">Row 1 Cell 1</td>
<td>Row 1 Cell 2</td>
<td>Row 1 Cell3</td>
</tr>
<tr>
<td>Row 2 Cell 2</td>
<td>Row 2 Cell 3</td>
</tr>
<tr>
<td colspan="3">Row 3 Cell 1</td>
</tr>
</table>
</body>
</html>

```

Column 1	Column 2	Column 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell3
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1		

Tables Backgrounds

You can set table background using one of the following two ways:

- bgcolor attribute - You can set background color for whole table or just for one cell.
- background attribute - You can set background image for whole table or just for one cell.
- You can also set border color also using bordercolor attribute.

```
<table border="1" bordercolor="green" background="/images/test.png">
```

Or

```
<table border="1" bordercolor="green"
background="https://www.bing.com/th?id=Adfa164bd1b354cd4d268c287faf07809&w=110&h=110&c=7&rs=1&qlt=80&o=6&dpr=1.5&pid=SANGAM">
```

Table Height and Width

You can set a table width and height using width and height attributes. You can specify table width

or height in terms of pixels or in terms of percentage of available screen area.

```
<table border="1" width="400" height="150">
```

Table Caption

The caption tag will serve as a title or explanation for the table and it shows up at the top of the table. This tag is deprecated in newer version of HTML/XHTML.

```
<table border="1" width="100%">
```

```
<caption>This is the caption</caption>
```

Other table attributes that can be included in table tag are:-

ALIGN:- left, right, center, justify

VALIGN- top, middle, bottom

```
<tr>
```

```
<th valign="middle" >Student Code </th>
```

```
<th valign="middle">Percentage of marks</th>
```

```
<th valign="middle">Grade</th>
```

```
<th valign="middle">Remarks</th>
```

```
</tr>
```

WIDTH- to specific no of pixels or percentage of available screen width.

Eg:- <table width="50%">

<table style="text-align:center"> aligns all data cell text in center

<caption style="caption-side:bottom"> Personal information</caption>

(problem of“ in browsers)

<caption style="caption-side:top"> Personal information</caption>

working ok

<caption align="bottom"> Marksheet </caption>

HTML Table tags: THEAD and TBODY

<!DOCTYPE html>

<html>

<head>

<title>HTML Table Colspan/Rowspan</title>

</head>

<body>

<TABLE>

<THEAD>

<TR> <TH > This is table heading </TH></TR>

</THEAD>

<TBODY>

All contents inside this is important

</TBODY>

</TABLE>

</body>

</html>

HTML Lists

HTML supports ordered, unordered and definition lists. HTML lists are used to present list of information in well-formed and semantic way. There are three different types of lists in HTML and each one has a specific purpose and meaning.

- **Unordered list** — Used to create a list of related items, in no particular order.
- **Ordered list** — Used to create a list of related items, in a specific order.
- **Description list** — Used to create a list of terms and their descriptions.

Unordered Lists

An unordered list is a list of items. The list items are marked with bullets (typically small black circles).

An unordered list starts with the tag. Each list item starts with the tag.

```
<ul>
<li>Coffee</li>
<li>Milk</li>
</ul>
```

Here is how it looks in a browser:

- ☐ Coffee
- ☐ Milk

Inside a list item you can put paragraphs, line breaks, images, links, other lists,

```
<ul type = "square">
<ul type = "disc">
<ul type = "circle">
```

etc.

Ordered Lists

An ordered list is also a list of items. The list items are marked with numbers. An ordered list starts with the `` tag. Each list item starts with the `` tag.

```
<ol>

<li>Coffee</li>

<li>Milk</li>

</ol>
```

Here is how it looks in a browser:

1. Coffee
2. Milk

Inside a list item you can put paragraphs, line breaks, images, links, other lists, etc.

The type Attribute

You can use **type** attribute for `` tag to specify the type of numbering you like. By default, it is a number. The type attribute of the `` tag, defines the type of the list item marker:

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

Example: Following is an example where we used `<ol type = "1">`

```
<!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 the following result –

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

Definition Lists

A definition list is not a list of items. *This is a list of terms and explanation of the terms.* A definition list starts with the <dl> tag. Each definition-list term starts with the <dt> tag. Each definition-list definition starts with the <dd> tag.

HTML definition list starts and ends with **dl element** (i.e. <dl> and </dl>).

3. The terms are enclosed with **dt element**.
4. The description is enclosed with the **dd element**.

The <dl>, <dt> and <dd> tags are used to define description list. <dl> tag defines the description list. <dt> tag defines data term. <dd> tag defines data definition (description).

```

<dl>
<dt>Coffee</dt>
<dd>Black hot drink</dd>
<dt>Milk</dt>
<dd>White cold drink</dd>
</dl>

```

Here is how it looks in a browser:

Coffee
 Black hot drink
 Milk
 White cold drink

Inside a definition-list definition (the <dd> tag) you can put paragraphs, line breaks, images, links, other lists, etc.

