CHAPTER-2 HTML

Topic:1 Basics of HTML

What is HTML?

- Stands for Hypertext Markup Language.
- Most documents that appear on the World Wide Web were written in HTML.
- HTML is a markup language, not a programming language. In fact, the term HTML is an acronym that stands for Hypertext Markup Language.
- We can apply this markup language to your pages to display text, images, sound and movie files, and almost any other type of electronic information.
- We use the language to format documents and link them together, regardless of the type of computer with which the file was originally created.

HTML Elements

- An element consists of three basic parts: an opening tag, the element's content, and finally, a closing tag.
   - opening paragraph tag
  Element Content - paragraph words
   - closing tag
- Every (web) page requires four critical elements: the html, head, title, and body elements.

1. <html> Element...</html>

- <html> begins and ends each and every web page.
- Its purpose is to encapsulate all the HTML code and describe the HTML document to theweb browser.

```
<html></html>
```

2. <head> Element…</head>

- The <head> element is "next" as they say. As long as it falls somewhere between your <html>tag and your web page content (<body>).
- The head functions "behind the scenes." Tags placed within the head element are not directly displayed by web browsers.
- We will be placing the <title> element here.
- Other elements used for scripting (JavaScript) and formatting (CSS) will eventually be introducedand you will have to place them within your head element.

```
<html>
        <head>
        </head>
</html>
```

3. The <title> Element

- Place the <title> tag within the <head> element to title your page.
- The words you write between the opening and closing <title></title> tags will be displayed at thetop of a viewer's browser.

```
<html><head><title>My WebPage!</title></head></html>
```

4. The <body> Element

- The <body> element is where all content is placed. (Paragraphs, pictures, tables, etc).
- The body element will encapsulate all of your webpage's viewable content.

```
<html>
<head><title>My WebPage!</title></head>
<body>
Hello World! All my content goes here!
</body>
</html>
```

Topic:2 Formatting and Fonts

2.1 Formating and preformatting tags

- A web browser reads an HTML document top to bottom, left to right.
- Each time the browser finds a tag, it is displayed accordingly (paragraphs look like paragraphs,tables look like tables, etc).
- Tags have 3 major parts: opening tag(s), content(s), and closing tag(s).
- Recall that a completed tag is termed an element.

1. Paragraph Tag <p>

- The <p> tag defines a paragraph. Using this tag places a blank line above and below the text ofthe paragraph.

```
<p>Avoid losing floppy disks with important school...</p>
<p>For instance, let's say you had a HUGE school...</p>
```

2. HTML - Headings 1…6

- A heading in HTML is just what we might expect, a title or subtitle.
- By placing text inside of <h1> (heading) tags, the text displays bold and the size of the textdepends on the number of heading (1-6).
- Headings are numbered 1-6, with 1 being the largest heading and 6 being the smallest.

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

3. Line Breaks

- Line breaks are different then most of the tags we have seen so far. A line break ends the lineyou are currently on and resumes on the next line.

```
<p>ITMBU<br/>
Computer<br/></p>
```

4. Pre-formatted text

- A useful formatting element is <pre>…..</pre>, which enables you to embed text that is already formatted so you do not have to put break tags in, for example
  <pre>
  This is already set out in the way I want it
  It has some advantages and is quick
  You don”t have to add line breaks but
  It hasn’t proportional spacing and is in courier font…!
  </pre>
  The text is output in courier font which is not proportional spacing, i.e. all characters take up the same space, this allows you to position text with white space (the space character) if you like, which makesit a little easier to format. Other tags can still be embedded inside to help with formatting headings, font sizes and aligning.

Tag	Format
….	Italic
….	Bold
<tt>….</tt>	Typewriter effect
….	Emphasis
<blink>….</blink>	Blinking
^{….}	Superscript
_{….}	Subscript

2.2 Font

- The size of your text can also be changed with the tag and associated end tag with the font size running from 2 to 7. The ending font tag will make the font revert to the previous font used.
- You can align your text to left, right or center by combining one of the above tags with the align markup:

```
<html>
<head>
        <title>The amazing art of WT </title>
</head>
<body>
        <p align=”center”> a little bit of hypertext <br>
        Makes the world go round<br>
        And<i>around</i><br></p>
        <p align=”left”>to the left…</p>
        <p align=”right”>to the right…</p>
</body>
</html>
```

Topic:3 Colour and Hyperlinks

3.1 colour

There are 3 different methods to set color.We can set color using three methods.

