Session1

HTML

HTML

- HTML stands for HyperText Markup Language.
- It is the standard markup language used for creating and structuring web pages on the internet.
- HTML code consists of a series of tags, which are enclosed in angled brackets, < >, and are used to define different elements of a web page.
- Tags are used to define the structure, content, and layout of a web page, including headings, paragraphs, images, links, lists, tables, forms, and more.

```php
<!DOCTYPE html>
<html>
<head>
    <title>My Web Page</title>
</head>
<body>
    <h1>Welcome to my web page</h1>
    <p>This is my first paragraph.</p>
    <p>This is my second paragraph.</p>
    <img src="image.jpg" alt="My Image">
    <a href="http://www.example.com">Click here to visit example.com</a>
</body>
</html>
```

- HTML is a **fundamental building block of web development,** and learning HTML is essential for anyone interested in creating web pages or web applications.

Basic Tags

- An HTML document is made up of diffrent elements, tags, and attibutes, which specify the content and its format. Therefore, HTML is both a structural and presentatinal markup language.
- An HTML page is saved with the .html extension.
- **<!DOCTYPE html>** declaration specifies that this document is an HTML5 document.
- **<html>** tag defines the beginning of the HTML document
- **<head>** tag contains information about the document such as the title, which appears in the browser tab.
- The **<body>** tag contains the visible content of the web page, including headings, paragraphs, images, and links.

- **TITLE**
  The TITLE element allows you to specify the tile of the Web page under the <TITLE> and </TITLE> tag

- **META**
  The meta tag is used for displaying information about the data

- <meta charset="utf-8" />

- **LINK**
  The <link> tag is used to define the association between a document and an
  external resource. It is used to link style sheets

  <link type="text/css" rel="stylesheet" href="fist.css"

Formatting text using tags

- *Headings*

  HTML defies six levels of heading that ranges from H1 to H6. The H1 element specifis
  the top-level heading, which is displayed with the largest size. The H6 element specifis
  the lowest-level heading, which is displayed with the smallest size

Code snippet

- ```
  <!DOCTYPE html>
  <html>
  <head>
  <title>Headings</title>
  </head>
  <body>
  <h1>H1 Heading</h1>
  <h2>H2 Heading</h2>
  <h3>H3 Heading</h3>
  <h4>H4 Heading</h4>
  <h5>H5 Heading</h5>
  <h6>H6 Heading</h6>
  </body>
  </html>
  ```

H1 Heading

H2 Heading

H3 Heading

H4 Heading

H5 Heading

H6 Heading

Formatting

The commonly used HTML formatti elements are as follows:

- B
  The B element displays the text in bold. The text that needs to be displayed in bold is enclosed between and tags.

- I
  The I element displays the text in italic. The text that needs to be displayed in italic is enclosed between <i> and </i> tags.

- SMALL
  The SMALL element makes the text appear smaller in a browser. The text that needs to be displayed smaller is enclosed between <small> and </small> tags.

- U
  The U element applies an underline to the text. The text that needs to be underlined is enclosed between <u> and </u> tags.

Code snippet

Using HTML Formatting Elements

This text is displayed in bold.
This text is displayed in italic.
<u>This text is underlined.</u>
This text is displayed smaller.

- ```html
  <!DOCTYPE html>
  <html>
  <head>
  <title>Formats</title>
  </head>
  <body>
  <h2>Using HTML Formatting
  Elements</h2><br>
  <b>This text is displayed in bold.</b><br>
  <i>This text is displayed in italic.</i><br>
  <u>This text is underlined.</u><br>
  <small>This text is displayed smaller.</small>
  </body>
  </html>
  ```
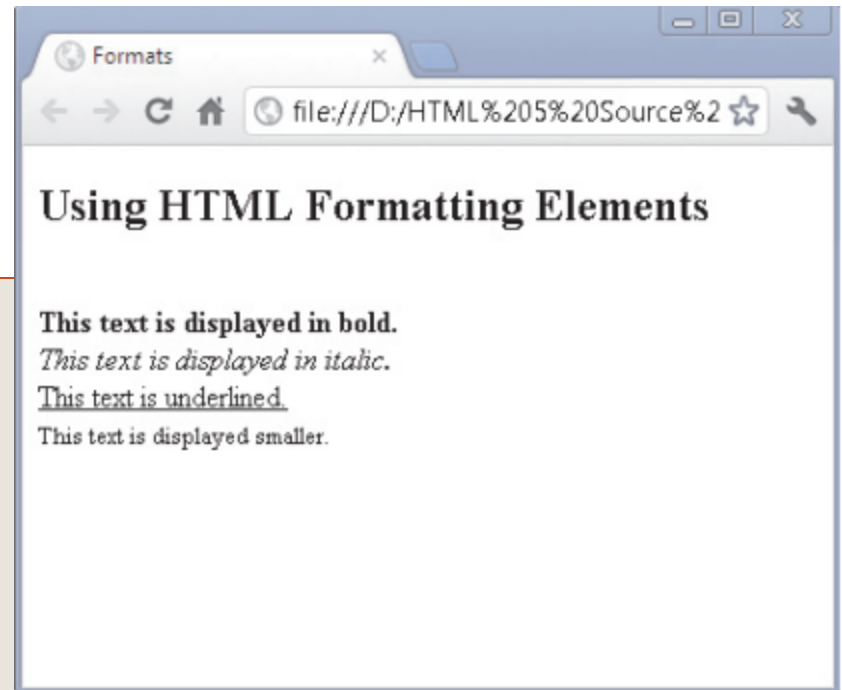
- you might want to strike through some text to indicate that it is deleted. Therefore, HTML provides you with some more formatted elements. These formatting elements are as follows

- DEL   The DEL element encloses text, which has been deleted from the document. The text to be deleted is placed in the <del> and </del> tags.