The start Attribute

You can use **start** attribute for tag to specify the starting point of numbering you need. By default, an ordered list will start counting from 1. If you want to start counting from a specified number, you can use the **start** attribute. This value is always an integer, even when the numbering type is letters or romans.

```
<ol start="number">
```

```
<ol type = "1" start = "4"> - Numerals starts with 4.
<ol type = "I" start = "4"> - Numerals starts with IV.
<ol type = "i" start = "4"> - Numerals starts with iv.
<ol type = "a" start = "4"> - Letters starts with d.
<ol type = "A" start = "4"> - Letters starts with D.
```

List Tags

Tag Description

** Defines an ordered list**

** Defines an unordered list**

** Defines a list item**

<dl> Defines a definition list

<dt> Defines a definition term

<dd> Defines a definition description

Tables and Lists can be nested too.

HTML Forms and Input

HTML Forms are used to select different kinds of user input.

Forms:- A form is an area that can contain form elements. Form elements are elements that allow the user to enter information (like text fields, text area fields, drop-down menus, radio buttons, checkboxes, etc.) in a form.

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The <form> Element

The HTML <form> element is used to create an HTML form for user input:

```
<form>
.
form elements
.
</form>
```

The <form> element is a container for different types of input elements, such as: text fields, checkboxes, radio buttons, submit buttons, etc.

HTML Form Elements:-

- **The <input> Element:** The HTML <input> element is the most used form element.
- An <input> element can be displayed in many ways, depending on the type attribute. Here are some examples:

Type	Description
<input type="text">	Displays a single-line text input field
<input type="radio">	Displays a radio button (for selecting one of many choices)
<input type="checkbox">	Displays a checkbox (for selecting zero or more of many choices)
<input type="submit">	Displays a submit button (for submitting the form)
<input type="button">	Displays a clickable button

Following is the list of attributes for <input> tag for creating text field.

Sr.No	Attribute & Description
1	Type Indicates the type of input control and for text input control it will be set to text.
2	Name Used to give a name to the control which is sent to the server to be recognized and get the value.
3	Value This can be used to provide an initial value inside the control.

4	Size Allows to specify the width of the text-input control in terms of characters.
5	Maxlength Allows to specify the maximum number of characters a user can enter into the text box.

```

<!DOCTYPE html>
<html>

<head>
  <title>Input Control</title>
</head>

<body>
  <form method= "post" action= "/cgi-bin/formmail">

    <input type= "hidden" name= "recepient" value= "abc@gmail.com">

    First name: <input type = "text" name = "first_name" maxlength= "25">

    <br>

    Last name: <input type = "text" name = "last_name" > <br />

    Password: <input type = "password" name = "password" > <br />

    Email address <Input name="email" type="password" size="10"> <br />

<!--to create a text area of given size -- >

Comments <textarea name="comments" rows="4" cols="36"> </textarea> <br /> <br />

Images <input type="checkbox" value="images" name="things"> <br />
Source code <input type="checkbox" value="code" name="things" checked> <br />
Site Design <input type="checkbox" value="site" name="things"> <br /> <br />

<h3>Radio Buttons</h3>
<p>What is your gender?</p>

```

```
<input type="radio" name="gender" value="male" checked> Male
<input type="radio" name="gender" value="female"> Female
<input type="radio" name="gender" value="unknown"> Unknown
```

```
<br /><br />
```

```
<input type="submit" value="submit your entries">
<input type="reset" value="clear your entries">
```

```
<p> rate the site as 10-8:
<select name= "rating">
<option>10
<option>9
<option> 8
    </select> </p>
```

```
</form>
</body>
```

```
</html>
```

```
<label>Ease of use
```

```
<input name = "thingsliked" type = "checkbox" value = "Ease" /> </label>
```

Use maxlength above or size= "25" size gives width of text input.

First name:

Last name:

Password:

Email address

Comments

Images ☐

Source code ☒

Site Design ☐

Radio Buttons

What is your gender?

☐ Male ☒ Female ☐ Unknown

rate the site as 10-8:

The **action** attribute of the **FORM** element defines where to send the form data, and the method attribute specifies the HTTP method for sending the form data. The POST method sends the form data in the body of the HTTP request.

The **HTML <form> method Attribute** is used to specify the HTTP method used to send data while submitting the form. There are two kinds of HTTP methods, which are **GET** and **POST**. The method attribute can be used with the **<form>** element.

