

Internet and Web Technology

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HTML

- Html (Hyper Text Markup Language) mainly use for design a client side web pages, this is a static page it means you can only view Html page not give request and not get response from server using html page.
- Using Html pages browser get user information through form (This is an Html element).
- Html provides so many elements (like , , <h1>) to design a web page
- **Tim Berners-Lee** is known as father of HTML. The first publicly available description of HTML was a document called "HTML Tags", first described, on the Internet by Berners-Lee in late 1991

HYPERTEXT

• **Hypertext:** is text which contains links to other texts. The hypertext pages are interconnected by hyperlinks, when mouse click on these link which brings you to a new webpage

Markup language

• Any tag based language known as markup language, for example gml, sgml, html, xml etc.

Features for Html

- Html is a static page.
- Html is not a case sensitive.
- Html is a error free language.
- Html is simple and easy language.
- It provides facilities to add audio, video, image on web pages.
- Html is platform independent language, it can be run on any platform like window, linux, Mac.
- Each and every elements of html should be enclosed within the angular brackets (<>>).
- Html programs are executed by the interpreter of the browser software.
- Html program save with .htm or .html extension.
- The current version of Html is **Html 5.0**

HEAD TAG

• <head> tag are used for provide a title for the document, define JavaScript and CSS required for the page and meta data of the page.

```
<html>
<head>
           <title>First Program of HTML </title>
<meta content="author" name="Google.com">
<style>
           span
           color:red;
</style>
<script>
           function hello
          alert("Hi");
</script>
</head>
<body>
<span>This is my</span> first web page
</body>
</html>
```

TITLE TAG

- <title> tag are used for provide the title of you web page. Title are show top of the web page.
- Title tag are most useful in case of seo.
- Using page title search engine easily find you page on web. Each page should have a unique title.

```
<html>
   <head>
       <title>First Web Page</title>
   </head>
    <body>
        Medi-Caps University
    </body>
</html>
```

META TAG

- <meta> tag provides all information related to web page like author name, keyword for search engine, description about what things page contain.
- By using meta tag (<meta>) you can also refresh your web page within regular interval of time

```
<html>
<head>
        <meta name="keywords" content="html tutorial"/>
        <meta name="description" content="Html is easy to learn"/>
        <meta content="index, follow" name="Rahul"/>
        <meta content="Google.com" name="author"/>
        <meta http-equiv="refresh" content="30"/>
</head>
<body>
    My first web page
</body>
</html>
```

HTML STYLE TAG

• <style> tag are used for define CSS styles required for the page. It must be inside the <head> tag.

```
<!DOCTYPE>
<html>
<style>
   .para
   color:red;
<style>
<body>
      This is my first Html code
</body>
</html>
```

BODY TAG

• The <Body> tag are used to specify the actual content to display on the web page. It means display all data on web which is written within <body> and </body> tag.

Syntax

body>

Html is simple and easy to learn

</body>

Html br Tag

• **
br>** tag are use for give the line break within any text line.

Example

```
<html>
<body>
This is my first html code and now <br/>I am happy
</body>
</html>
```

Html hr tag

• <hr> (Horizontal Rules) tag are used for to create a horizontal line on html page. <hr> are used for separate the content on html page.

Syntax:

This is simple html page

<hr/>

Html is simple and easy to learn

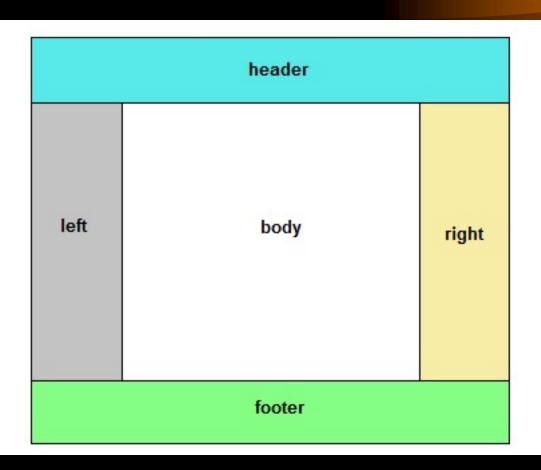
Result:

This is simple html page

Html is simple and easy to learn

Html div Tag

- **<div>** tag are used for group the large section of Html elements together. <div> tag is just like a container which is used to wrap other Html page elements and divides the Html documents into sections.
- Suppose on your web page lot of Html elements like , <h2> and and you want to separate these elements from others elements then apply <div> tag.



pre tag

- tag are show text on web page as it is written on html page including break line, number of space.
- In Html if you enter more than one space between two text it not show on browser only single space display, for show all given space you need to use tag.