- Using color name

<body bgcolor=”red”>

<font color=”red”>
<body text=”red”>

- Using RGB(Red, Green, Blue) value

<body bgcolor=”rgb(72,0,0)”>
<font color=”rgb(72,0,0)”>
<body text=”rgb(72,0,0)”>

- Using Hexadecimal value

<body bgcolor=”#ffff00”> (body colour whole page)
<font color=”#ffff00”> (only text colour)
<body text=”ffff00”> (main documant’s text to colour)

3.2 Hyperlink

- The href attribute defines reference that the link refers to. Basically this is where the user will betaken if they wish to click this link.
- Use the <a> tags to define the start and ending of an anchor.
- Decide what type of href attribute you need and place this attribute into the opening tag.
- The text you place between the opening and closing tags will be shown as the link on a page. Usethe demonstration below as a reference.
- Hypertext references can be Internal, Local, or Global.
- **Internal** - Links to anchors on the current page
- **Local** - Links to other pages within your domain
- **Global** - Links to other domains outside of your site

Internal - *href="#anchorname"*
Local-*href="../pics/picturef ile.jpg"*
Global - *href=http://www.xyz.com/*

```
<a href="http://www.google.com/" target="_blank" >Google Home</a>
<a href="http://www.espn.com/" target="_blank" >ESPN Home</a>
<a href="http://www.yahoo.com/" target="_blank" >Yahoo Home</a>
```

Topic:4 List, Table, Images, Forms

4.1 List

HTML offers three ways for specifying lists: ordered lists, unordered lists, and description lists. Ordered lists use ordinal sequences to indicate the order of list elements, unordered lists use a defined symbol such as a bullet to list elements in no designated order, and description lists use indents to list elements with their children. This topic explains the implementation and combination of these lists in HTML markup.

There are 3 different types of lists.

- tag starts an ordered list,
- <dl> for definition lists.
- - unordered list; *bullets*

1. **Order list**

a. Use the <ol> tag to begin an ordered list. Place the <li> (list item) tag between your opening and closing tags to create list items.

b. Ordered simply means numbered, as the list below demonstrates.

<ol>
*
Find a Job
*
*
Move Out
*
*
*

c. Start your ordered list on any number besides 1 using the start attribute.

<ol start="4" >
*
Buy Food
*
*
Get a Degree
*
*
*

d. There are 4 other types of ordered lists. Instead of generic numbers you can replace them with Roman numerals or letters, both capital and lower-case. Use the type attribute to change the numbering.

<oltype="a">
<oltype="A">
<oltype="i">
<ol type="I">
*
*

2. **UnOrder list**

a. Create a bulleted list with the <ul> tag. The bullet itself comes in three subtypes: squares, discs,and circles.

b. The default bullet displayed by most web browsers is the traditional full disc.

<ul>
*
Milk
*
*
Chocolate
*
*
*

- There are 3 other types of unordered lists.

<oltype="square">
<ol type="disc">
<oltype="circle">
*
*

3. **Definition lists**

a. Make definition lists as seen in dictionaries using the <dl> tag. These lists displace the term wordjust above the definition itself for a unique look. It's wise to bold the terms to displace them further.

i. <dl> - defines the start of the list
ii. <dt> - definition term
iii. <dd> - defining definition

```
<dl>
<dt><b>Fromage</b></dt>
<dd>French word for cheese.</dd>
<dt><b>Voiture</b></dt>
<dd>French word for car.</dd>
</dl>
```

4. **Nested list**

a. You can also nest one list within another, so you could make an unordered list inside a

```
<html>
<ol>
<li> Clear out garage</li>
  <ul> numbered one:</ul>
</ol>
</html>
```

4.2 Tables

- The <table> tag is used to begin a table. Within a table element are the <tr> (table rows) and
  <td> (table columns) tags.

```
<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>Row 2 Cell 2</td></tr>
</table>
```

Row 1 Cell 1	Row 1 Cell 2
Row 2 Cell 1	Row 2 Cell 2

- Content is placed within tables cells. A table cell is defined by <td> and </td>.The borderattribute defines how wide the table's border will be.

Spanning Multiple Rows and Cells

- Use rowspan to span multiple rows and colspan to span multiple columns.
- Note: if you would like to place headers at the top of your columns, use the <th> tag as shownbelow. By default these headers are bold to set them apart from the rest of your table's content.

```
<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 Cell 3</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>
```

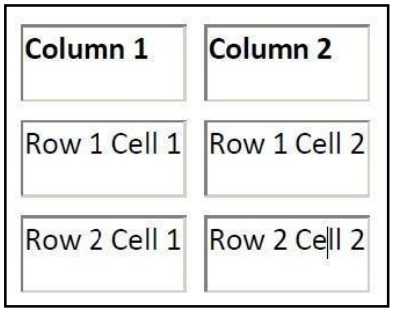
Column 1	**Column 2**	**Column 3**
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1		

Cell Padding and Spacing

- With the cellpadding and cellspacing attributes you will be able to adjust the white space on your tables. Spacing defines the width of the border, while padding represents the distance between cell borders and the content within. Color has been added to the table to emphasize these attributes.

```
<table border="1" cellspacing="10" bgcolor="rgb(0,255,0)">
<tr><th>Column 1</th><th>Column 2</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>
```

- And now we will change the cellpadding of the table and remove the cellspacing from theprevious example.




```
<table border="1" cellpadding="10" bgcolor="rgb(0,255,0)">
<tr><th>Column 1</th><th>Column 2</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>
```

Column 1	Column 2
Row 1 Cell 1	Row 1 Cell 2
Row 2 Cell 1	Row 2 Cell 2

4.3 Images

- Use the <img /> tag to place an image on your web page.