Attribute Values:

- **GET:** In the GET method, after the submission of the form, the form values will be visible in the address bar of the new browser tab. It has a limited size of about 3000 characters. It is only useful for non-secure data not for sensitive information.
- **POST:** In the post method, after the submission of the form, the form values will not be visible in the address bar of the new browser tab as it was visible in the GET method. It appends form data inside the body of the HTTP request. It has no size limitation.

Username: for mandatory field data use required field.....

Size=2 means size attribute with width of text input of 2 characters. We can use maxlength="2" also.

The type="text" attribute of input tag creates textfield control also known as single line textfield control. The name attribute is optional, but it is required for the server side component such as JSP, ASP, PHP etc.

Note: If you will omit 'name' attribute then the text filed input will not be submitted to server.

Checkbox type can be created as individual or as in groups. Group name of the checkboxes should be same in a group

Password input controls

This is also a single-line text input but it masks the character as soon as a user enters it. They are also created using HTML **<input>** tag but type attribute is set to **password**.

As shown above in code.

Also note that the default width of an input field is 20 characters.

The <label> Element

```
<label for="male">Male</label><br>
```

Notice the use of the <label> element in the example above.

The <label> tag defines a label for many form elements.

The <label> element is useful for screen-reader users, because the screen-reader will read out loud the label when the user focus on the input element.

The <label> element also help users who have difficulty clicking on very small regions (such as radio buttons or checkboxes) - because when the user clicks the text within the <label> element, it toggles the radio button/checkbox.

The for attribute of the <label> tag should be equal to the id attribute of the <input> element to bind them together.

Example

A form with input fields for text:

```

<!DOCTYPE html>
<html>
<body>

<h2>Text input fields</h2>

<form>
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname" value="John"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname" value="Doe">
</form>

<p>Note that the form itself is not visible.</p>

<p>Also note that the default width of text input fields is 20
characters.</p>

</body>
</html>

```

Text input fields

First name:

Last name:

Note that the form itself is not visible.

Also note that the default width of text input fields is 20 characters.

Radio Buttons

The <input type="radio"> defines a radio button.

Radio buttons let a user select ONE of a limited number of choices.

Use `<input type="radio" name="gender" value="male" CHECKED>`

Checked will do by default initial selected entry.

Checkboxes

The `<input type="checkbox">` defines a checkbox.

Checkboxes let a user select ZERO or MORE options of a limited number of choices.

The Submit Button

The `<input type="submit">` defines a button for submitting the form data to a form-handler.

The form-handler is typically a file on the server with a script for processing input data.

The form-handler is specified in the form's `action` attribute.

The Name Attribute for `<input>`

Input field must have a `name` attribute to be submitted.

If the `name` attribute is omitted, the value of the input field will not be sent at all.

Pulldown list in HTML:-

`<p>` rate the site as 10-8:

`<select name="rating">`

`<option>10`

`<option>9`

`<option>8`

`</select> </p>`

Output:-

rate the site as 10-8:

HTML frames

Frames help us to display more than one html file at a time. Makes our site more readable and usable.

Frames are used to divide your browser window into multiple sections where each section can load a separate HTML document. A collection of frames in the browser window is known as a frameset. The window is divided into frames in a similar way the tables are organized: into rows and columns.

Different types of frames:

- a. Simple frame**
- b. Nested frame**
- c. Floating frame**
- d. Linked frame**

Disadvantages of Frames

There are few drawbacks with using frames, so it's never recommended to use frames in your webpages –

- Some smaller devices cannot cope with frames often because their screen is not big enough to be divided up.
- Sometimes your page will be displayed differently on different computers due to different screen resolution.
- The browser's back button might not work as the user hopes.
- There are still few browsers that do not support frame technology.

Creating Frames

To use frames on a page we use <frameset> tag instead of <body> tag. The <frameset> tag defines, how to divide the window into frames. The rows attribute of <frameset> tag defines horizontal frames and cols attribute defines vertical frames. Each frame is indicated by <frame> tag and it defines which HTML document shall open into the frame.

```
<!DOCTYPE html PUBLIC>
```

```
<html>
```



```
<frameset rows="20%,80%">
```

```
<frame src="JPG.jpg">
```

```
<frameset cols="35%,65%">
```

```
<frame src="JPG.jpg">
```