INS

The INS element encloses text, which has been inserted in the document. The text to be inserted is placed in the <ins> and </ins> tags. The INS element can be used with DEL element to inform the user about the deleted text, which is replaced by thenew text

STRONG

The STRONG element emphasizes the text as compared to its surrounding text. The

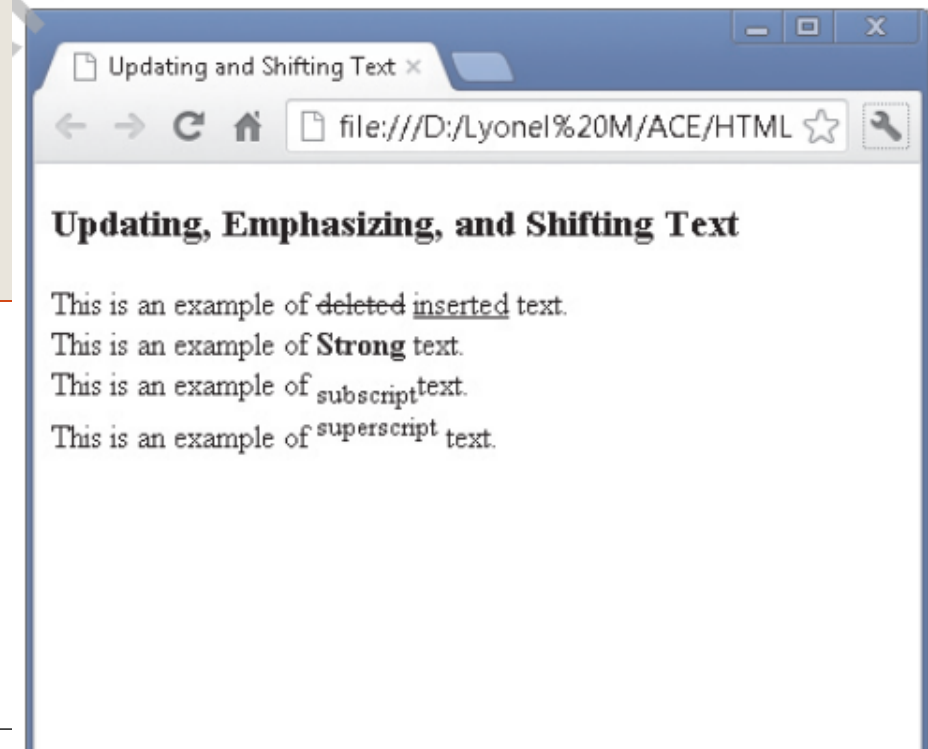text to be emphasized is placed in the and tags.

SUB

The SUB element displays the text as subscript. The text to be displayed as subscript

is enclosed in _{and} tags.

SUP

The SUP element displays the text as superscript. The text to be displayed as superscript is enclosed in ^{and} tags

- ```
  <!DOCTYPE html>
  <html>
  <head>
  <title>Updating and Shifting Text</title>
  </head>
  <body>
  <h3>Updating, Emphasizing, and Shifting Text</h3>
  This is an example of <del>deleted</del> <ins>inserted
  </ins> text.<br/>
  This is an example of <strong>Strong</strong> text.<br/>
  This is an example of <sub>subscript</sub>text.<br/>
  This is an example of <sup>superscript</sup> text.<br/>
  </body>
  </html>
  ```

Format a Block Quotation

- To define a long quotation or block quotation, the <blockquote> tag can be used.
- Whenthe <blockquote> tag is used, the quotation is indented in browsers.

```
<blockquote>
"When one door closes, another opens; but we often look so long
and so regretfully upon the closed door that we do not see the
one which has opened for us." -Alexander Graham Bell
</blockquote>
```

Lists

-
  A list is a collection of items, which might be organized in a sequential or unsequential
  manner.

- You can use a list to display related items that belong to a particular category

- A list in HTML can contain paragraphs, line breaks, images, links, and other lists.

- The items within a list are displayed on a Web page one below the other using bullets.

- HTML supports three types of lists. These are as follows:
  1.Ordered
  2.Unordered
  3.Definition

Figure 3.4: Different Types of Lists

Ordered List

- An ordered list is a list of items arranged in a particular order.

- Here, the order of theitems is important as it indicates a sequential flow.

- HTML provides two elements for creatig an ordered list. These are as follows:
OL: Creates an ordered list.
LI: Specifies an item and it is a sub-element of the OL element.