2. Image src
   - Above we have defined the src attribute.
   - Src stands for source, the source of the image or more appropriately, where the picture file is located.
   - There are two ways to define the source of an image. First you may use a standard URL. (src=http://www.Xyz.com/pics/htmlT/sunset.gif) As your second choice, you may copy or uploadthe file onto your web server and access it locally using standard directory tree methods.(src="../sunset.gif")

- The location of this picture file is in relation to your location of your .html file.

URL Types:

Local Src	Location Description
src="sunset.gif"	picture file resides in same directory as .html file
src="../sunset.gif"	picture file resides in previous directory as .html file
src="../pics/sunset.gif"	picture file resides in the pic directory in a previous directory as .html file

- A URL cannot contain drive letters
- Therefore something like src="C:\\www\web\pics\" will not work. Pictures must be uploaded along with your .html file to your web server.

3. Alternative Attribute
   - The alt attribute specifies alternate text to be displayed if for some reason the browser cannot find the image, or if a user has image files disabled.

     <imgsrc="http://example.com/brokenlink/sunset.gif" alt="Beautiful Sunset" />

4. Image Height and Width
   - To define the height and width of the image, rather than letting the browser compute the size,use the height and width attributes.

     <imgsrc="sunset.gif" height="50" width="100">

5. Vertically and Horizontally Align Images
   - Use the align and valign attributes to place images within your body, tables, or sections.

   1. align (Horizontal)
      1. right 2. left 3. center
   2. valign (Vertical)
      1. top 2. bottom 3. center

   - Below is an example of how to align an image to the right of a paragraph

     * This is paragraph 1, yes it is... *
     * <imgsrc="sunset.gif" align="right">The image will appear along the...isn't it? *

6. Images as Links
   - Images are very useful for links and can be created with the HTML below.

     <imgsrc="sunset.gif">

Parameters Details

Src: Specifies the URL of the image

Srcset: Images to use in different situations (e.g., high-resolution displays, small monitors, etc)

Sizes: Image sizes between breakpoints

Crossorigin: How the element handles crossorigin requests

Usemap: Name of image map to use

Ismap: Whether the image is a server-side image map

Alt: Alternative text that should be displayed if for some reason the image could not be displayed
width: Specifies the width of the image (optional)

Height: Specifies the height of the image (optional)

4.4 Forms

- HTML forms are required if you want to collect some data from of the site visitor.

For example: If a user want to purchase some items on internet, he/she must fill the form such as shipping address and credit/debit card details so that item can be sent to the given address.

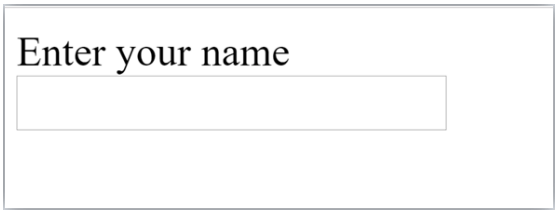
- The syntax is: <form> *...form elements...* </form>
- Form elements include: buttons, checkboxes, text fields, radio buttons, drop-down menus, etc.
- A form usually contains a Submit button to send the information in the form elements to the server.
- Forms can be used for other things, such as a GUI for simple programs.

Tag	Description
<form>	It defines an HTML form to enter inputs by the used side.
<input>	It defines an input control.
<textarea>	It defines a multi-line input control.
<label>	It defines a label for an input element.
<fieldset>	It groups the related element in a form.
<legend>	It defines a caption for a <fieldset> element.
<select>	It defines a drop-down list.
<optgroup>	It defines a group of related options in a drop-down list.
<option>	It defines an option in a drop-down list.
<button>	It defines a clickable button.

1. **HTML <Input>element**

```
<body>
<form>
Enter your name  <br>
<input type="text" name="username">
</form>
</body>
```

OUTPUT :

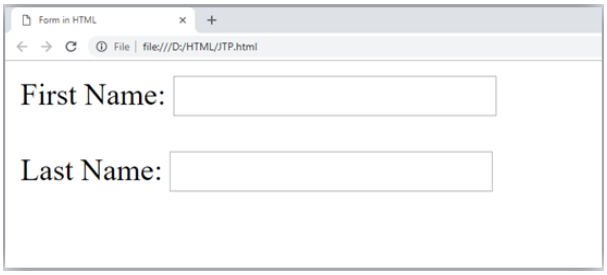


2. HTML Text Field Control

The type="text" attribute of input tag creates text field control also known as single line text field control.

```
<form>
First Name: <input type="text" name="firstname"/> <br/>
Last Name:  <input type="text" name="lastname"/> <br/>
</form>
```

OUTPUT :