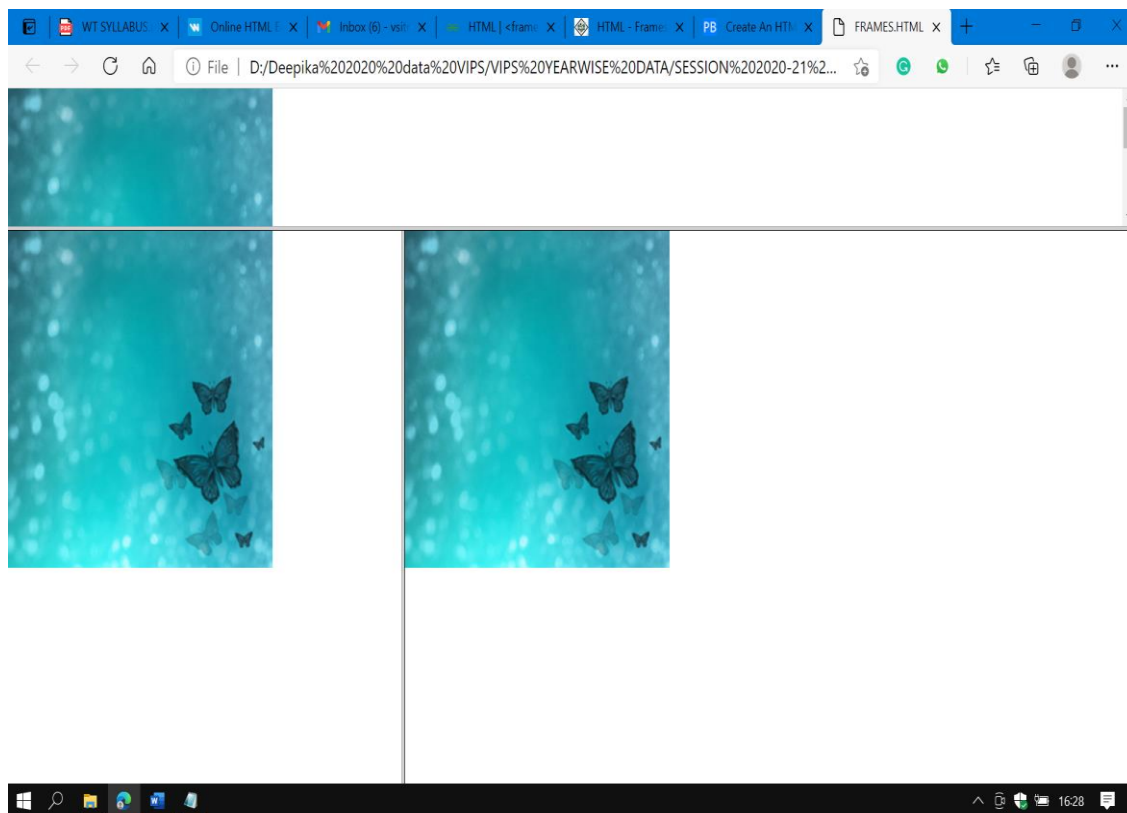
```
<frame src="JPG.jpg">
```

```
</frameset>
```

```
</frameset>
```

```
</html>
```

Output:-



Sr.No	Attribute & Description
1	Cols

	<p>Specifies how many columns are contained in the frameset and the size of each column. You can specify the width of each column in one of the four ways –</p> <p>Absolute values in pixels. For example, to create three vertical frames, use <i>cols</i> = "100, 500, 100".</p> <p>A percentage of the browser window. For example, to create three vertical frames, use <i>cols</i> = "10%, 80%, 10%".</p> <p>Using a wildcard symbol. For example, to create three vertical frames, use <i>cols</i> = "10%, *, 10%". In this case wildcard takes remainder of the window.</p>
2	<p>Rows</p> <p>This attribute works just like the <i>cols</i> attribute and takes the same values, but it is used to specify the rows in the frameset. For example, to create two horizontal frames, use <i>rows</i> = "10%, 90%". You can specify the height of each row in the same way as explained above for columns.</p>
3	<p>Border</p> <p>This attribute specifies the width of the border of each frame in pixels. For example, <i>border</i> = "5". A value of zero means no border.</p>
4	<p>frameborder</p> <p>This attribute specifies whether a three-dimensional border should be displayed between frames. This attribute takes value either 1 (yes) or 0 (no). For example <i>frameborder</i> = "0" specifies no border.</p>
5	<p>framespacing</p> <p>This attribute specifies the amount of space between frames in a frameset. This can take any integer value. For example <i>framespacing</i> = "10" means there should be 10 pixels spacing between each frames.</p>

```
<!DOCTYPE html PUBLIC>
```

```
<html>
```

```
<frameset rows="30%,70%" FRAMEBORDER="1">
```

```
<frame src="JPG.jpg">
```

```
<frameset cols="25%,75%" FRAMEBORDER="0">
```

HTML AND PUBLIC FRAME

```
<frame src="JPG.jpg">
```

```
<frame src="JPG.jpg">
```

```
</frameset>
```

```
</frameset>
```

```
</html>
```

