Unit-1

INTRODUCTION TO HTML

HTML: Hyper Text Markup Language:

HTML is a Hypertext transfer protocol and it is used as a scripting language.

* HTML is a subset of SGML (Standard General Markup Language). It is used to define the layout and attributes of a web document as well as to create links between web pages.

* Other Scripting Languages are:
  Java Script, DHTML, XML, PHP.

* In HTML, hyper text is simple piece of text that works as a link. Markup language is language of writing layout information with in document.

* Basically HTML doc. is a plain text file. It contains rich text, means text with tags.

* HTML program consists of some strings enclosed within angular brackets such strings are called tags.

* HTML program can be written with in
  <html>, </html>.

* HTML tags are comes in pairs, the first tag in pair is the Start tag and second tag is End tag.

* The end tag is written like the start tag but with a forward slash inserted before the tag name.

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Syntax:

```
<tagname>
content b/w tags
</tagname>.
```

2 Parts in HTML Program.

① Head ② Body.

Head: Head part acts as a header of a file and contains some information like setting the title of the pages.

Eg:
```
<head>
<title>
My web page
</title>
</head>.
```

Body: The Body part of the HTML program is to create a look and feel of the web page.

An HTML program which contains the text "This is my first web page".

Eg:
```
<body>
This is my first web page !!!
</body>.
```

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An example for Head and Body of the HTML prog.

```
<html>
<head>
<title>
    my web page
</title>
</head>
<body>
 This is my first web page
</body>
</html>.
```

The comments in HTML can be denoted as follows.

<!-- it is a comment stmt -->.

Their is no space allowed b/w angular bracket and '!' mark.

HTML Document Structure:

```
<html>
    <head>
        <title> Page title </title>
    </head>
    <body>
        <h1> This is a heading </h1>
        <p> This is a paragraph </p>
        <p> This is another paragraph </p>
    </body>
</html>.
```

This part is display in web browser

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The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration represents the document type, and helps browser to display web pages correctly.

* It must only appear once at the top of the page
* It is not case sensitive
* The <!DOCTYPE> declaration for html is.

<!DOCTYPE . html>.

Text Formatting:

The text formatting used for mean layout and some presentation details to be displayed. As follows.

Paragraphs:

Text is organized into paragraphs in the body of a document. Textual paragraphs appear as the content of a paragraph element, specified with the tag <p>

* In displaying the content of a paragraph, the browser puts as many words as will fit on the lines in the browser window.
* The Line breaks are embedded in text are ignored by the browser.

Eg of paragraph using line breaks.

```
<p>
    Mary had
a
    little lamb,
    and they both will enjoy.
</p>.
```

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o/p: Mary had a little lamb, and they both will enjoy.

* If the content of a paragraph tag would be displayed at a position other than the beginning of the line, the browser breaks the current line and inserts a blank line.

 Mary had a little lamb,   its fleece was white as snow .

o/p: Mary had a little lamb,

its fleece was white as snow.

Line Breaks:

A paragraph element would be displayed at a position other than at the beginning of a line, the browser breaks the current line and inserts a blank line.

* Text requires a line break without the preceding blank line. This is done by break tag.

* The break tag differs from the paragraph tag in that it can have no content and has no closing tag

* The break tag is specified as

The slash(/) indicates that the tag is both an opening and closing tag.

* This tag causes single line break. It kept at the end of every line. If we want 3 blank lines to be inserted after some text, then we put

.

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* If the text appearing on the web browser is too long, we get the line break automatically.
* If we don't want break then <nobr> tag can be used for such text.

```
<p>
  Mary had a little lamb, <br />
  its fleece was white as snow.
</p>
```

o/p: Mary had a little lamb,
its fleece was white as snow.

Preserving Whitespace:

To preserve the whitespace in text, ie., to prevent the browser from eliminating multiple spaces and ignoring embedded line breaks.

* Tag: pre.

Eg:

```
<p> <pre>
Mary
    had a
        little
            lamb.
</pre> .</p>.
```

* The 'pre' element can contain virtually any other tags, expect those that cause a paragraph break, such as paragraph elements

o/p:

```
Mary
  had a
      little
          lamb.
```

The content of the "pre" element is shown in Monospace, rather than the default font.

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Headings:

Text is separated into sections in documents by beginning each section with a heading.

* These can be appeared, sections nested inside them.