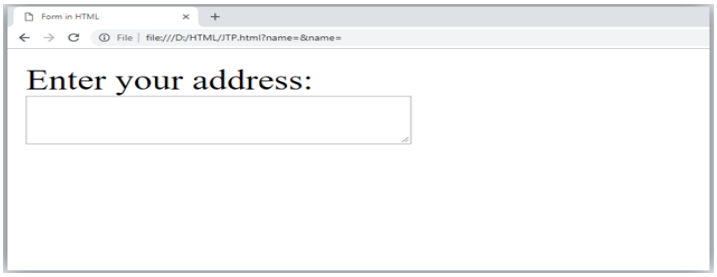


3. HTML <textarea> tag

- The <textarea> tag in HTML is used to insert multiple-line text in a form. The size of <textarea> can be specify either using "rows" or "cols" attribute or by CSS.

```
<html>
<head>
<title>Form in HTML</title>
</head>
<body>
<form>
Enter your address:<br>
<textarea rows="2" cols="20"></textarea>
</form>
</body>
</html>
```

OUTPUT:

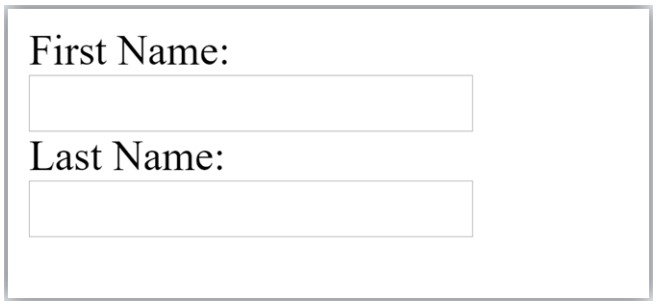


4. Label Tag in Form

- If you click on the label tag, it will focus on the text control. To do so, you need to have for attribute in label tag that must be same as id attribute of input tag.

```
<form>
<label for="firstname">First Name: </label> <br/>
<input type="text" id="firstname" name="firstname"/> <br/>
<label for="lastname">Last Name: </label>
<input type="text" id="lastname" name="lastname"/> <br/>
</form>
```

OUTPUT:



5. **HTML Password Field Control**

- The password is not visible to the user in password field control.

```
<form>
<label for="password">Password: </label>
<input type="password" id="password" name="password"/> <br/>
</form>
```

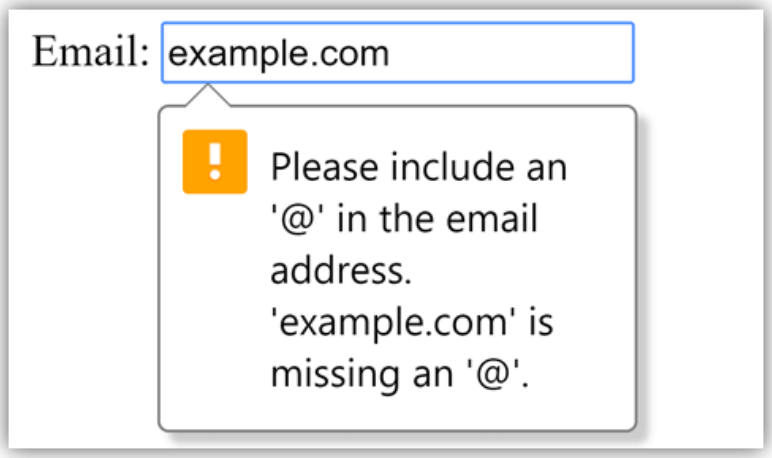
OUTPUT:

6. **HTML Email Field Control**

- The email field in new in HTML 5. It validates the text for correct email address. You must use @ and . in this field.

```
<form>
<label for="email">Email: </label>
<input type="email" id="email" name="email"/> <br/>
</form>
```

OUTPUT:

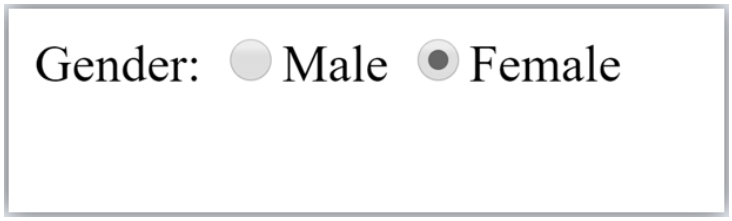


7. **Radio Button Control**

- The radio button is used to select one option from multiple options. It is used for selection of gender, quiz questions etc.
- If you use one name for all the radio buttons, only one radio button can be selected at a time.
- Using radio buttons for multiple options, you can only choose a single option at a time.

```
<form>
<label for="gender">Gender: </label>
<input type="radio" id="gender" name="gender" value="male"/>Male
<input type="radio" id="gender" name="gender" value="female"/>Female
<br/>
</form>
```

OUTPUT:

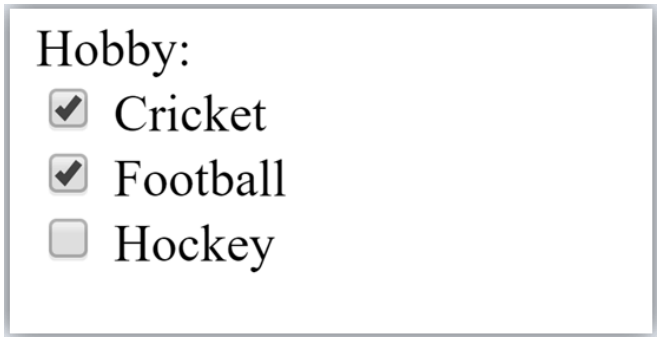


8. **Checkbox Control**

- The checkbox control is used to check multiple options from given checkboxes.

```
<form>
Hobby:<br>
<input type="checkbox" id="cricket" name="cricket" value="cricket"/>
<label for="cricket">Cricket</label> <br>
<input type="checkbox" id="football" name="football" value="football"/>
<label for="football">Football</label> <br>
<input type="checkbox" id="hockey" name="hockey" value="hockey"/>
<label for="hockey">Hockey</label>
</form>
```

OUTPUT:



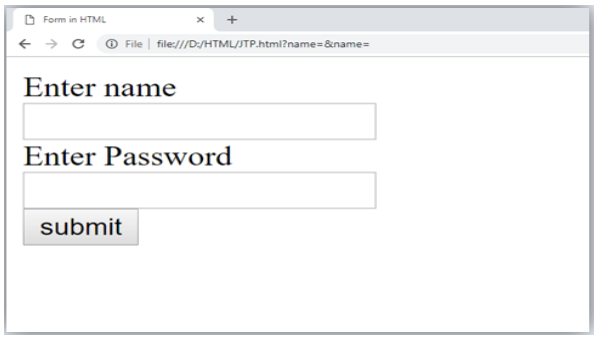
9. **Submit button control**

- HTML <input type="submit"> are used to add a submit button on web page. When user clicks on submit button, then form get submit to the server.

Syntax: <input type="submit" value="submit">
The type = submit , specifying that it is a submit button
The value attribute can be anything which we write on button on web page.
The name attribute can be omit here.

```
<form>
<label for="name">Enter name</label><br>
<input type="text" id="name" name="name"><br>
<label for="pass">Enter Password</label><br>
<input type="Password" id="pass" name="pass"><br>
<input type="submit" value="submit">
</form>
```

OUTPUT:



10. **HTML <fieldset> element:**

- The <fieldset> element in HTML is used to group the related information of a form. This element is used with <legend> element which provide caption for the grouped elements.

```
<form>
<fieldset>
<legend>User Information:</legend>
 <label for="name">Enter name</label><br>
<input type="text" id="name" name="name"><br>
<label for="pass">Enter Password</label><br>
<input type="Password" id="pass" name="pass"><br>
<input type="submit" value="submit">
</fieldset>
```

</form>

OUTPUT:

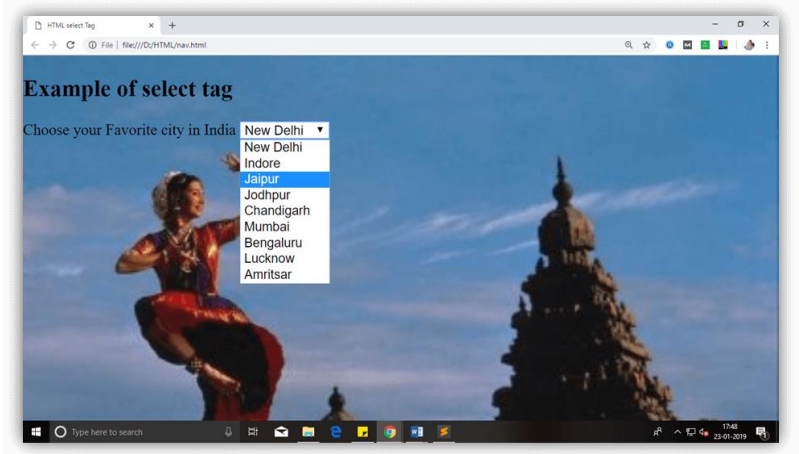
11. HTML <select> tag

- HTML <select> tag is used to create a drop down list with multiple options. The <option> element is nested within <select> tag for defining options in a list. The <optgroup> element can be used for grouping related options in a list. If you want to send data to server then use <select> tag within <form> element.