Program on frames:- Frameset give us dimension of the frame.

```
<!DOCTYPE html PUBLIC>
```

```
<html>
```

```
<frameset cols="610,*">
```

```
<frame name="nav" src="JPG.jpg">
```

```
<frame name="main" src="PNG.png">
```

```
<!-- Individual frame element specify which pages appear in the given frame.-->
```

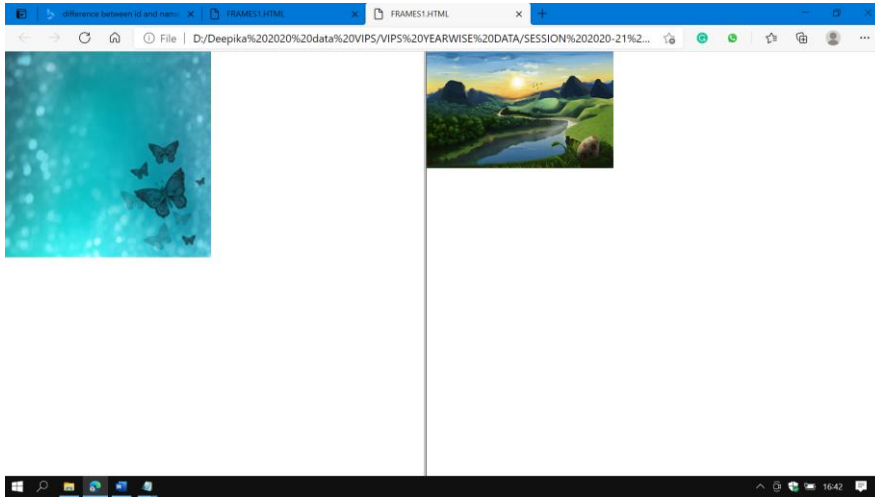
```
<noframes>
```

```
<p> ur browser doesn't support frames </p>
```

```
</noframes>
```

```
</frameset>
```

```
</html>
```



The first one extends 610 pixels from left edge of the screen and second fill the remainder of the screen.

1. Simple frames:-

```
<!DOCTYPE html PUBLIC>
```

```
<html>
```

```
<frameset cols="610, *">
```

```
<frame name="nav" Scrolling= "NO" src="JPG.jpg">
```

```
<frame name="main" src="PNG.png" NORESIZE>
```

```
<noframes>
```

```
<p> ur browser doesn't support frames </p>
```

```
</noframes>
```

```
</frameset>
```

```
</html>
```

2. Nested frameset tags:- Nested Framesets

Nested frame, the term itself indicates Frame within a Frame. Framesets can be nested to any level.

Example:

```
<Frameset rows="30%,30%,*"> ----- > (1)
  <Frameset cols="50%,50%"> ----- > (2)
  </Frameset>
  <Frameset rows="50%,50%"> ----- > (3)
  </Frameset>
</Frameset>
```

Example:-

```
<!DOCTYPE html PUBLIC>

<html>

<frameset cols="610,*">

<frame name="nav" Scrolling="NO" src="JPG.jpg">

<frameset rows="175,*">

<frame name="main" src="PNG.png" NORESIZE>

<frame name="table" src="rough1.html">

</frameset>

  <noframes>

    <p> ur browser doesn't support frames </p>

  </noframes>
```

</frameset>

</html>

Scrolling="no" means that it prevents the browser from placing a scrolling bar on that frame. The noresize attribute prevents the user from resizing the frame by using the mouse.

3. **Floating frames in HTML:-** Floating Frames

Up to this point, all the frames shown have been attached to the sides of the browser (left, right, top, or bottom). Another form of frame, known as a *floating frame* but more appropriately called an *inline frame*, was initially introduced by Microsoft but has been incorporated into the HTML and XHTML standards. The idea of the floating frame is to create an inline framed region, or window, that acts similarly to any other embedded object, insofar as text can be flowed around it. An inline frame is defined by the **iframe** element and can occur anywhere within the **<body>** of an HTML document. Compare this to the **frame** element that should occur only within the **frameset** element.

The major attributes to set for an **<iframe>** tag include **src**, **height**, and **width**. The **src** is set to the URL of the file to load, while the **height** and **width** are set either to the pixel or percentage value of the screen that the floating frame region should consume. Like an **** tag, floating frames support the **align** attribute for basic positioning within the flow of text.

1. The floating frame is used to create an inline framed region or window that acts similarly to any other embedded object insofar as text can be flowed around it.
2. Within the **<body>** of an HTML element an inline frame is defined by the **iframe** element.
3. To create an **<iframe>** tag the major attributes required are **src**, **height** and **width**.
4. The **Src** is set to the URL of the file to load while the **height** and **width** are set either to the pixel or percentage value of the screen that the floating frame region should consume.
5. Floating frames also support the **align** attribute for basic positioning within the flow of the text like the tag.
6. The **<iframe>** element also supports the **marginheight** and **marginwidth** attributes to control the margins on framed content.