Six levels of headings:

<h1>, <h2>, <h3>, <h4>, <h5>, <h6>

<h1> - Specifies the highest-level heading

Headings are displayed in a boldface font whose default size depends on the number in heading tag.

In most Browsers:

<h1> <h2> <h3> : uses the font sizes that are larger than the default size of text.

<h4> : uses the default size

<h5><h6> : uses smaller sizes.

* The heading tags break the current line, so their content always appear on a new line.

* Browsers usually insert some vertical space before and after all headings.

```
<html>
    <head> <title> The Headings Example </title>
    </head>
    <body> <h1> Web Technologies </h1>
           <h2> For Some section 3/4 </h2>
           <h3> Subject taken by </h3>
           <h4> G. Karthika </h4>
           <h5> Computer Science Department </h5>
           <h6> Thankyou </h6>.
    </body>
</html>
```

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Block Quotations :

If a block of text is to be set off from the normal flow of text in a document then the <blockquote> tag is used.

* Browser designers determine how the content of <blockquote> can be made to look different from the surrounding text.

* The block of text can be intended either on left or right side or both.

Eg:

```
<html>
    <head>
        <title> Block quotes </title>
    </head>
    <body>
    <P> Html is used to design a web page
it is easily understand by the user </P>
    <blockquote>
        <P> This blockquote shows the text in
different format than the normal flow of text </P>
        <p> The Html has many number of tags
which are easy to use and understandable </P>
    </blockquote>
    </body>
</html>.
```

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O/P: Html is used to design a web page it is easily understand by the user.

This blockquote ....

The Html has ....

Font Styles and Sizes:

Web designers used a collection of tags to set font styles and sizes.

Eg: <i> = italic <b> = bold.

There are a few tags for fonts that are still in widespread used, called content-based style tags.

*. Content based: The tag indicates the particular kind of text that appears in their content.

The three most commonly used content-based tags.

① The emphasis tag : specifies that its textual content is special and should be displayed in some way. Most browsers use italics for such content.

② The strong tag : like the emphasis tag, but more. Browsers often set the content of strong elements in bold.

③ The Code tag <code> : Used to specify a monospace font, used for program code.

Eg: cost = quantity * price.

Non Content Based Tags:

Subscript and superscript characters can be specified by <sub> and <sup> tags.

Eg: X₂ ³ + y₁ ²

O/P: $X_2^3 + y_1^2$

Eg:

```
<html>
  <head>
    <title> Font Example </title>
  </head>
<body>
  <b> This is a bold Text </b>
  <i> This is a italic Text </i>
  <Strong> This is strongly emphasized text </Strong>
  <br>
  <strike> This is striked text </strike>
  <center> This will appear at the center </center>
  <br>
</body>
</html>.
```

Strike: This will appear the text as a striked text.

```
<Strike>
Eg:  Web Technology </strike>
```

O/P: ~~Web Technology~~.

Text alignment:

The alignment of the text can be done at left, right or at the center.

For this the tag is used.

Syntax of this tag is

```
<div align = "L/R/C" >
```

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Eg:
```
<html>
<head>
  <title> Text Alignment </title>
</head>
<body>
  <div align="center"> this line is aligned at center </div>
  <div align="left"> this line is aligned at left </div>
  <div align="right"> this line is aligned at right </div>
</body>
</html>.
```

Block Tags and Inline Tags:

HTML tags are categorized as being either block tags or inline.

* The content of inline tag appears on current line.
* An inline tag doesnot implicitly include a line break
* "br" is an inline tag, but its entire purpose is to insert a line break in the content.
* A block tag breaks the current line, so its content appears on new line.

Block Tags: Heading and block quote tags.

Inline Tags: < strong >.

A block Tag can never be nested directly in an inline tag. and inline tags & text ~~tags~~ cannot be directly nested in body or form elements. Only block tags can be nested in body or form elements.

Character Entities:

A collection of special characters that are needed in documents but cannot be types.

Eg: <, > and &. [these characters are used in HTML in some special way].

* The characters do not appear on keyboard, such as small raised circle "degrees" [reference to temperature].

Special characters are defined as "entities". which are names for the characters by browser.

* An entity in a document is replaced by its associated character by the browser.

List of commonly used entities:

Character	Entity	Meaning.
&	&	Ampersand
<	<	Less than
>	>	Greater than
"	"	double quote
'	'	single quote
$\frac{1}{4}$	¼	one quarter
$\frac{1}{2}$	½	one half
$\frac{3}{4}$	¾	Three quarters
°	°	degree
(space)		Nonbreaking space.