Syntax : <select>
<option></option>
</select>

```
<form>
 <label>Choose your Favourite city in India</label>
  <select>
  <option>New Delhi</option>
<option>Indore</option>
 <option>Jaipur</option>
 <option>Jodhpur</option>
 <option>Chandigarh</option>
 <option>Mumbai</option>
 <option>Bengaluru</option>
<option>Lucknow</option>
<option>Amritsar</option>
</select>
</form>
```

OUTPUT:



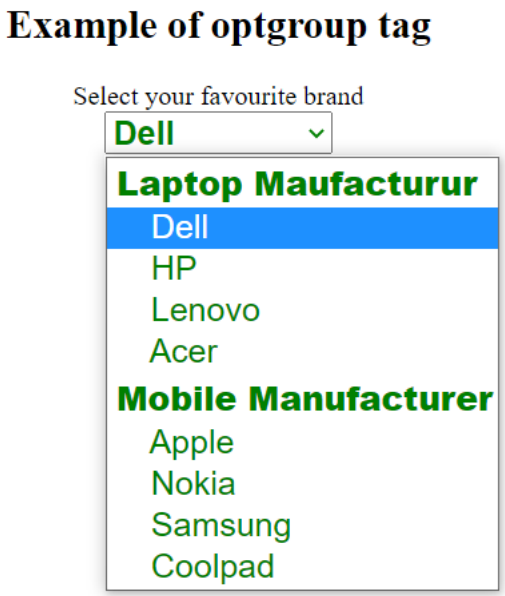
12. HTML <optgroup> tag

- HTML <optgroup> tag is used to group related <options> in a drop down list within <select> element. Using <optgroup> tag with <select> makes easier to access the dropdown list especially if list has large number of options.

Syntax :<optgroup label=" ">.....</optgroup>

```
<label>Select your favourite brand</label><br>
<select>
<optgroup label="Laptop Maufacturur">
 <option value="dell">Dell</option>
 <option value="hp">HP</option>
 <option value="lenovo">Lenovo</option>
 <option value="acer">Acer</option>
 </optgroup>
 <optgroup label="Mobile Manufacturer">
 <option value="apple">Apple</option>
  <option value="nokia">Nokia</option>
 <option value="samsung">Samsung</option>
 <option value="coolpad">Coolpad</option>
 </optgroup>
</select>
```

OUTPUT :



Topic:5 HTML5 New Elements

Tags (Elements)	Description
<article>	Represents an independent piece of content of a document, such as a blog entry or newspaper article
<aside >	Represents a piece of content that is only slightly related to the rest of the page.
<audio>	Defines an audio file.
<canvas>	This is used for rendering dynamic bitmap graphics on the fly, such as graphs or games.
<command>	Represents a command the user can invoke.
<datalist>	Together with the a new list attribute for input can be used to make comboboxes
<details>	Represents additional information or controls which the user can obtain on demand
<embed>	Defines external interactive content or plugin.
<figure>	Represents a piece of self-contained flow content, typically referenced as a single unit from the main flow of the document.
<footer>	Represents a footer for a section and can contain information about the author, copyright information, et cetera.
<header>	Represents a group of introductory or navigational aids.
<hgroup>	Represents the header of a section.
<keygen>	Represents control for key pair generation.
<mark>	Represents a run of text in one document marked or highlighted for reference purposes, due to its relevance in another context.
<meter>	Represents a measurement, such as disk usage.
<nav>	Represents a section of the document intended for navigation.
<output>	Represents some type of output, such as from a calculation done through scripting.

<progress>	Represents a completion of a task, such as downloading or when performing a series of expensive operations.
<ruby>	Together with <rt> and <rp> allow for marking up ruby annotations.
<section>	Represents a generic document or application section
<time>	Represents a date and/or time.
<video>	Defines a video file.
<wbr>	Represents a line break opportunity.

New types for <input> tag

The input element's type attribute now has the following new values −

Type	Description
Color	Color selector, which could be represented by a wheel or swatch picker
Date	Selector for calendar date
datetime-local	Date and time display, with no setting or indication for time zones
Datetime	Full date and time display, including a time zone.
Email	Input type should be an email.
Month	Selector for a month within a given year
Number	A field containing a numeric value only
Range	Numeric selector within a range of values, typically visualized as a slider
Search	Term to supply to a search engine. For example, the search bar atop a browser.
Tel	Input type should be telephone number.
Time	Time indicator and selector, with no time zone information

url	Input type should be URL type.
Week	Selector for a week within a given year

Topic:6 HTML5 : Drag/Drop, Video, Audio, Input types

1.Audio

HTML5 provides a new standard for embedding an audio file on a web page. You can embed an audio file to a page using the element:

<audio controls>
<source src=”file.mp3” type=”audio/mpeg”>
Your browser does not support the audio element.
</audio>

EXAMPLE

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

2.Video

You can embed also a video to a webpage using the element

<video width=”500” height=”700” controls
<source src=”video.mp4” type=”vedio/mp4”>
Your browser does not support the video tag.
</video>

EXAMPLE

```
<html>
<body>
<video width="400" controls>
  <source src="mov_bbb.mp4" type="video/mp4">
  <source src="mov_bbb.ogg" type="video/ogg">
  Your browser does not support HTML video.
</video>
<p>
Video courtesy of
<a href="https://www.bigbuckbunny.org/" target="_blank">Big Buck Bunny</a>.
</p>
</body>
</html>
```

3.Drag/drop

In HTML, any element can be dragged and dropped.
Drag and drop is a very common feature. It is when you "grab" an object and drag it to a different location.