Inline Frame or an `iframe` is allows us to open new pages inside main pages. Inline frames are also referred to as *Floating frames*. `<iframe> .. </iframe>` tag is used to create inline or floating frame.

Note: Netscape navigator, version 4 or older does not support iframes. If the browser doesn't support `iframe` then it won't be visible.

Attributes of `<iFrame>` tag :

name: used to set a name for the `iframe`.

src: Specifies the url of the document to be loaded into the `iframe`.

Width: used to specify the width of the `iframe`.

Height: used to specify the height of the `iframe`.

Frameborder: used to specify the whether to have a border for the `iframe` or not. This attribute possibly takes two values. i.e, 1 for on and 0 for off.

Scrolling: used to specify whether the `iframe` should have scrolling capability or not. This attribute possibly takes two values i.e, 1 for on and 0 for off.

marginwidth: used to specify the number of pixels to be left as the left/right margins.

marginheight: used to specify the number of pixels to be left as the top/bottom margins.

- `target="_blank"` The `_blank` target name causes the targeted document to open in a completely new browser window.
- `target="_self"` The targeted document will load in the same window where the originating link exists.
- `target="_parent"` This loads the targeted document into the link's parent frameset.
- `target="_top"` Use this attribute to load the link into the full window, overriding any existing frames.

```
<!DOCTYPE html PUBLIC>
```

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>Floating Frame Example</TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<H1 ALIGN="CENTER">Floating Frame Example</H1>
```

DEEPIKA BHATIA HTML

```
<IFRAME NAME="float1" SRC="http://www.java2s.com" WIDTH=350 HEIGHT=200
ALIGN=LEFT>
```

There would be an floating frame here if your browser supported it.

```
</IFRAME>
```

```
<P>This is a good simple example of how floating frames are used. Notice that in many ways
the floating frame acts very similar to an inline image. Floating frames act like embedded
objects in many ways.</P>
```

```
</BODY>
```

```
</HTML>
```

Example2 with meta tag and floating frames:-

```
<!DOCTYPE html PUBLIC>
```

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>Floating Frame Example</TITLE>
```

```
<meta name = "keywords" content = "web page, design, XHTML, tutorial, personal, help,
index, form, contact, feedback, list, links, deitel" />
```

```
<meta name = "description" content = "This website will help you learn the basics of XHTML
and web page design through the use of interactive examples and instruction." />
```

```
</HEAD>
```

```
<BODY>
```

```
<H1 ALIGN="CENTER">Floating Frame Example</H1>
```

```
<IFRAME NAME="float1" SRC="http://www.java2s.com" WIDTH=280 HEIGHT=200
ALIGN=LEFT>
```

There would be an floating frame here if your browser supported it.