Ordered list code

- ```html
  <!DOCTYPE html>
  <html>
  <head>
  <title>Days in a Week</title>
  </head>
  <body>
  <h2>Days in a Week:</h2>
  <ol>
  <li>Sunday</li>
  <li>Monday</li>
  <li>Tuesday</li>
  <li>Wednesday</li>
  <li>Thursday</li>
  <li>Friday</li>
  <li>Saturday</li>
  </ol>
  </body>
  </html>
  ```
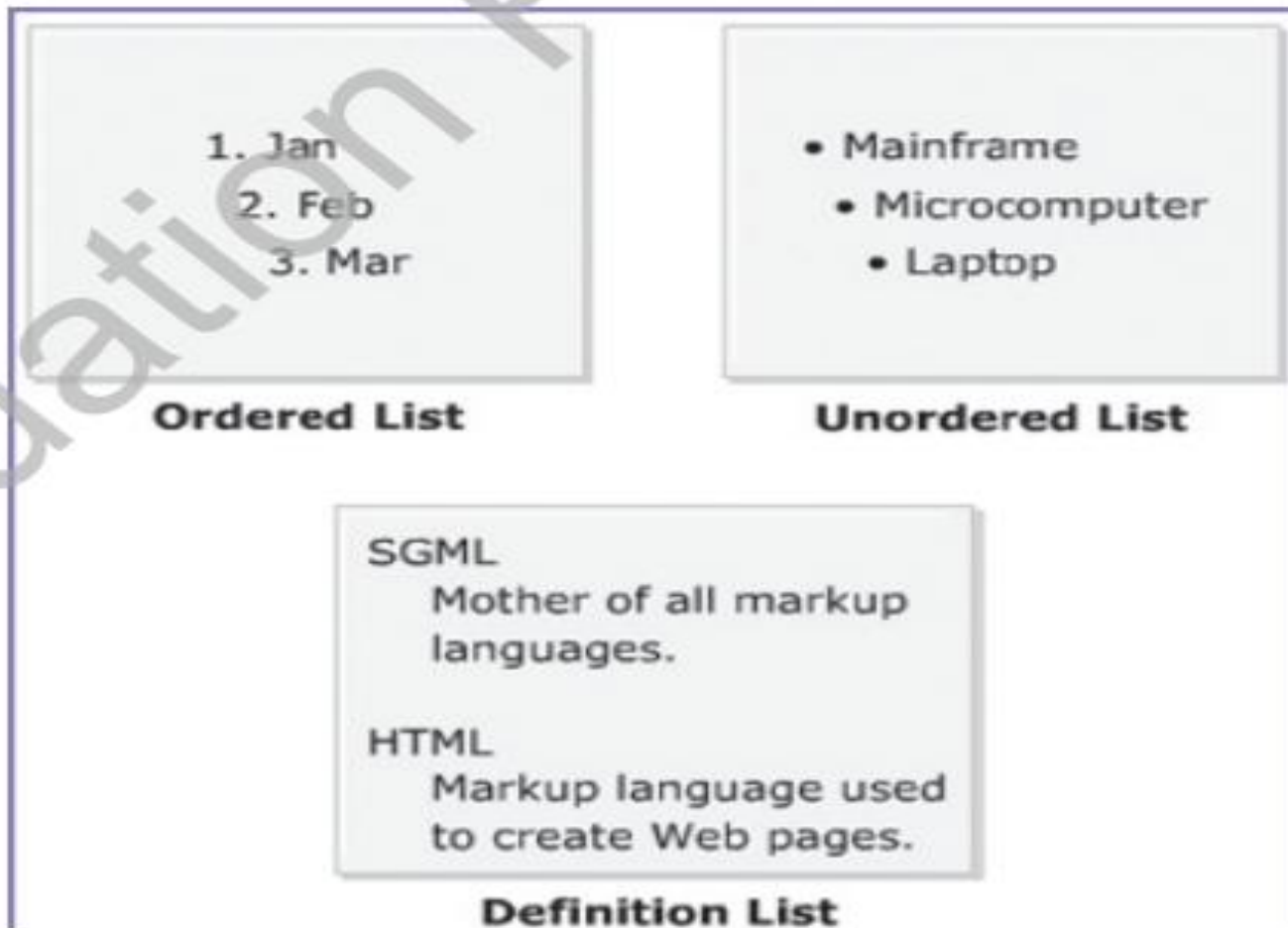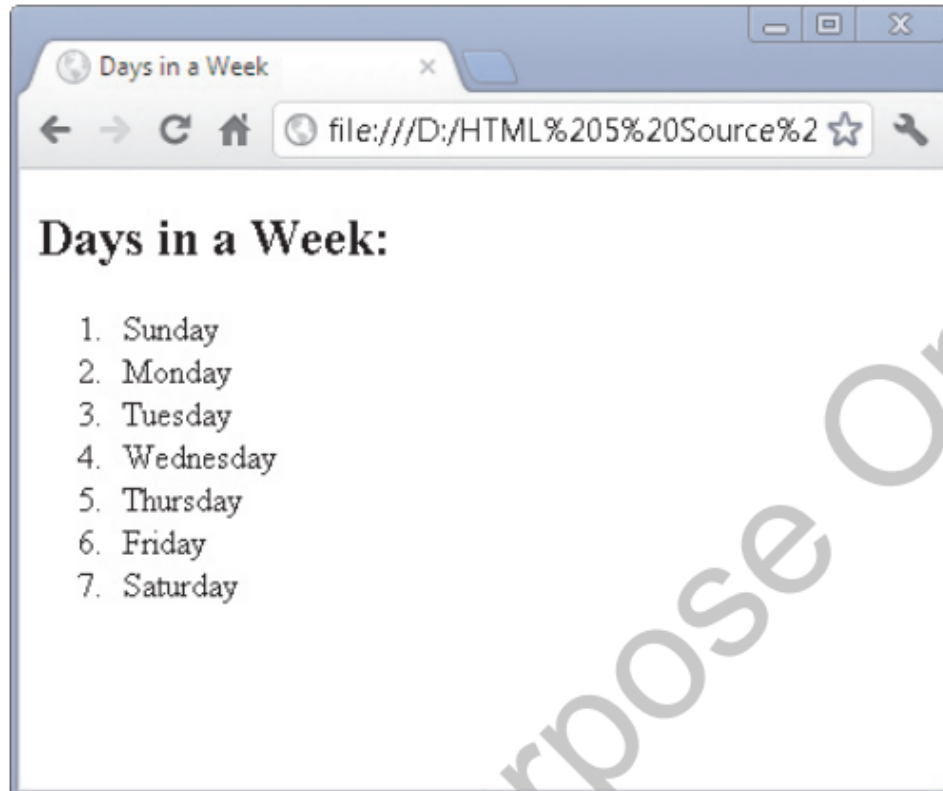
- Different numbering styles, such as roman numerals or alphabetic bullets, can be applied to an ordered list. Table 3.2 shows the different numbering styles that can be specified in an ordered list.
- The list-style-type property is used to specify a numbering style for the ordered list