Example

```
<html>
<head>
 This is html example This is pre tag 
</body>
</html>
```

LINK TAG

• The tag defines the relationship between a document and an external resource.

• The tag is most used to link to style sheets. The link> element is an empty element, it contains attributes only.

• This element goes only in the head section, but it can appear any number of times.

Syntax

k rel="stylesheet" type="text/css" href="styles.css">

Marquee tag

Marquee tag are used for display the moving content on the web browser.

Marquee tag contain the following attribute.

- **Direction:** To specify direction of moving content like left, right, up, down.
- Scroll amount: To specify the speed of the content.
- Loop: To specify how many time that text has to move on the browser window.
- **Behavior:** To specify the style to the moving content. It have attribute scroll, alternate, slide.

```
<html>
<body>
<marquee direction="left" scrollamount="10" loop="5" behavior="slide" >My first web page</marquee>
</body>
</html>
```

Result

My first web page

My first web page

HYPER TEXT MARKUP LANGUAGE

- It is use for design a client side web pages, this is a static page it means you can only view Html page not give request and not get response from server using html page.
- Using Html pages browser get user information through form.
- Html provides so many elements (like , , <h1>) to design a web page.

```
<! DOCTYPE>
<html>
<head>
<title> Web Technology </title>
</head>
<body>
<h1> Write Your First Heading </h1>
 Write Your First Paragraph 
</body>
</html>
```

Result:

Write Your First Heading

Write Your First Paragraph

BUILDING BLOCKS OF HTML

- An HTML document consists of its basic building blocks which are:
 - 1. Tags
 - 2. Attribute
 - 3. Elements

- **Tags:** An HTML tag surrounds the content and applies meaning to it. It is written between < and > (angular) brackets.
- Attribute: An attribute in HTML provides extra information about the element, and it is applied within the start tag.
- An HTML attribute contains two fields: Name & Value

Syntax

<tag name attribute name="attr_value"> content </ tag name>

• Elements: An HTML element is an individual component of an HTML file. In an HTML file, everything written within tags are termed as HTML elements.

```
<! DOCTYPE html>
<html>
<head>
<title> Web Technology </title>
</head>
<body>
<h2> THE BUILDING BLOCKS OF HTML </h2>
This is a paragraph tag 
The style is attribute of paragraph tag 
<span> The element contains tag, attribute and content /span>
</body>
</html>
```

Result:

THE BUILDING BLOCKS OF HTML

The style is attribute of paragraph tag

The element contains tag, attribute and content

LIST OF HTML

• Html list are used for arrange text in list format.

Html provides three types of list. They are:

- 1. Ordered List or Numbered List (ol)
- 2. Unordered List or Bulleted List (ul)
- 3. Description List or Definition List (dl)

Ordered List (ol):

- It is **Used** for display data in order format like from 1 to 10 or from a to z.
- It is known as numbered list also. The ordered list starts with tag and
- the list items start with tag.

```
    HTML 
    PHP 
    CSS 
    JavaScript
```

Output:

- 1. HTML
- **2. PHP**
- **3. CSS**
- 4. JavaScript

HTML Unordered List or Bulleted List (ul):

- In HTML Unordered list, all the list items are marked with bullets.
- It is also known as bulleted list also. The Unordered list starts with tag and list items start with the tag

```
            HTML 
            PHP 
            CSS 
            JavaScript 

            <l>
```

Output:

- HTML
- PHP
- CSS
- JavaScript

Description List or Definition List (dl):

- HTML Description list is also a list style which is supported by HTML and XHTML.
- It is also known as definition list where entries are listed like a dictionary or encyclopedia.
- The definition list is very appropriate when you want to present glossary, list of terms or other name-value list.

The HTML definition list contains following three tags:

- <dl> tag defines the start of the list.
- <dt> tag defines a term.
- <dd> tag defines the term definition (description).