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Horizontal Rules:

The parts of a document can be separated from each other, making the document easier to read, by placing horizontal ~~rules~~ lines between them.

The block tag : <hr /> [This tag has no content & no closing tag].

The <hr /> tag causes a line break and draws a line across the screen.

* The browser chooses the thickness, length and horizontal placement of the line.
* Browsers display lines that are three pixels thick.

In HTML 5, the <hr> tag defines a thematic break.

In HTML 4.01, the <hr> tag represents a horizontal rule.

Eg:

```
<!DOCTYPE html>
<html>
<body>
    <h1> HTML </h1>
    <p> HTML used for web pages </p>
    <hr>
    <h1> CSS </h1>
    <p> CSS used to display html </p>
</body>
</html>.
```

o/p: Html used for web pages

CSS used to display html

In html5:

```
<p> Horizontal rule .. </p>
<hr />
<p> ... did you notice </p>.
```

o/p: horizontal rule

---

did you notice

The meta Element: Metadata is data (info) about data.

The meta element used to provide additional info about a document. It has no content; the provided info is specified through attributes.

The Two attributes, used to provide information.

① name ② content.

* The user makes up a name as the value of the name attribute and specifies info through the content attribute.

Common chosen name is "keywords"; the value of the content attribute associated with the keywords.

Eg: <meta name = "keywords" content = "binary trees, linked lists, stacks"/>.

* The <meta> tag provides metadata about the HTML document. Metadata will not be displayed on the page, but will be machine parsable.

* Meta data can be used by browsers (how to display content or reload page), search engines (keywords) or other web services.

HTML5 introduced a method to let web designers take control over the viewport, through the <meta> tag.

* The viewport is the user's visible area of a web page. It varies with the devices, and will be smaller on a mobile phone than on a computer screen.

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Include <meta> viewport element in the web page:

Eg: <meta name = "viewport" content = "width = device-width, initial-scale = 1.0">.

* <meta> viewport gives browser, instructions how to control the pages dimensions and scaling.

* width = device-width part sets the width of the page to follow the screen-width of the device.

Imp. Points:

<meta> tags always go inside the <head> element.

* The content attribute MUST be defined if the name or the http-equiv attribute is defined. If none of these are defined, the content attribute CANNOT be defined.

Eg:

```
<html>
    <head>
        <meta charset = "UTF-8">
        <meta name = "description" content = "free web">
        <meta name = "keywords" contents = "HTML, CSS">
        <meta name = "author" contents = "Sebesta">
        <meta name = "viewport" content = "width = device
            - width, initial - scale = 1.0">
    </head>
    <body>
        <p> This is example of meta element </p>
    </body>
</html>.
```

used in version 5 (Html5)

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Images:

The image is stored in a file, which is specified by HTML request. The image is inserted into the display of the document by the browser.

Image Format:

The image formats are used GIF and JPEG. (Joint Photographic Experts group)

GIF (Graphic Interchange Format): It uses 8-bit colour representation for pixels, A pixel will have 256 different colors. It uses .GIF or .gif extension

Eg: ~~fileimage.gif~~ fileimage.gif

JPEG: (Joint Photographic Experts Group): It uses 24-bit color representation for pixels, JPEG images include more than 16 million diff. colors. It uses .jpg or .jpeg extensions

Eg: fileimage.jpg.

* GIF images can be made to appear transparent
* The disadvantage of JPEG is it doesnot support transparency
* JPEG images are compressed which loses some of colours in image.
* GIF images are shrinked, even JPEG have more colours but it is smaller than the GIF image because of JPEG disadvantage (not transparent).

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The Image Tag: <img />

The images on the browser can be displayed by using the tag: <img src="url">

* within the double quotes image file should be mentioned. Normally .gif and .jpg files are used to display the images on the web browser.
* The <img> tag doesnot having a closing tag.
* **Src attribute**: specifies the URL of image.
* **Alt attribute**: provides an alternate text for an image, If the image cannot be viewed by user then this text is useful for the idea of an image.
* **Style attribute**: used to specify width and height of an image.

① Syntax: Style = "width: 500px; height: 500px;"

② width = "500"
height = "500".

More attributes which doesnot supported by html5.