Property's Value	Example
decimal	1, 2, 3, …
lower-alpha	a, b, c, …
upper-alpha	A, B, C, …
lower-roman	i, ii, iii, …
upper-roman	I, II, III, …

```
<ol style=list-style-type:lower-roman>
<li>Sunday</li>
<li>Monday</li>
<li>Tuesday</li>
<li>Wednesday</li>
<li>Thursday</li>
<li>Friday</li>
<li>Saturday</li>
</ol>
```

Days in a Week:

i.   Sunday
ii. Monday
iii. Tuesday
iv. Wednesday
v.   Thursday
vi. Friday
vii. Saturday

Unordered List

- An unordered list is a list where the items are arranged in a random order.
- This means that you will create an unordered list when the order of related items is not important.
- HTML provides the UL element to create an unordered list.
- list-style-type property specifies the type of bullet to be applied to an unordered list.
- There are three types of bullets defied for the unordered lists in HTML.
- These bullet types are namely, disc, square, and circle. The default value is disc, which is applied to the unordered list

- ```
  <!DOCTYPE html>
  <html>
  <head>
  <title>Features of EasyPad</title>
  </head>
  <body>
  <h2>Features of EasyPad</h2>
  <ul>
  <li>Opens many fies at a time</li>
  <li>Unlimited undo and redo</li>
  <li>Reads and writes both Windows and Unix fies</li>
  </ul>
  </body>
  </html
  ```

Features of EasyPad

- Opens many files at a time
- Unlimited undo and redo
- Reads and writes both Windows and Unix files

- ```html
  <!DOCTYPE html>
  <html>
  <head>
  <title>Wild Animals</title>
  </head>
  <body>
  <h2>Wild Animals</h2>
  <ul style="list-style-type:square">
  <li>Lion</li>
  <li>Tiger</li>
  <li>Leopard</li>
  <li>Wolf</li>
  </ul>
  </body>
  </html>
  ```

Wild Animals

- Lion
- Tiger
- Leopard
- Wolf

Definition List

- A definition list refers to a collection of terms with their corresponding descriptions.

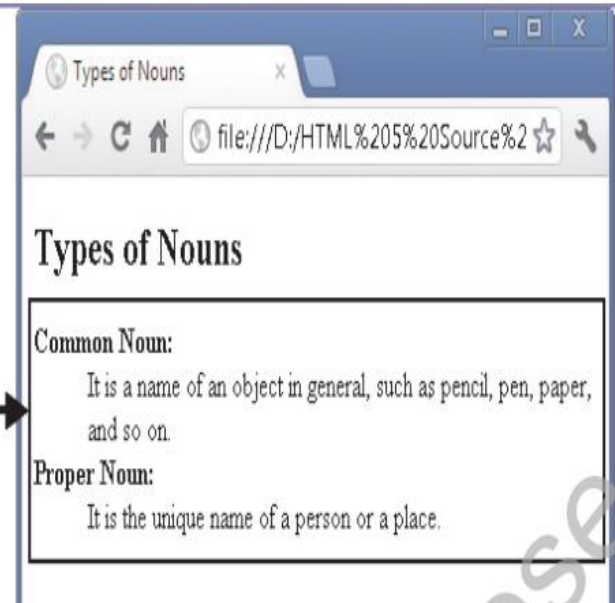|	
DL	**Is a container element that consists of the DT and DD sub-elements. It specifies that a definition list will be created using these elements**
DT	Specifies the term to be defied or described.
DD	Specifies the definition or description of the term

```
<!DOCTYPE html>
<html>
<head>
<title>Types of Nouns</title>
</head>
<body>
<h2>Types of Nouns</h2>
<dl>
<dt><b>Common Noun:</b></dt>
<dd>It is a name of an object in general,
such as
pencil, pen, paper, and so on.</dd>
<dt><b>Proper Noun:</b></dt>
<dd>It is the unique name of a person or
a place.
</dd>
</dl>
</body>
</html>
```