< dl>

<dt> JavaScript </dt>

<dd> HTML </dd>

<dd> PHP </dd>

<dd> CSS </dd>

<dt> Html </dt>

<dd> JSP </dd>

<dd>Servlet </dd>

</dl>

Output:

- JavaScript
- HTML
- PHP
- CSS
- JSP
- Servlet

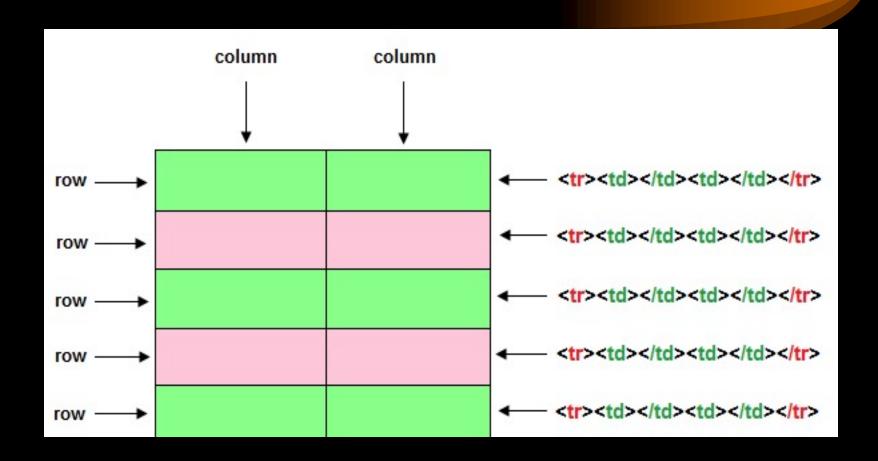
TABLE IN HTML

Table: Using table we arrange data in the form of row and column. To create a table in html use tag.

Complete table are design by using below tags.

- Tables are divided into table row using tag.
- Table row are again dived into table data using tag.
- Table row also divide into table heading using tag.

TABLE



Attribute of table

- Border: This attribute used for give border around table and border for all cell.
- Colspan: This attribute defines the number of columns.

It is used inside tag.

• Rowspan: This attribute defines the number of row.

It is used inside tag.

• id: This attribute are used for provide unique id for table

Example of table without border

```
<html>
<body>

  Name   Marks  
  Vikash   90  
  Sawan   80  
  Rahul   70  
  Rohit   60  

</body>
</html>
```

Output:

Name Marks

Vikash 90

Sawan 80

Rahu 70

Rohit 60

Example of table with border

```
<html>
<body>
 Name  Marks  
  Raushan   90  
  Ansu   80  
  Ravi  70  
  Amit   60  
Name
                              Marks
</body>
                      Raushan
                              87
</html>
                              89
                      Ansu
                      Ravi
                              92
                      Amit
                              97
```

Html Image

• Html provide tag to display image on web page or browser.

Html tag is an empty tag that contains attributes only, closing tags are not used with tag. have following attributes

Image Attribute

- src: are used for specify the source file from where you want to display image.
- alt :attribute are used for specify alternate text to display in the place of image when browser is unable to display image. This name is helpful for search engine to find the image on web.
- **title:** attribute are used for specify a title for the image that will be displayed when mouse is placed over the image for few seconds.
- **height:** are used for specify height of image.
- width: are used for specify width of image.

Example

```
<html>
<body>
    <img src="/files/car.jpg" alt="logo" title="html" height="200px;"
    width="250px;">
</body>
</html>
```

Embed Tag in HTML

Embed tag are used for include external plugin like flash player, media player into your web page. Embed tag contain the following attributes.

- src
- height
- weight
- autoplay
- playcount
- loop

Example

<html>

<body>

<embed src="path of the video/audio file" height="200" width="300"
autoplay="true" playcount="2" loop="true" >My first web page</embed>

HTML IMAGE

</body>

</html>

Example

<html>

<body>

Click to watch video

HTML AUDIO

</body>

</html>

HTML < frame > tag

- HTML <frame> tag define the particular area within an HTML file where another HTML web page can be displayed.
- A <frame> tag is used with <frameset>, and it divides a webpage into multiple sections or frames, and each frame can contain different web pages.