DEEPIKA BHATTARAI HTML

</IFRAME>

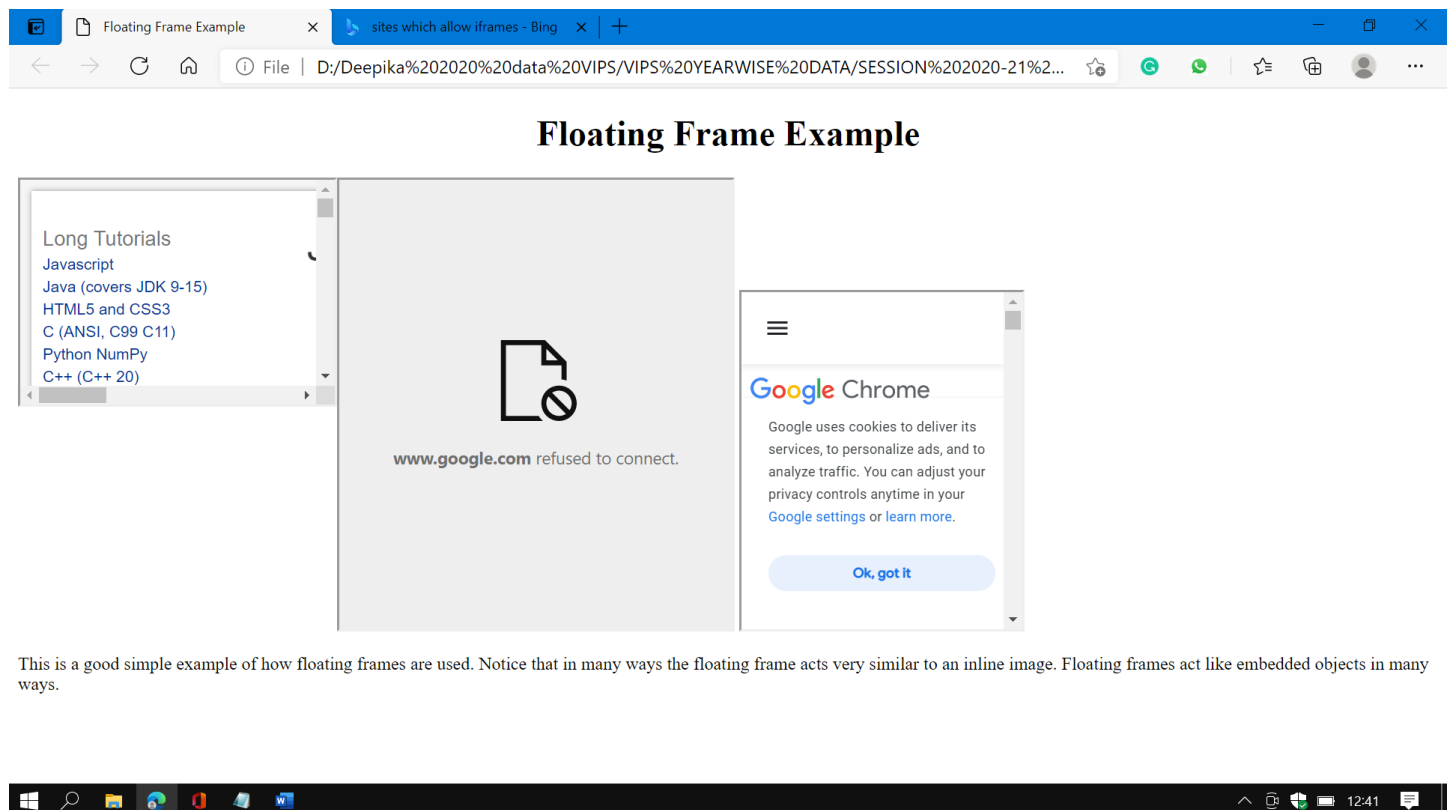
<IFRAME NAME="float12" SRC="http://www.google.com" WIDTH=350 HEIGHT=400 >
</iframe>

<IFRAME NAME="float13" SRC="https://chrome.google.com" WIDTH=250 HEIGHT=300
> </iframe>

<P>This is a good simple example of how floating frames are used. Notice that in many ways the floating frame acts very similar to an inline image. Floating frames act like embedded objects in many ways.</P>

</BODY>

</html>



This is a good simple example of how floating frames are used. Notice that in many ways the floating frame acts very similar to an inline image. Floating frames act like embedded objects in many ways.

4. Linked Frames:- use target and name attributes.

1. Use the `name` attribute to give each of your frames a special identity.
2. Use the `target` attribute in your hyperlinks.

Example of Linked Frames:-

A Link in One Frame Loads a New Page in Another Frame

THE name ATTRIBUTE

The name [attribute](#) is used in each `<frame>` tag to allow you to give that frame a special identity. This identity will serve as a 'target name' which is used in hyperlinks that load new pages intended for that frame.

The value of the name attribute can be anything you want as long as it's unique. In the source code of our frameset document, the menu frame is simply called 'menu' and the content frame is called 'content':

SOURCE CODE - name attributes highlighted

```
<html>

<head>
<title>HTML Frames - A Basic Frame Layout</title>
</head>

<frameset cols="25%,75%">
<frame src="menu.htm" name="menu">
<frame src="chapter1.htm" name="content">
</frameset>

</html>
```

THE target ATTRIBUTE

Create hyperlinks in the *menu* frame that load new pages into the *content* frame. To do this, we

simply use the [standard HTML hyperlink code](#) and then insert the target attribute. The value of the target attribute is the name of the frame (in this case "content") into which you wish to load the new web page.

The code of menu.htm, the [frame source document](#) of the *menu* frame, illustrates the use of the target attribute:

SOURCE CODE - menu.htm uses target attributes in hyperlinks

```
<html>

<head>
<title>Site Menu</title>

</head>

<body>

<center><h3>War of the Worlds</h3>
<b><i>by H. G. Wells</i></b><br>
<br>

<a href="chapter1.htm" target="content">Chapter 1</a><br>
<a href="chapter2.htm" target="content">Chapter 2</a><br>
<a href="chapter3.htm" target="content">Chapter 3</a><br>

</body>

</html>
```