Align: top, bottom, middle, left, right (specifies alignment of image according to surrounding elements).

border: pixels (for the width of border around an image)

hspace: pixels (the whitespace on left and right side of an image)

Vspace: pixels (the white space on top and bottom of an image).

Attributes supported by html5:

Cross origin: (anonymous use-credentials) allows images from third party sites that allow cross-origin access to be used with canvas.

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Examples of image:

Using alt attribute:

<img src = "cat.jpg" alt = "image of a cat" >

If the image src is not correct then the image is not displayed only alt data will be displayed.

Using style attribute.

<img src = "cat.jpg" alt = "beautiful cat"
style = "width : 500px ; height : 500px;" >

Using only width & height attributes:

<img src = "cat.jpg" alt = "cutty cat"
width = "500" height = "500" >.

[Their difference is if it is specified in style image is shown in a same as shown in width & height directly.]

[Src of the image can be taken only imagename else complete url from browser].

Eg: <img src = "http://google.com/images/cat.jpg"
alt = "cat image" >.

image can be taken as an animated images.

Eg: <img src = "program.gif" alt = "cat running"
style = "width : 48px; height : 48px;" >.

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* An image canbe used as a link by specifying the image <img> tag inside <a> tag which is called as Image as a Link:

Eg: <a href = " default.asp" >
<img src = " cat.gif " alt = " Cat pic" style = " width :42px; height :42px;" >.
</a>.

* Image Floating: specifies an image can float to the right or left of a text. The <img> tag is kept inside the tag and in the style attribute "float: right" or "float: left" is mentioned.

Eg: <img src = " cat.gif " alt = " cat smiles"
style = "float : right ; width : 42 px; height :42 px;" >
The image float at right of text .

[Same as for left].

This float property is used only in html4 but not supported in html5.

* Background Image:
Used to add a background image on the web page.

* This can used for complete webpage when it is specified in the body tag.

* If it is mentioned in any tag eg: or to that paragraph image is displayed.

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Eg: ① < body style = " background - image : url('cloud.jpg') ">
<h2> Background image </h2>
</body>

for a single paragraph:

② <body>

..... /* Text about the image */

</body>.

Image Maps and Hot spots :

To enhance the user friendliness for the web pages, images are inserted on the web pages. These images must be supported by some useful information and for that matter sometimes "image maps" and "hot spots" are created in the webpages.

Image Map: In this we can click on various parts on the image and get the relevant information of the image.

Hot spot: It is the area of the image being clicked.

* The Important part in image mapping is guessing the co-ordinates of the image parts.

3 different shapes, used to locate the hot spots:

① Rect: For this shape x_1, y_1, x_2, y_2 co-ordinates can be set, where x_1, y_1 denotes the top left point and x_2, y_2 denotes right - bottom point

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Syntax for rect as a hotspot:

<area shape = "rect" coords = x_1, y_1, x_2, y_2
href = "www.yourinfo.com" >.

② Circle: For this shape x_1, y_1, r_1 co-ordinates can be set, where x_1, y_1 denotes the center point and r_1 denotes the radius of the circle.

Syntax: < area shape = "circle" coords = x_1, y_1, r_1
href = " www.yourinfo.com" >.

③ Polygon: For this shape $x_1, y_1, x_2, y_2 \ldots x_n, y_n$ co-ordinates can be set, where x, y denotes the points of the polygon.

Syntax: <area shape = "polygon" coords = $x_1, y_1, x_2, y_2, x_n, y_n$ href = "www.yourinfo.com" >.

This code must be enclosed b/w the <map> and </map> tag.

* The following HTML program we have created one jpg image file named "solarsystem.jpg" in which 4 popular planets are imaged. If we move the mouse over these planets then the name of the planet will be displayed, and also if clicked on any planet the page containing info. about the planet will be displayed.

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Eg: <html>

<head>

<title> Solar System <Hitle>

</head>

<body>

<P> Popular Planets from Solar System </p>

<img src = "C:\documents & setting\user\ mydocuments\ solarsystem.jpg width = "145" height = "126"

(This sets the image height & width) usemap = "# solarmap">.