Syntax

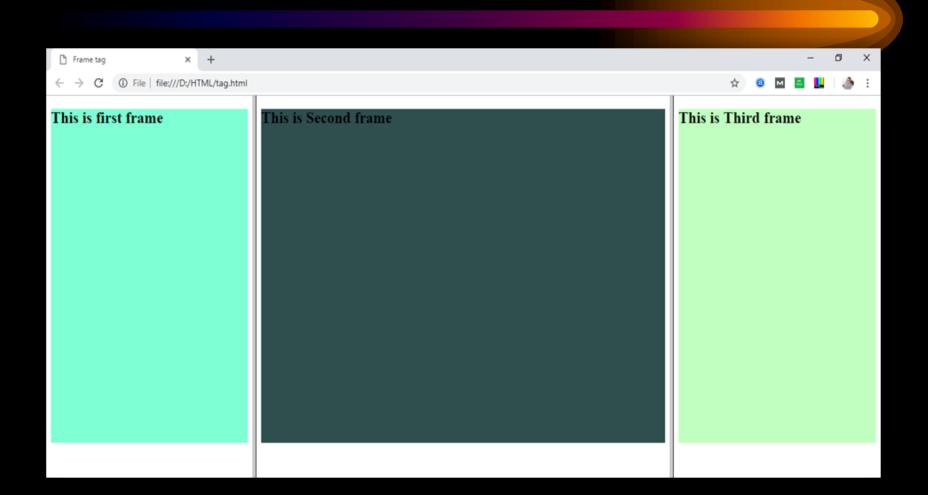
< frame src = "URL" >

Following are some specifications about the HTML <frame> tag

Display	Block
Start tag/End tag	Start tag(required), End tag(forbidden)
Usage	Frames

Example: Create Vertical frames

```
<!DOCTYPE html>
<html>
<head>
    <title>Frame tag</title>
</head>
    <frameset cols="25%,50%,25%">
        <frame src="frame1.html" >
          <frame src="frame2.html">
          <frame src="frame3.html">
          </frameset>
</html>
```



Frame1.html

```
<!DOCTYPE html>
<html>
<head>
  <style>
   div{
               background-color: #7fffd4;
    height: 500px;
  </style>
</head>
<body>
  <div>
    <h2>This is first frame</h2>
  </div>
</body>
</html>
```

Tag-specific attribute

Attribute	Value	Description
frameborder	0	It specifies whether to display a border around the frame or not, and its default value is 1
longdsec	URL	It specifies a page which contains the long description of the content of the frame.
marginheight	pixels	It specifies the top and bottom margins of the frame.
marginwidth	pixels	It defines the height of the margin between frames.
name	text	It is used to assign the name to the frame.
noresize	noresize	It is used to prevent resizing of the frame by the user.
scrolling	yes no auto	It specifies the existence of the scrollbar for overflowing content.
src	URL	It specifies the URL of the document which we want to display in a frame.

HTML <frameset> tag

- HTML <frameset> tag is used to contain the group of frames which can be controlled and styled as a unit.
- The <frameset> element also specifies the number of rows and columns in the frameset, and how much space they will occupy in a frame.

Syntax

<frameset cols=" ">.....</frameset>

Following are some specifications about the HTML <frameset> tag

Display	Block
Start tag/End tag	Both Start and End Tag
Usage	Frames

Example

```
<!DOCTYPE html>
<html>
<head>
  <title>Frame tag</title>
</head>
         <frameset cols="50%,50%">
          <frame src="https://www.google.com/html-table">
          <frame src="https://www.google.com/css-table">
 </frameset>
</html>
```

Tag-specific attribute

Attribute	Value	Description
cols	Pixels %	It specifies the number and size of column spaces in the frameset. (Not Supported in HTML5)
rows	Pixels % *	It specifies the number and size of the rows spaces in the frameset. (Not Supported in HTML5)

HTML Heading

- A HTML heading or HTML h tag can be defined as a title or a subtitle which you want to display on the webpage. When you place the text within the heading tags <h1>......</h1>, it is displayed on the browser in the bold format and size of the text depends on the number of heading.
- There are six different HTML headings which are defined with the <h1> to <h6> tags, from highest level h1 (main heading) to the least level h6 (least important heading).
- h1 is the largest heading tag and h6 is the smallest one. So h1 is used for most important heading and h6 is used for least important.