Example

Drag the W3Schools image into the rectangle.

```
<html>
<head>
<script>
function allowDrop(ev) {
  ev.preventDefault();
}
function drag(ev) {
  ev.dataTransfer.setData("text", ev.target.id);
}
function drop(ev) {
  ev.preventDefault();
  var data = ev.dataTransfer.getData("text");
  ev.target.appendChild(document.getElementById(data));
}
</script>
</head>
<body>
<div id="div1" ondrop="drop(event)" ondragover="allowDrop(event)"></div
>
<img id="drag1" src="img_logo.gif" draggable="true" ondragstart="drag(e
vent)" width="336" height="69">
</body>
</html>
```

4.Input types

Here are the different input types you can use in HTML:

- <input type="button">
- <input type="checkbox">
- <input type="color">
- <input type="date">
- <input type="datetime-local">
- <input type="email">
- <input type="file">
- <input type="hidden">
- <input type="image">

- `<input type="month">`
- `<input type="number">`
- `<input type="password">`
- `<input type="radio">`
- `<input type="range">`
- `<input type="reset">`
- `<input type="search">`
- `<input type="submit">`
- `<input type="tel">`
- `<input type="text">`
- `<input type="time">`
- `<input type="url">`
- `<input type="week">`

EXAMPLE

```
<html>
<body>
<h2>Text field</h2>
<p>The <strong>input type="text"</strong> defines a one-line text input field:</p>
<form action="/action_page.php">
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname"><br><br>
  <input type="submit" value="Submit">
</form>
<p>Note that the form itself is not visible.</p>
<p>Also note that the default width of a text field is 20 characters.</p>
</body>
</html>
```

Topic:7 XHTML: Meta Tags

Metadata is information about information or, in this context more specifically, metadata is machine-understandable information about Web resources. It can be included in both

HTML and XHTML to describe the actual document rather than the document's content. Metadata is included in the head section of your page:

```
<html>
 <head>
   <title>Cave Dwelling</title>

   <meta name="author" content="Fred Flintstone"/>
   <meta name="keywords" content="stone age, lifestyles,
                retro"/>
   <meta name="description" content="living prehistory">
   <meta name="robots" content="index,follow">

   </title>
 </head>
 </html>
```

The meta tags are used to provide information to search engine robots; they pick up the data you give and also control to some extent where they go on your site following links. The sorts of information you can give include a general description of your site together with key words.

There is also an instruction here for search engines to index the page and follow any links. It is possible to stop the page being listed:

```
<meta name="robots" content="noindex"/>
```

Other possibilities are:

```
<meta name="robots" content="index,follow">
<meta name="robots" content="noindex,follow">
<meta name="robots" content="index,nofollow">
<meta name="robots" content="noindex,nofollow">
```

Be sure not to give conflicting or repeating directives!

There is also a meta tag attribute called `http-equiv` that is used with a `content` attribute to create meta-functions. These functions can be used, for example, to give an expires date, refresh period or redirection.

In the head section to set an expiration date:

```
<meta name="expires" content="Mon, 20 Jul 2007 16:00:00 GMT"/>
```

This sets the expiry point when a page will be reloaded from the Web site, essentially to ensure a cache (a local store of frequently visited Web sites) is kept up to date. Putting a date of ' 0' will stop the page being cached at all.

Again to force a refresh after a period of time, in the head section:

```
<meta name="refresh" content="50;http://myownpages.co.uk/
                mynewssite.html"/>
```

This will cause the page to be refreshed after 50 seconds and a redirection to occur to the URL specified.

3.3.1 Memory Cache

As we have just seen, Web browsers can cache (store) pages for quick reviewing without having to request them again and re-download the document. Each page has a Time to Live (TTL), the time it is kept in the cache without going back and reloading it. This is usually 30 days, when the browser cache has been cleared or the allotted memory is all used up.

A browser can be stopped from caching a page, if it supports the `<meta>` element's `http-equiv` attribute. This forces the browser to ignore the cached page and instead make a request again. To do this the value `pragma` is assigned to the `http-equiv` attribute and a `no-cache` value to the `content` attribute:

```
<html>
<head>
     <title>no cache example</title>

     <meta http-equiv="pragma" content="no-cache"/>
</head>
</html>
```

A search engine can also cache your page and offer it as an alternative if your site is down or inaccessible for some reason. The only problem here is that it may be very out of date! You can stop a search engine from archiving a page by using:

```
<meta name="robots" content="noarchive"/>
```

Again, this should be placed in the head section.