< map id = "solarmap" name = "solarmap">

<area shape = "rect" coords = " 10, 10, 40, 25 " alt = " mercury"

href = " D:\\HTML - Examples \ mercury. html">

<area shape = "rect" coords = "35, 20, 75, 55" alt = "venus"

hrefs = " D:\\ HTML - Exam \venus. htm">

<area shape = "rect" coords = " 65, 55, 115, 85" alt = "earth"

hrefs = " ..... \earth. htm">

<area shape = "rect" coords = " 90, 85, 135, 120"

alt = "saturn" hrefs " .... \saturn. htm">

</ map>

<P> < strong> Note : </ strong> Some planets from our solar system are displayed here click on any planet and will get some useful info about them. </P>

</ body> </ html>.

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Eg: for Hspace, vspace attributes:

<img src = "c:\.....\flower.gif" Hspace = "20" Vspace = "20"
alt = "beautiful flower" >.

for align attribute:

< img src = "cat.jpg" align = "right / left / centre" >.

Hypertext Links:

A hypertext link in an HTML document, which we simply call a "link" here. A link that points to a diff. document specifies the address of that document.

* Links are specified in an attribute of an anchor tag <a>, which is an inline tag.

* The anchor tag that specifies a link is called the source of that link. The document whose ~~attribute~~ address is specified in a link is called the target of that link.

* We can specify the weblink in the webpage. This can be done by a tag <a> and by specifying the URL for "href".

* The <a> means beginning of the web link and </a> means end of the web link.

* Following are steps to be followed to specify web link in the webpage.

Step I: The beginning of web link can be specified by the tag.

<a href = " "

The URL of desired link is mention inside the double quotes.

Step II: Write some text that should act as hyperlink

Step III: End the web link </a>.

eg:

```
<html>
<head>
    <title> Link Eg. </title>
</head>
<body>
    click here to get a
    <a href = " http://www.googlebooks.com "> Book </a>
        on engineering
</body>
</html>.
```

In the above program the word "Book" will appear as a weblink. If you click on this hyperlink then the home page of www.googlebooks.com will be displayed.

* By default this web page gets opened in the same browser window. If we want to get that link opened in another window. we can mention "_target" property. Various Targets can be

* _self: loads the page into the current window
* _blank: loads the page into a new separate browser window.

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* _parent : loads the page into the frame that is superior to the frame, residing the hyperlink.

* _top : Cancels all frames, and loads in full browser window.

Eg:
```
<html>
    <head>
        <title> Link with Target </title>
    </head>.
    <body>
        click here to got a
        <a href = "http://www.google books.com" target
                = "_blank" > book </a> on Engg.

    </body>
</html>.
```

* Links can include images in their content, in which the browser displays the image with the link:

```
<a href = "www.w3schools.com" >
<img src = " Book.jpg" alt = " info abt books" /> </a>
```

An image itself can be an effective link. Eg., an image of a book can be used for the link back to the w3 schools of the site. The content of an anchor element for such a link is just the image element.

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HTML Links - Create a Bookmark:

HTML bookmarks are used to allow readers to jump to specific parts of a web page.

* These are useful if your webpage is very long.
* To make a bookmark: First create the bookmark and add a link to it.
* when the link is clicked, the page will scroll to the location with the bookmark.

① Creation of a bookmark with the id attribute:

```
<h2 id="c4">Chapter 4</h2>.
```

② Add a link to the bookmark, from within the same page.

```
<a href="#c4">Jump to chapter 4</a>.
```

③ Else, add link to the bookmark, from another page.

```
<a href="html-demo.html#c4">Jump to chap4</a>.
```

Eg:

```
<!DOCTYPE html>
<html>
<body>
<P><a href="#c4">Jump to chap 4</a></P>
<h2> chap1 </h2>
<P> This is chap 1 </P>
<h2> chap2 </h2>
<P> - - - - - - </P>
```

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```
<h2> chap 3 </h2>
<p>  ....  </p>
<h2 id = "c4"> chap 4 </h2>
<p>  ....  </p>.
<h2> chap 5 </h2>
<p> ... </p>.
</body>
</html>.
```

O/P: Jump to chap4

chap 1
This is chap 1
chap 2
...
chap 3
...
chap 4
...
chap 5
...

(If we click on link then it swols to chap 4.)

External Paths:

External Pages can be referenced with a full URL or with a path relative to the current web page.

Eg: Uses of full URL to link to a web page:

```
<a href = "https://www.onlinebooks.com/html/default.asp">
OnlineBooks Store </a>.
```

Eg: Links to a page located in the same folder as a current page:

```
<a href = "default.asp"> OnlineBooks Store </a>
```

Eg: Links to a page located in the html folder on the current web side:

```
<a href = "/html/default.asp"> OnlineBooks Store </a>
```

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Lists :

HTML provides simple and effective ways to specify lists in documents. Tag for list is < li>

Types of Lists :

Unordered List : eg: Grocery lists

Ordered list : Eg: Assembly instruction for a new bicycle or new washing machine operation

Definition List : used for description :

Unordered lists :

Unordered lists are called unnumbered lists. The creation of unordered lists in HTML is by using <ul> tag. The "type" attribute can also be used to the <ul> tag that indicates the displayed bullet along with list of items.

① disc — sets the list item marker to a bullet (default)

② circle — sets the list item marker to circle

③ Square — sets the list item marker to a square

④ none — The list items will not be marked.

Syntax : ① < ul type = " circle " >

② < ul style = " list - style - type : circle " >

Eg:

```
< html>
<head>
    <title> Unordered Lists <|title>
<| head>
<body >
```

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```
<h2> Unordered list for diff types </h2>
<ul type = "disc">
    <li> Coffee </li>
    <li> Tea </li>
    <li> milk </li>
</ul>
<ul style = "list_style_Type : circle">
<li> coffee </li>
<li> Tea </li>
<li> milk </li>
</ul>
<ul type = "square">
<li> coffee </li>
<li> Tea </li>
<li> milk </li>
</ul>
<ul style = " list_style_type : none">
    <li> coffee </li>
    <li> Tea </li>
    <li> milk </li>
</ul>
</body>
</html>.
```

O/P: Unordered list for diff types

- coffee
- Tea
- milk

o coffee
o Tea
o milk

■ Coffee
■ Tea
■ milk

Coffee
Tea
milk.

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Ordered list:

Ordered list are also called sequenced or numbered lists. In this the list of items have an order that is signified by numbers.

* The creation of ordered list is done by using <ol> tag. we can use value parameter with <li> tag that helps us to change the count for the list item.
* The attribute used is "type".

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.

Eg:

```
<!DOCTYPE html>
<html>
<head>
  <title> Ordered list eg </title>
</head>
<body>
  <h2> Ordered list for diff. types </h2>
```

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G. Karthika

```
<ol type = "1">
    <li> Coffee </li>
    <li> Tea </li>
    <li> milk </li>
</ol>
```

O/P: Ordered list for diff. types

1. Coffee
2. Tea
3. Milk.

default

```
<ol type = "A">
    <li> CPU </li>
    <li> Monitor </li>
    <li> Keyboard </li>
</ol>
```

A. CPU
B. Monitor
C. Keyboard

```
<ol type = "a">
    <li> TV </li>
    <li> Fridge </li>
    <li> Bed </li>
</ol>
```

a. Tv
b. Fridge
c. Bed

```
<ol type = "I">
    <li> Coffee </li>
    <li> Tea </li>
    <li> water </li>
</ol>
```

I. Coffee
II. Tea
III. water

```
<ol type = "i">
    <li> Green Tea </li>
    <li> Honey </li>
    <li> lemon </li>
</ol>
</body>
</html>.
```

i. Green Tea
ii. Honey
iii. lemon

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Definition List. tag <dl> which is a block tag.

A definition list is a list of definition terms <dt> and corresponding definition description <dd> on a newline. To create a definition it must start with <dl> tag and immediately followed by first definition term <dt>.

Eg:
```
<html>
<head>
  <title> Definition list Eg </title>
</head>
<body>
  <dl>
  <dt> HTML </dt>.
    <dd> Html is a scripting language which is used to create a web pages. If you are thinking of creating your own web pages, you need to know at least basic HTML. </dd>
  <dt> SGML </dt>
    <dd> SGML, Standard Generalized Markup Language was used as the basis of the HTML </dd>
  </dl>
</body>
</html>.
```

O/P: HTML

html is a scripting lang

- - - - -

SGML

SGML Stand- - - -

Tables:

* A table is a matrix of rows & columns, the each intersection of a row and a column is a cell.
* The cells in the top row contain column labels and leftmost column contain row labels, and rest of cells contain data of the table.

Basic Table Tags:

A table is specified as the content of block tag <table> and most common attribute for <table> tag is "border"

* Two kinds of lines in tables, the line around the outside of the whole table is called 'border' and the lines separate the cells from each other are 'rules'.
* The browser default width for table borders and rules, if the border attribute is assigned the value "border".
* A number can be given as border's value, which specifies the border width in pixels.