Definition List →

Background and Foreground Colors

- HTML provides background properties that specify the background color and image for the Web pages.
- To specify a background for a Web page, use the background property.
- The background property is a shorthand property that specifies all the background properties in just one declaration.
- The bgcolor attribute specifies the background color of a document.
- The syntax for bgcolor is shown.
  Syntax:
  <body bgcolor="color_name|hex_number|rgb_number">

Syntax:
<body bgcolor="color_name|hex_number|rgb_number">

- where,

- color_name - Specifies the background color with a color name (such as "red")

- hex_number - Specifies the background color with a hex code (such as "#ff000")

- rgb_number - Specifies the background color with an rgb code (such as "rgb(255,0,0)")

```
<html>
<body bgcolor="#E6E6FA">
<h1>Hello world!</h1>
<p>welcome</p>
</body>
</html>
```

Background Image:
```
<html>
<body background="bgimage.jpg">
</body>
</html>
```

Hyperlinks

- A hyperlink is referred to as a link.
- It refers to linking to another Web page or to a section in the same Web page.
- The A (anchor) element is used to create a hyperlink.
- You can specify a text or an image as a hyperlink. When you move the mouse over such content, the cursor changes into a hand with its index finger pointing towards the content.
- This means that clicking them will take you to the respective link

```
<html>
<head>
</head>
<body>
<a href=" https://www.google.com/">
Click to view the google Web site</a>
</body>
</html>
```

- **Target Attributes**
- The target attribute of the A element specifies the location where the linked Web page will open when a link is clicked

Value	Description
_blank	Loads the target URL in a new blank window.
_self	Loads the target URL in the same window as that of the current Web page.
_top	Loads the target URL in the complete area of window.

Hyperlink to an E-mail Address:

•Hyperlinks can be even applied to e-mail addresses in the same way as they can be given for Web pages.

•There are various tasks that can be performed when a hyperlink are given to an e-mail.

```
<a href="mailto:customercare@aptech.ac.in">Customer Care</a>
```

Hyperlink to Other Types of Content

•Hyperlinks can be used to not only refer to another Web page or e-mail address but also can be used to link to other files and documents.

•Some of the files that are commonly linked on Web pages using hyperlinks are zipped files (.zip), executable files (.exe), documents (.doc), PDF reader files (.pdf), and so on

```
<a href="Compressed.zip">Click to download the compressed zip file</a>
```

Image insertion

- The IMG element is an empty element, which allows the user to insert an image in a Web page.

- It allows insertion of images and diagrams. The commonly used graphic formats that are supported are namely, GIF, JPEG, BITMAP (BMP), and PNG.

- The tag reserves a space for the image and does not insert the image in the HTML page.

Attributes	Description
src	Specifies the path of an image that is to be displayed.
height	Specifies the height of an image.
width	Specifies the width of an image.

Table 7.1: Commonly Used Attributes of the IMG Element

Code Snippet 1:

```
<body>
<img src="UNO.jpg" width="225" height="151"/>
</body>
```

Float:
- To align the image the flat style attribute can be used to specify the inline style for the element.
- This will force the image to be aligned to the left or right side of the screen and wrap the surrounding text around the image.
-

```
<body>
<img src="image_folder/UNO.jpg" style="flat:left"/>
</body>
```

Value	Description
left	The element floats to the left.
right	The element floats to the right.
none	The element does not float and is the default value.
inherit	The element specifies that the value of the float property should be inherited from the parent element.

•HTML5 introduced a new <figure> tag.

• The <figure> tag acts as a container containing the <img> tag.