3.3.2 Formatting with `scheme`

Another useful meta element attribute is named `scheme`. This can be used to give a context for data such as date and time, which can use several formats:

```
//Here scheme="USA" implies "MM-DD-YYYY"
<meta scheme="USA" name="date" content="09-21-1966">

//Here scheme="Europe" implies "DD-MM-YYYY"
<meta scheme="Europe" name="date" content="21-09-1966">
```

- The <meta> tag defines metadata about an HTML document. Metadata is data (information) about data.
- <meta> tags always go inside the <head> element, and are typically used to specify character set, page description, keywords, author of the document, and viewport settings.
- Metadata will not be displayed on the page, but is machine parsable.
- Metadata is used by browsers (how to display content or reload page), search engines (keywords), and other web services.

- There is a method to let web designers take control over the viewport (the user's visible area of a web page), through the <meta> tag (See "Setting The Viewport" example below).

ATTRIBUTES OF META TAGS

Attribute	Value	Description
charset	*character_set*	Specifies the character encoding for the HTML document
content	*text*	Specifies the value associated with the http-equiv or name attribute
http-equiv	content-security-policy content-type default-style refresh	Provides an HTTP header for the information/value of the content attribute
name	application-name author description generator keywords viewport	Specifies a name for the metadata

- The <meta> tag also supports the Global Attributes in HTML.

Attribute	Description
accesskey	Specifies a shortcut key to activate/focus an element
class	Specifies one or more classnames for an element (refers to a class in a style sheet)
contenteditable	Specifies whether the content of an element is editable or not
data-*	Used to store custom data private to the page or application
dir	Specifies the text direction for the content in an element
draggable	Specifies whether an element is draggable or not
hidden	Specifies that an element is not yet, or is no longer, relevant
id	Specifies a unique id for an element
lang	Specifies the language of the element's content
spellcheck	Specifies whether the element is to have its spelling and grammar checked or not
style	Specifies an inline CSS style for an element
tabindex	Specifies the tabbing order of an element
title	Specifies extra information about an element
translate	Specifies whether the content of an element should be translated or not

EXAMPLE

<html>

```
<head>
  <meta charset="UTF-8">
  <meta name="description" content="Free Web tutorials">
  <meta name="keywords" content="HTML,CSS,XML,JavaScript">
  <meta name="author" content="John Doe">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<p>All meta information goes in the head section...</p>
</body>
</html>
```

OUTPUT:

All meta information goes in the head section...

Topic: 8 Difference between HTML and HTML5

HTML	HTML5
It didn't support audio and video without the use of flash player support.	It supports audio and video controls with the use of <audio> and <video> tags.
It uses cookies to store temporary data.	It uses SQL databases and application cache to store offline data.
Does not allow JavaScript to run in browser.	Allows JavaScript to run in background. This is possible due to JS Web worker API in HTML5.
Vector graphics is possible in HTML with the help of various technologies such as VML, Silver-light, Flash, etc.	Vector graphics is additionally an integral a part of HTML5 like SVG and canvas.
It does not allow drag and drop effects.	It allows drag and drop effects.
Not possible to draw shapes like circle, rectangle, triangle etc.	HTML5 allows to draw shapes like circle, rectangle, triangle etc.
It works with all old browsers.	It supported by all new browser like Firefox, Mozilla, Chrome, Safari, etc.

Older version of HTML are less mobile-friendly.	HTML5 language is more mobile-friendly.
Doctype declaration is too long and complicated.	Doctype declaration is quite simple and easy.
Elements like nav, header were not present.	New element for web structure like nav, header, footer etc.
Character encoding is long and complicated.	Character encoding is simple and easy.
It is almost impossible to get true GeoLocation of user with the help of browser.	One can track the GeoLocation of a user easily by using JS GeoLocation API.
It can not handle inaccurate syntax.	It is capable of handling inaccurate syntax.
Attributes like charset, async and ping are absent in HTML.	Attributes of charset, async and ping are a part of HTML 5.

Topic: 9 Difference between HTML & XHTML

➢ Compare HTML and XHTML

	HTML	XHTML
Introduction	HTML or HyperTextMarkup Language is the main markup language for creating web pages and other information that can be displayed in a web browser.	XHTML (Extensible HyperTextMarkup Language) is a family of XML markup languages that mirror or extend versions of the widely used Hypertext Markup Language (HTML), the language in which web pages are written.
Filename extension	.html, .htm	.xhtml, .xht, .xml, .html, .htm
Internet media type	text/html	application/xhtml+xml
Developed by	W3C & WHATWG	World Wide Web Consortium
Type of format	Document file format	Markup language
Extended from	SGML	XML, HTML
Stands for	HyperTextMarkup Language	Extensible HyperTextMarkup Language
Application	Application of Standard Generalized Markup Language (SGML).	Application of XML
Function	Web pages are written in HTML.	Extended version of HTML that is stricter and XML-based.
Nature	Flexible framework requiring lenient HTML specific parser.	Restrictive subset of XML and needs to be parsed with standard XML parsers.
Origin	Proposed by Tim Berners-Lee in 1987.	World Wide Web Consortium Recommendation in 2000.
Versions	HTML 2, HTML 3.2, HTML 4.0, HTML 5.	XHTML 1, XHTML 1.1, XHTML 2, XHTML 5.