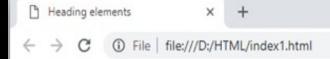
Syntax

- **<h1>**Heading no. 1**</h1>**
- **<h2>**Heading no. 2**</h2>**
- <h3>Heading no. 3</h3>
- <h4>Heading no. 4</h4>
- **<h5>**Heading no. 5**</h5>**
- **<h6>**Heading no. 6**</h6>**

Example

```
<!DOCTYPE html>
<html>
<head>
  <title>Heading elements</title>
</head>
<body>
  <h1>This is main heading of page. </h1>
   h1 is the most important heading 
  <h2>This is first sub-heading</h2>
   h2 describes the first sub heading of page. 
  <h3>This is Second sub-heading</h3>
   h3 describes the second sub heading of page.
   We can use h1 to h6 tag to use the different subheading with their paragraphs
if required. 
 </body>
</html>
```

Result



This is main heading of page.

h1 is the most important heading, which is used to display the keyword of page

This is first sub-heading

h2 describes the first sub heading of page.

This is Second sub-heading

h3 describes the second sub heading of page.

We can use h1 to h6 tag to use the different sub-heading with their paragraphs if required.

HTML Paragraph

- HTML paragraph or HTML p tag is used to define a paragraph in a webpage.

 Let's take a simple example to see how it work. It is a notable point that a browser itself add an empty line before and after a paragraph.
- An HTML tag indicates starting of new paragraph.

Example

- This is first paragraph.
- This is second paragraph.
- This is third paragraph.

HTML Phrase tag

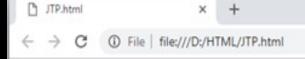
- The HTML phrase tags are special purpose tags, which defines the structural meaning of a block of text or semantics of text. Following is the list of phrase tags, some of which we have already discussed in HTML formatting.
- Abbreviation tag : <abbr>
- Acronym tag: <acronym> (not supported in HTML5)
- Marked tag: <mark>
- Strong tag:
- Emphasized tag :
- Definition tag: <dfn>
- Quoting tag: <blockquote>
- Short quote tag : <q>
- Code tag: <code>
- Keyboard tag: <kbd>
- Address tag: <address>

Text Abbreviation tag

• This tag is used to abbreviate a text. To abbreviate a text, write text between <abbr> and </abbr> tag.

Example

An <abbr title = "Hypertext Markup language">HTML </abbr>language is used to create web pages.



Hypertext Markup language

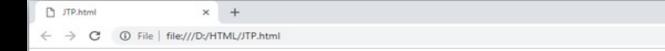
An <u>HTML</u> language is used to create web pages.

Marked tag

The content written between <mark> and </mark> tag will show as yellow mark on browser. This tag is used to highlight a particular text.

Example

This tag will <mark>highlight</mark> the text.



Example of mark tag

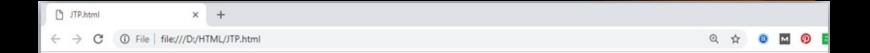
This tag will highlight the text.

Strong text

• This tag is used to display the important text of the content. The text written between and will be displayed as important text.

Example

In HTML it is recommended to use lowercase, while writin g a code



Example of strong tag

In HTML, it is recommended to use lower-case, while writing a code.

Document Type Definition

- A Document Type Definition (DTD) describes the tree structure of a document and something about its data. It is a set of markup affirmations that actually define a type of document for the SGML family, like GML, SGML, HTML, XML.
- A DTD can be declared inside an XML document as inline or as an external recommendation. DTD determines how many times a node should appear, and how their child nodes are ordered.

There are 2 data types, PCDATA and CDATA

- PCDATA is parsed character data.
- CDATA is character data, not usually parsed.

Syntax:

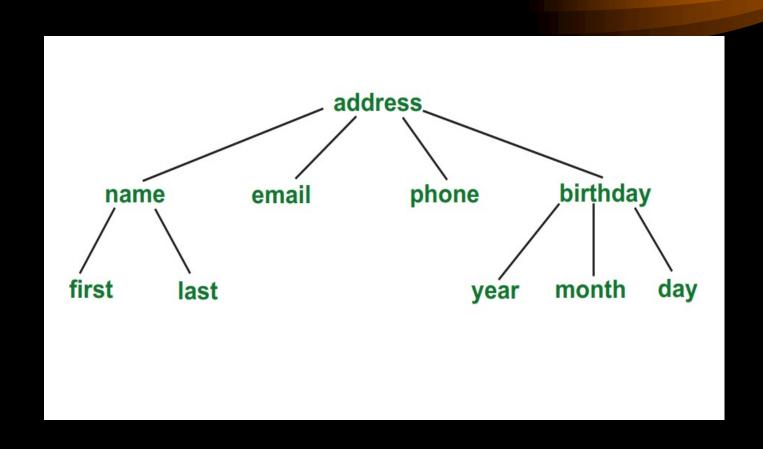
<!DOCTYPE element DTD identifier
[

first declaration

second declaration . .