• In other words, it is not a replacement for <img> tag, but acts as a container into which the <img> tag is placed.

```
<figure>

  <img src="logo.gif" style="float: left">

  width="304" height="228" />

</figure>
```

```
<figure>

<img src="logo.gif">

<figcaption>This diagram shows the logo of a product.</figcaption>

</figure>
```

```
<figure>

<img src="flower1.jpg">

<img src="flower2.jpg">

<img src="flower3.jpg">

<figcaption>The different types of flowers</figcaption>

</figure>
```
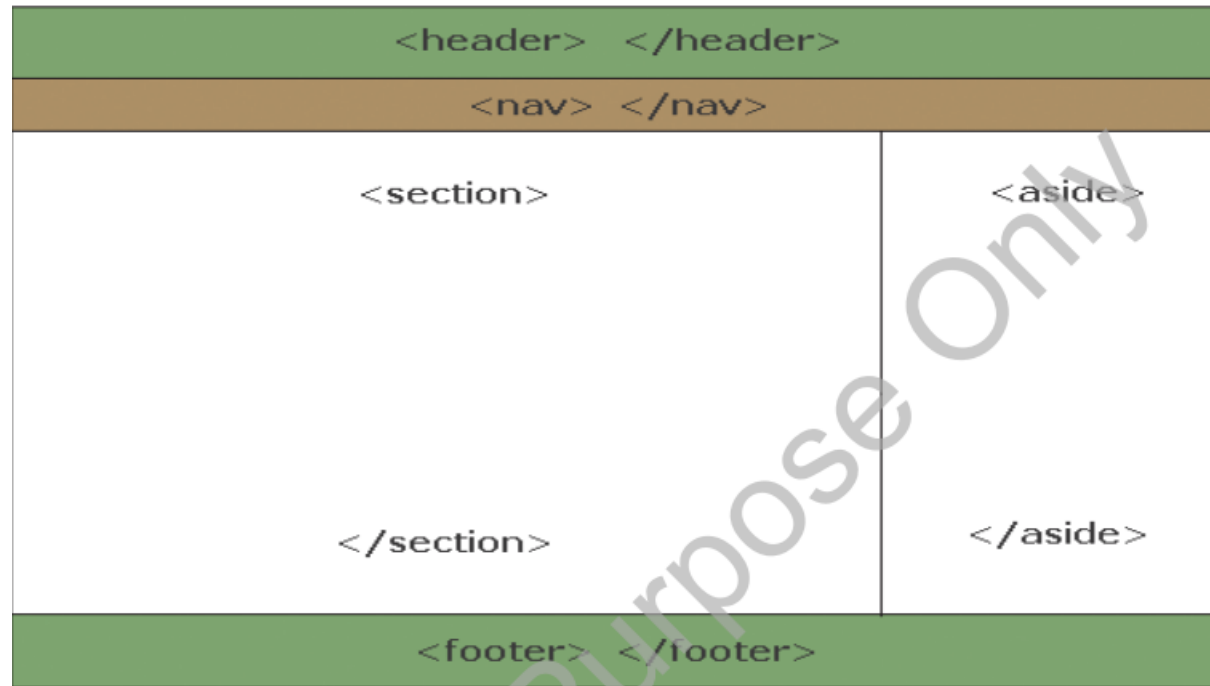
The different types of flowers

HTML5 Semantic Layout

- **<header>**
  The <header> element provides introductory informatin.

- This informatin can include tiles, subtiles, logos, and so on.

- It can also include the navigatinal aids.

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>My First Page</title>
</head>
<body>
<header>
<h1>Sample Blog </h1>
</header>
</body>
</html>
```

- **<nav>**
  The nav element is a section which contains the links to other pages or links to different sections within the page

```
<body>
<header>
<h1>Sample Blog</h1>
</header>
<nav>
<ul>
<li> home </li>
<li> help </li>
<li> contact </li>
</ul>
</nav>
</body>
```

<section>

- It is the main information bar that contains the most important information of the document and it can be created in different formats.

```
<body>
<header>
<h1>Sample Blog </h1>
</header>
<nav>
<ul>
<li> home </li>
<li> help </li>
<li> contact </li>
</ul>
</nav>
<section>
<h1>Links</h1>
<ul>
<li><a href="#">Link 1</a></li>
<li><a href="#">Link 2</a></li>
<li><a href="#">Link 3</a></li>
</ul>
</section>
</body>
```

<aside>

- The <aside> element is a column or a section that generally contains data linked to the main information but not as relevant or important as the main information.

```
<!DOCTYPE html>
<html lang="en">
<body>
<header>
<h1>Sample Blog </h1>
</header>
<nav>
<ul>
<li> home </li>
<li> help </li>
<li> contact </li>
</ul>
</nav>
```

```
<section>
<h1>Links</h1>
<ul>
<li><a href="#">Link 1</a></li>
<li><a href="#">Link 2</a></li>
<li><a href="#">Link 3</a></li>
</ul>
</section>
<aside>
<blockquote>Archive Number One</blockquote> <br>
<blockquote>Archive Number Two</blockquote>
</aside>
</body>
</html>
```

Sample Blog

- home
- help
- contact

Links

- [Link 1](#)
- [Link 2](#)
- [Link 3](#)

Archive Number One

Archive Number Two

→ <aside>

<footer>

- provides the <footer> element to give an end to the document's body.

- A footer typically contains information about the sections.

- This can include the author or company details, links to related documents, copyright data, and so

- ```html
  <!DOCTYPE html>
  <html lang="en">
  <head>
  <meta charset="utf-8">
  </head>
   <body>
  <header>
  <h1>Sample Blog </h1>
  </header>
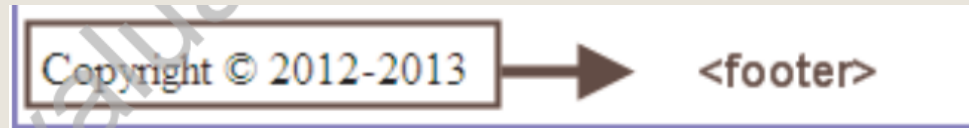 <nav>

   home
   help
   contact

  </nav>
  <section>
  <h1>Links</h1>

  Link 1
  Link 2
  Link 3

  </section>
  <aside>
  <blockquote>Archive Number One</blockquote>
  <blockquote>Archive Number Two</blockquote>
  </aside>
  <footer>
  Copyright © 2012-2013
  </footer>
  </body>
  </html>
  ```

Copyright © 2012-2013 ➡ &lt;footer&gt;

# *Navigation Bar*

- Navigation is one of the most important elements in Web design.

- Web-layouts do not have any specific physical representation that a user can depend on except for a consistent navigation menu.

- It is one of the most important design elements which provide the users with a sense of orientation and guide them through the Web site

# Navigation bar