Eg: border = "3" (a border 3 pixels wide).

A border value of "0" specifies no border and no rules.

* A displayed table is preceded by a title, which is given as the content of <caption> tag., which followed the opening <table> tag.

Tags:

Each row of a table specified with a row tag <tr>
Each row table is specified by table heading tag <th>
Each data cell of a row is specified by table data tag <td>

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Eg:

```
<html>
<head>
<title> Table Example </title>
</head>
<body>
  <table border = "border">
  <caption> Coffee Day </caption>
  <tr>
    <th>  </th> { empty cell specified with header tag
                  with no content }.
    <td> Black coffee </td>
    <td> Cold coffee </td>
  </tr>
  <tr>
    <th> Morning </th>
    <td> 1 </td>
    <td> 0 </td>
  </tr>
  <tr> <th> Afternoon </th>
    <td> 0 </td> <td> 0 </td>
  </tr>
  <tr> <th> Evening </th>
    <td> 0 </td> <td> 1 </td>
  </tr>
  </table> </body>
</html>.
```

O/P:

Table Example

Coffee Day

	Black Coffee	Cold Coffee
Morning	1	0
Afternoon	0	0
Evening	0	1

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The Rowspan and Colspan Attributes :

Multiple -level labels can be specified with the rowspan and colspan attributes.

Fruit Juice Drinks		
Orange	Apple	Muskmelon

Two levels of column labels

* The colspan attribute specification in a table header or table data tag used to make the cell as wide as the specified no. of rows below it in the table

```
<tr>
  <th colspan = " 3 " > Fruit Juice Drinks <th>
<|tr>.
<tr>
  <th> Orange <|th>
  <th> Apple < |th>
  <th> Muskmelon <|th> .
```

* A table that has 2 levels of column labels and also has row labels must have an empty upper-left corner cell that spans both the multiple rows of column labels and the multiple columns.
* A cell is specified by including both rowspan and colspan attributes.

Eg:

```
< html >
< head >
    <title > Rowspan and Colspan Example <|title>
<|head>
<body >
  <table  border = " border " >
```

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```
<caption> Coffee Day Orders </caption>
<tr>
  <td rowspan="2"> </td>
  <th colspan="2"> Coffee Day </th>
</tr>
<tr>
  <th> Black Coffee </th>
  <th> Cold Coffee </th>
</tr>
<tr>
  <th> Morning ~~Monday~~ </th>
  <td> 1 </td>
  <td> 0 </td>
</tr>
<tr>
  <th> Afternoon </th>
  <td> 0 </td> <td> 0 </td>
</tr>
<tr>
  <th> Evening </th>
  <td> 0 </td> <td> 1 </td>
</tr>
</table>
</body>
</html>.
```

Rowspan & Colspan Example

Coffee Day Orders

	Coffee Day	
	Black Coffee	Cold Coffee
Morning	1	0
Afternoon	0	0
Evening	0	1

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The align and valign attributes:

The placement of the content within a table cell can be specified with the align and valign attributes in <tr>, <th>, <td> tags.

The align attribute: values are left, right & center, for the horizontal placement of the content within a cell. Default alignment for the th cells is center; for td cells is left

* If align is specified in <tr> tag, it applies to all cells in the row.
* If align is specified in <th> or <td> then it applies to only that cells.

The valign attribute: The <th> and <td> tags has the values top and bottom.

The default alignment for both headings & data is center. Becoz it applies only to a single cell. so no need to specify center.

Eg:

```
<html>
  <head>
    <title> Allignment in cells </title>
  </head>
  <body>
    <table border="border">
      <caption> align & valign attrib. </caption>
      <tr align="center">
        <th></th>
        <th> Column labels </th>
        <th> Col. lab 2 </th>
        <th> Col. lab 3 </th>
      </tr>
```

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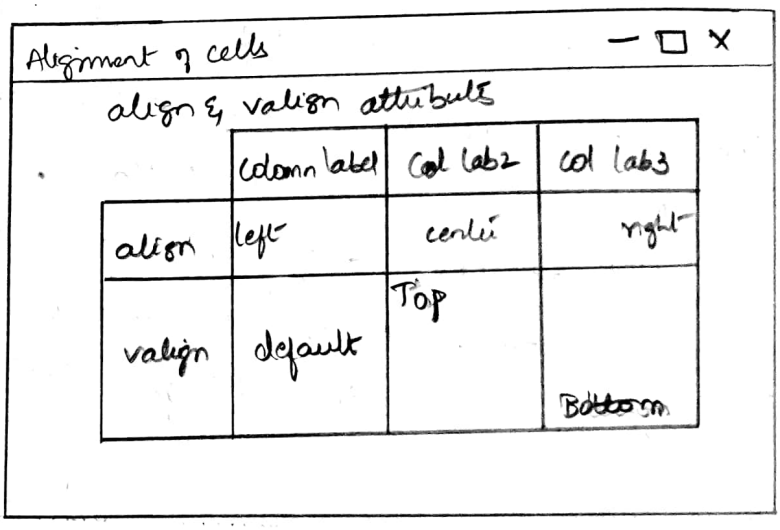
```
<tr>
    <th> align </th>
    <td align = "left" > left </td>
    <td align = "right > right </td>
    <td align = "center" > center </td>
</tr>
<tr>
    <th> <br/> valign <br/> <br/> </th>
    <td> Default </td>
    <td valign = "top" >Top </td>
    <td valign = "bottom" > Bottom </td>
</tr>
</table>
</body>
</html>.
```

O/P:



The Cellpadding and cellspacing Attributes :

The table tag has 2 attributes that can be used to specify the spacing b/w the content of a table cell and the cells edge and the spacing b/w adjacent cells.

The Cellpadding attribute : used to specify the spacing b/w the content of a cell and the inner walls of the cell. * Used to prevent text in a cell from being too close to the edge of the cell.

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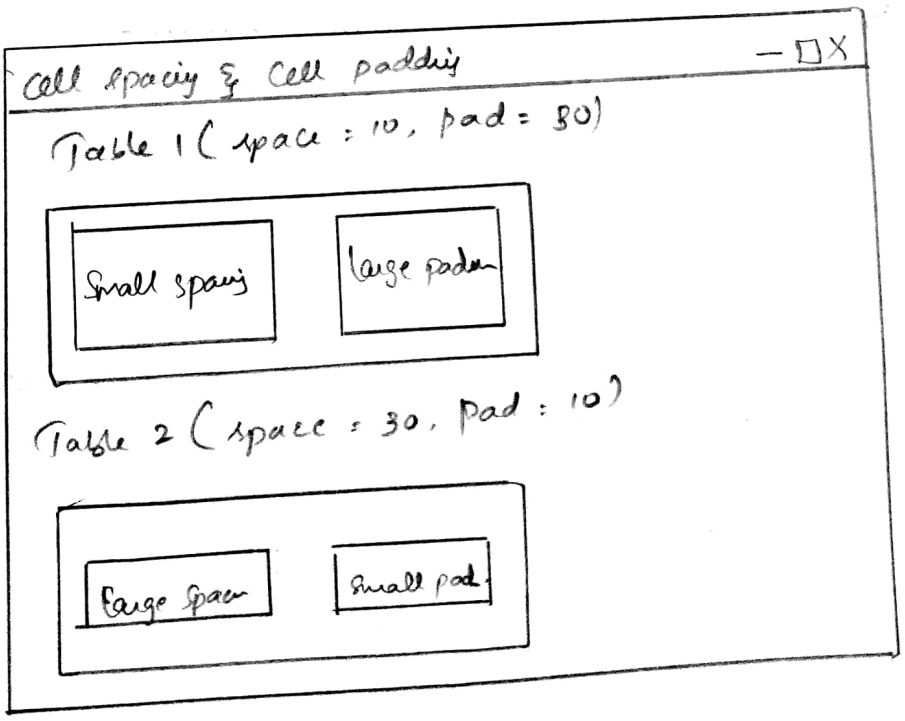
* The cellspacing attribute is used to specify the distance b/w cells in a table.

Eg:
```
<html>
<head>
    <title> Cell spacing and cellpadding </title>
</head>
<body>
    <b> Table 1 (space = 10, pad = 30) </b> <br><br>
    <table border = "5" cellspacing = "10" cellpadding "30" >
    <tr>
        <td> Small spacing </td>
        <td> Large padding </td>
    </tr>
    </table>
<br/> <br/> <br> <br>
<b> Table 2 (space = 30 , pad = 10) </b> <br> <br>
<table border = "5" cellspacing = "30" cellpadding = "10" >
<tr>
    <td> Large Spacing </td>
    <td> Small padding </td>
</tr>
</table>
</body>
</html>.
```



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