DEFINING A DEFAULT TARGET

If the hyperlinks in a particular frame are always intended to load a new page in another frame then there is a shortcut you can use to save yourself having to insert the target attribute in all your links. All you have to do is insert the base element in between the `<head>...</head>` tags of the frame source document containing the links. The target attribute is then used in the base element to define the default target for any hyperlink on that web page. Thus, in

our [basic frame layout](#), the source code of menu.htm could be rewritten as follows:

SOURCE CODE - menu.htm uses base element to define default target

```
<html>

<head>
<title>Site Menu</title>

<base target="content">

</head>

<body>

<center><h3>War of the Worlds</h3>
<b><i>by H. G. Wells</i></b><br>
<br>

<a href="chapter1.htm">Chapter 1</a><br>
<a href="chapter2.htm">Chapter 2</a><br>
<a href="chapter3.htm">Chapter 3</a><br>

</body>

</html>
```

Creating and using image maps:

Creating and using image maps: The HTML **<map>** tag defines an image map. An image map is an image with clickable areas. The areas are defined with one or more **<area>** tags.

What is image mapping?

In image mapping an image is specified with certain set of coordinates inside the image which act as hyperlink areas to different destinations. It is different from an image link since in image linking, an image can be used to serve a single link or destination whereas in a mapped image, different coordinates of the image can serve different links or destinations.

Elements required in Mapping an Image :

There are three basic html elements which are required for creating a mapped image.

1. **Map :** It is used to create a map of the image with clickable areas.
2. **Image :** It is used for the image source on which mapping is done.

3. **Area** : It is used within the map for defining clickable areas.

```
<html>
```

```
-----
```

```
<body>
```

```

```

```
<map name="workmap">
```

```
<area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">
```

```
<area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">
```

```
<area shape="circle" coords="337,300,44" alt="Coffee" href="coffee.htm">
```

```
</map>
```

```
</body>
```

```
</html>
```

For polygon shape, give “poly” and give coordinates of every vertex listed.

```
<area shape="circle" coords="337,300,44" alt="Coffee" href="coffee.htm">
```

this area tag give a circular hotspot to be drawing around the coordinates given in the cords element. It requires center of the circle and its radius in pixels. The browser will automatically connect these points to form the area of the hotspot

To create an image map you need an image, and some HTML code that describes the clickable areas.

The Image

The image is inserted using the `` tag. The only difference from other images is that you must add a `usemap` attribute:

```

```

The `usemap` value starts with a hash tag `#` followed by the name of the image map, and is used to create a relationship between the image and the image map.

Create Image Map

Then, add a `<map>` element.

The `<map>` element is used to create an image map, and is linked to the image by using the required `name` attribute:

```
<map name="workmap">
```

The `name` attribute must have the same value as the ``'s `usemap` attribute .

The Areas

Then, add the clickable areas.

A clickable area is defined using an `<area>` element.

Shape

You must define the shape of the clickable area, and you can choose one of these values:

- `rect` - defines a rectangular region
- `circle` - defines a circular region
- `poly` - defines a polygonal region
- `default` - defines the entire region

You must also define some coordinates to be able to place the clickable area onto the image.

Shape="rect"

The coordinates for `shape="rect"` come in pairs, one for the x-axis and one for the y-axis.

So, the coordinates `34,44` is located 34 pixels from the left margin and 44 pixels from the top:

Polygon

Polygon is defined with the shape attribute “poly” and accepts the coordinates in the format “x1,y1,x2,y2,...,xn,yn” where (x1,y1) indicates the first point of the polygon and (xn,yn) is the last point of the polygon.

Rectangle

Rectangle is defined with the shape attribute “rect” and accepts the coordinates in the format “x1,y1,x2,y2” where (x1,y1) are the upper left corner of the rectangle and (x2,y2) are the lower right corner of the rectangle.

<meta> tag in HTML

DEEPIKA BHATTARAI

Search engines help people find websites. They usually catalog sites by following links from page to page (often known as spidering or crawling) and saving identification and classification information for each page. One way that search engines catalog pages is by reading the content in each page's meta elements, which specify information about a document. Two important attributes of the meta element are name, which identifies the type of meta element, and content, which provides the information search engines use to catalog pages. Code below introduces the meta element:

```
<html>
```

```
<head>
```

```
<title>Welcome</title>
```

```
<!-- <meta> tags provide search engines with -->
```

```
<!-- information used to catalog a site -->
```

```
<meta name = "keywords" content = "web page, design, XHTML, tutorial, personal, help,  
index, form, contact, feedback, list, links, deitel" >
```

```
<meta name = "description" content = "This website will help you learn the basics of XHTML  
and web page design through the use of interactive examples and instruction." />
```

```
</head>
```

```
<body>
```

```
<h1>Welcome to Our Website!</h1>
```

```
<p>We have designed this site to teach about the wonders. </p>
```

```
</body>
```