- ```html
  <!DOCTYPE html>
  <html>
  <head>
  </head>
  <body>
  <nav>
  <a href="/home/"><font size="6">Home</font></a> |
  <a href="/news/"><font size="6">News</font></a> |
  <a href="/contact/"><font size="6">Contact</font></a> |
  <a href="/about/"><font size="6">About</font></a>
  </nav>
  <h1>This is a Text-based Navigation Bar</h1>
  </body>
  </html>
  ```

Home | News | Contact | About

This is a Text-based Navigation Bar

Creating Tables

- A table is made up of rows and columns.
- The intersection of each row and column is called as a cell.
- A row is made up of a set of cells that are placed horizontally. A column is made up of set of cells that are placed vertically.
- The user can represent the data in a tabular format by using the <table> element in HTML.
- The <tr> element divides the table into rows and the <td> element specifies columns for each row.
- By default, a table does not have a border. The border attribute of the <table> element specifies a border for making the table visible in a Web page.

Table example

- ```
  <!DOCTYPE HTML>
  <html>
  <head>
  <title>Languages</title>
  </head>
  <body>
  <h2>Main Languages</h2>
  <table border="1">
  <tr>
  <td>English</td>
  <td>German</td>
  </tr>
  <tr>
  <td>French</td>
  <td>Italian</td>
  </tr>
  </table>
  </body>
  </html>
  ```

Table Headings

- The user can specify the heading for each column in HTML.

- To specify the heading for columns in a table, use the <th> element

```
<!DOCTYPE HTML>
<html>
<head>
<title>List of Students </title>
</head>
<body>
<h2>List of Students</h2>
<table border="1">
 <tr>
<th>Name</th>
<th>Age</th>
<th>Place</th>
</tr>
<tr>
<td>Mark</td>
<td>17</td>
<td>Madrid</td>
</tr>
<tr>
<td>John</td>
<td>19</td>
<td>London</td>
</tr>
</table>
</body>
</html>
```

List of Students

Name	Age	Place
Mark	17	Madrid
John	19	London

- *Colspan Attribute*
  The cols pan attribute allows the user to span a cell along a horizontal row.

-

```
<!DOCTYPE HTML>
<html>
<head>
<title>Employee Details</title>
</head>
<body>
<h2>Employee Details</h2>
<table border="1">
 <tr>
<th colspan="2">IT</th>
<th colspan="2">Accounts</th>
</tr>
<tr>
<th>Name</th>
<th>Location</th>
<th>Name</th>
<th>Location</th>
</tr>
<tr>
<td>David</td>
<td>New York</td>
<td>John</td>
<td>London</td>
</tr>
<tr>
<td>Katthy</td>
<td>New Jersey</td>
<td>Peter</td>
<td>Los Angeles</td>
</tr>
</table>
</body>
</html>
```

Employee Details

IT		Accounts	
Name	Location	Name	Location
David	New York	John	London
Katthy	New Jersey	Peter	Los Angeles

Rowspan Attribute

```
<!DOCTYPE HTML>
    <html>
    <head>
    <title>Automobile Gallery</title>
    </head>
    <body>
    <table border="1">
    <tr>
    <th>Manufacturer</th>
    <th>Model</th>
    <th>Price</th>
     </tr>
    <tr>
    <th rowspan="3">Audi</th>
    <td>A4</td>
    <td>34.5</td>
    </tr>
    <tr>
    <td>A5</td>
    <td>42.6</td>
    </tr>
    <tr>
    <td>A6</td>
    <td>30.75</td>
    </tr>
    <tr>
    <th rowspan="2">BMW</th>
    <td>328i</td>
    <td>28.25</td>
    </tr>
    <tr>
    <td>530d</td>
    <td>47.5</td>
    </tr>
    </table>
    </body>
    </html>
```

Manufacturer	Model	Price
Audi	A4	34.5
	A5	42.6
	A6	30.75
BMW	328i	28.25
	530d	47.5

Effect of rowspan

- *Horizontal Alignment*

The four possible values for setting the horizontal alignment are as follows:

left
Aligns the data within a cell on the left side. This is the default value for table content.

center
Aligns the data within the cell on the center. This is the default value for table headings.

right
Aligns the data within the cell on the right side.

justify
Aligns the data within the cell by adjusting the text at the edges