nth declaration]>

Example: DTD for the above tree is



```
<?xml version="1.0"?>
<!DOCTYPE address [
<!ELEMENT address (name, email, phone, birthday)>
<!ELEMENT name (first, last)>
<!ELEMENT first (#PCDATA)>
<!ELEMENT last (#PCDATA)>
<!ELEMENT email (#PCDATA)>
<!ELEMENT phone (#PCDATA)>
<!ELEMENT birthday (year, month, day)>
<!ELEMENT year (#PCDATA)>
<!ELEMENT month (#PCDATA)>
<!ELEMENT day (#PCDATA)>
]>
```

```
<address>
        <name>
                <first>Rohit</first>
                <last>Sharma</last>
        </name>
       <email>sharmarohit@gmail.com</email>
        <phone>9876543210</phone>
        <br/>birthday>
                <year>1987</year>
                <month>June</month>
                <day>23</day>
        </birthday>
</address>
```

The DTD above is interpreted like this

!DOCTYPE address defines that the root element of this document is address.

!ELEMENT address defines that the address element must contain four elements: "name, email, phone, birthday".

!ELEMENT name defines that the name element must contain two elements: "first, last".

!ELEMENT first defines the first element to be of type "#PCDATA".

!ELEMENT last defines the last element to be of type "#PCDATA".

!ELEMENT email defines the email element to be of type "#PCDATA". !ELEMENT phone defines the phone element to be of type "#PCDATA". !ELEMENT birthday defines that the birthday element must contain three elements "year, month, day".

!ELEMENT year defines the year element to be of type "#PCDATA".
!ELEMENT month defines the month element to be of type "#PCDATA".
!ELEMENT day defines the day element to be of type "#PCDATA".

```
<?xml version="1.0"?>
<!DOCTYPE address SYSTEM "address.dtd">
<address>
       <name>
               <first>Rohit</first>
               <last>Sharma</last>
       </name>
       <email>sharmarohit@gmail.com</email>
       <phone>9876543210</phone>
       <br/>birthday>
               <year>1987
               <month>June</month>
               <day>23</day>
       </birthday>
</address>
```

HTML Form

- An **HTML form** is *a section of a document* which contains controls such as text fields, password fields, checkboxes, radio buttons, submit button, menus etc.
- An HTML form facilitates the user to enter data that is to be sent to the server for processing such as name, email address, password, phone number, etc. .

Why use HTML Form

- 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.

HTML Form Syntax

<form action="server url" method="get|post">

//input controls e.g. textfield, textarea, radiobutton, button

</form>

HTML Form Tags

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

HTML 5 Form Tags

Tag	Description
<datalist></datalist>	It specifies a list of pre-defined options for input control.
<keygen/>	It defines a key-pair generator field for forms.
<output></output>	It defines the result of a calculation.

HTML < form > element

- The HTML <form> element provide a document section to take input from user.
- It provides various interactive controls for submitting information to web server such as text field, text area, password field, etc.

Syntax:

<form>

//Form elements

</form>

HTML <input> element

• The HTML <input> element is fundamental form element. It is used to create form fields, to take input from user. We can apply different input filed to gather different information form user. Following is the example to show the simple text input.

Example:

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

Enter your name

HTML TextField Control

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

<form>

First Name: <input type="text" name="firstname"/>

Last Name: <input type="text" name="lastname"/>

</form>

↑ Form in HTML	+	
← → C ③ File file:///D:,	HTML/JTP.html	
First Name:		
Last Name:		

HTML <textarea> tag in form

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.

Example:

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

Enter your address:

Label Tag in Form

- It is considered better to have label in form. As it makes the code parser/browser/user friendly.
- 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.

First Name:	
Last Name:	

HTML Password Field Control

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

Password:

HTML 5 Email Field Control

• The email field in new in HTML 5. It validates the text for correct email address. You must use (a) and . in this field.

Email:

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>
```

Gender: Male Female

Checkbox Control

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

Hobby:







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.

Example

```
<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>
```

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En	ter Pas	sword	
SI	ubmit		

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.

Example:

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

User Information: Enter name		
Enter name		
Enter Password		
submit		

Thank You