- ```html
  <!DOCTYPE HTML>
  <html>
  <head>
  <title>Automobile Gallery</title>
  </head>
  <body>
  <table border="1">
  <tr>
  <th>Sr.No.</th>
  <th>Medicine Name</th>
  <th>Price</th>
  </tr>
  <tr style="text-align: center;">
  <td>1</td>
  <td>Captopril</td>
  <td>12.45</td>
  </tr>
  <tr style="text-align: center;">
  <td>2</td>
  <td>Ceftriaxone</td>
  <td>6.94</td>
  </tr>
  <tr style="text-align: center;">
  <td>3</td>
  <td>Ciproflxacin</td>
  <td>56.21</td>
  </tr>
  </table>
  </body>
  </html>
  ```
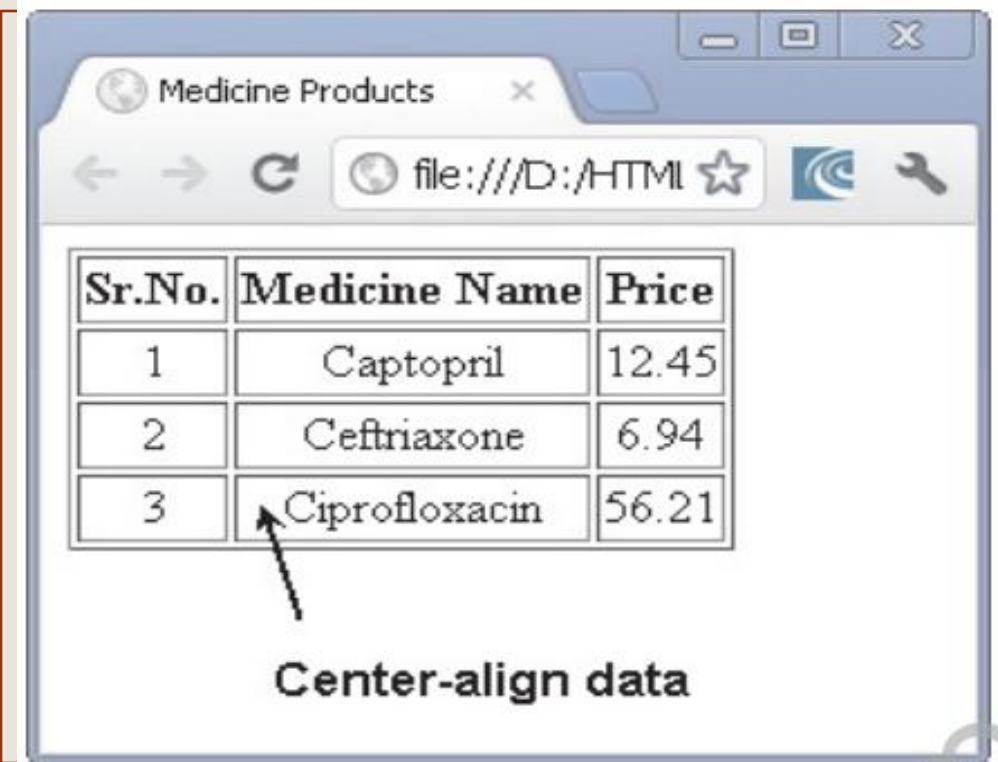
- *Vertical Alignment*
  The possible values of vertial alignment are as follows:
  top
  Vertially aligns the data within the cell at the top.
  middle
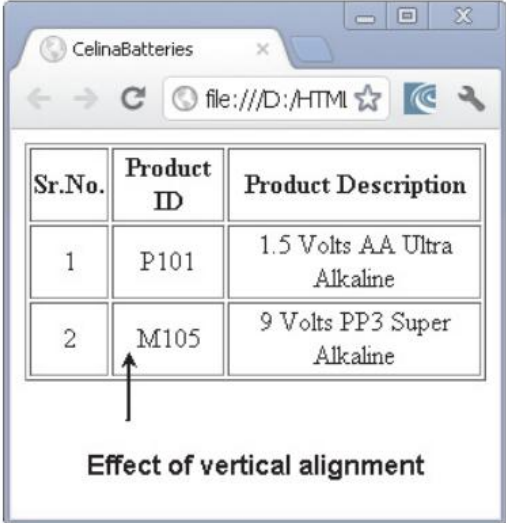 Vertially aligns the data within the cell at the center.
  bottom
  Vertially aligns the data within the cell at the bottm

- ```html
  <!DOCTYPE HTML>
  <html>
  <head>
  <title>CelinaBatteries</title>
  </head>
  <body>
  <table border="1">
  <tr>
  <th>Sr.No.</th>
  <th>Product Id</th>
  <th>Product Description</th>
  </tr>
  <tr>
  <td style="text-align: center; vertical-align: middle">1
  </td>
  <td style="text-align: center; vertical-align: middle">P101
  </td>
  <td>1.5 Volts AA Ultra Alkaline</td>
  </tr>
  <tr>
  <td style="text-align: center; vertical-align: middle">2
  </td>
  <td style="text-align: center; vertical-align: middle">M105
  </td>
  <td>9 Volts pp3 Super Alkaline</td>
  </tr>
  </table>
  </body>
  </html>
  ```


Effect of vertical alignment

- *Table Size and Width of a Column*
  The user can decide the size of the table based on his/her requirements while creating a Web site.

- The table size can be expanded when the user wants to add rows and columns inthe table.

- The user can use the <style> section to set the default width for the table to 100% of the browser window.

- For setting the width of a column in pixels, you can use style attribute in the <td> tag

-
```
<!DOCTYPE HTML>
<html>
<head>
<title>Tables</title>
</head>
<body>
<h2>Table</h2>
<table border="1">
<tr>
<td style ="width: 200px">Flowers</td>
 <td style ="width: 80px">Fruits</td>
</tr>
<tr>
<td style ="width: 200px">Vegetables</td>
<td style ="width: 80px">Trees</td>
</tr>
</table>
</body>
</html>
```

Table

Flowers	Fruits
Vegetables	Trees