HTML FOR BEGINNER

HYPER TEXT MARKUP LANGUAGE

TAPAUSERVER

Understanding HTML and Its History

HTML is an acronym which stands for Hyper Text Markup Language which is used for creating web pages and web applications. Let's see what is meant by Hypertext Markup Language, and Web page.

Hyper Text: HyperText simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage, you have clicked on a hypertext. HyperText is a way to link two or more web pages (HTML documents) with each other.

Markup language: A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

Web Page: A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL. A Web page can be of the static or dynamic type. With the help of HTML only, we can create static web pages.

Hence, HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser. An HTML document is made of many HTML tags and each HTML tag contains different content.

Brief History of HTML

In the late 1980's , a physicist, Tim Berners-Lee who was a contractor at CERN, proposed a system for CERN researchers. In 1989, he wrote a memo proposing an internet based hypertext system.

Tim Berners-Lee is known as the father of HTML. The first available description of HTML was a document called "HTML Tags" proposed by Tim in late 1991. The latest version of HTML is HTML5, which we will learn later in this tutorial.

HTML Versions

Since the time HTML was invented there are lots of HTML versions in market, the brief introduction about the HTML version is given below:

HTML 1.0: The first version of HTML was 1.0, which was the barebones version of HTML language, and it was released in1991.

HTML 2.0: This was the next version which was released in 1995, and it was standard language version for website design. HTML 2.0 was able to support extra features such as form-based file upload, form elements such as text box, option button, etc.

HTML 3.2: HTML 3.2 version was published by W3C in early 1997. This version was capable of creating tables and providing support for extra options for form elements. It can also support a web page with complex

mathematical equations. It became an official standard for any browser till January 1997. Today it is practically supported by most of the browsers.

HTML 4.01: HTML 4.01 version was released on December 1999, and it is a very stable version of HTML language. This version is the current official standard, and it provides added support for stylesheets (CSS) and scripting ability for various multimedia elements.

HTML5 : HTML5 is the newest version of HyperText Markup language. The first draft of this version was announced in January 2008. There are two major organizations one is W3C (World Wide Web Consortium), and another one is WHATWG(Web Hypertext Application Technology Working Group) which are involved in the development of HTML 5 version, and still, it is under development.

Let's see a simple example of HTML.

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

Description of HTML Example

<!DOCTYPE>: It defines the document type or it instruct the browser about the version of HTML.

<html > : This tag informs the browser that it is an HTML document. Text between html tag describes the web document. It is a container for all other elements of HTML except <!DOCTYPE>

<head>: It should be the first element inside the <html> element, which contains the metadata(information about the document). It must be closed before the body tag opens.

<title>: As its name suggested, it is used to add title of that HTML page which appears at the top of the browser window. It must be placed inside the head tag and should close immediately. (Optional)

<body> : Text between body tag describes the body content of the page that is visible to the end user. This tag contains the main content of the HTML document.

<h1> : Text between <h1> tag describes the first level heading of the webpage.

<p> : Text between <p> tag describes the paragraph of the webpage.

Building blocks of HTML

An HTML document consist of its basic building blocks which are:

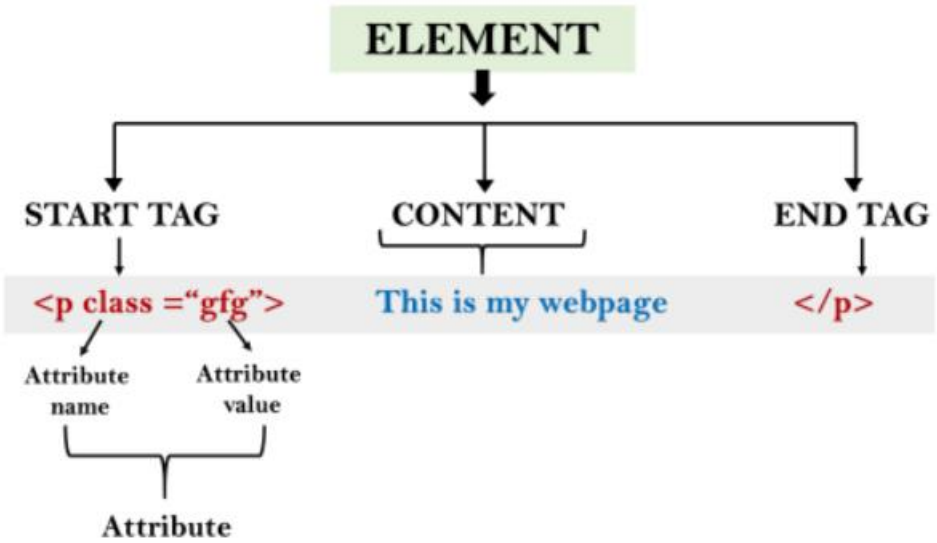
Tags: An HTML tag surrounds the content and apply meaning to it. It is written between < and > brackets.

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.



Example:

```
<!DOCTYPE html>
<html>
 <head>
   <title>The basic building blocks of HTML</title>
 </head>
 <body>
     <h2>The building blocks</h2>
     <p>This is a paragraph tag</p>
     <p style="color: red">The style is attribute of paragraph tag</p>
     <span>The element contains tag, attribute and content</span>
 </body>
</html>
```

Output:

HTML tags are like keywords which defines that how web browser will format and display the content. With the help of tags, a web browser can distinguish between an HTML content and a simple content. HTML tags contain three main parts: opening tag, content and closing tag. But some HTML tags are unclosed tags.

When a web browser reads an HTML document, browser reads it from top to bottom and left to right. HTML tags are used to create HTML documents and render their properties. Each HTML tags have different properties.

An HTML file must have some essential tags so that web browser can differentiate between a simple text and HTML text. You can use as many tags you want as per your code requirement.

- All HTML tags must enclosed within < > these brackets.
- Every tag in HTML perform different tasks.
- If you have used an open tag <tag>, then you must use a close tag </tag> (except some tags)

Syntax

<tag> content </tag>

HTML Tag Examples

```
<p> Paragraph Tag </p>

<h2> Heading Tag </h2>
<b> Bold Tag </b>

<i> Italic Tag </i>

<u> Underline Tag</u>
```

Unclosed HTML Tags

Some HTML tags are not closed, for example br and hr.

 Tag: br stands for break line, it breaks the line of the code.

<hr> Tag: hr stands for Horizontal Rule. This tag is used to put a line across the webpage.

HTML Meta Tags

DOCTYPE, title, link, meta and style

HTML Text Tags

<p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, , , <abbr>, <acronym>, <address>, <bdo>, <blockquote>, <cite>, <q>, <code>, <ins>, <del>, <dfn>, <kbd>, <pre>, <samp>, <var> and

HTML Link Tags

<a> and <base>

HTML Image and Object Tags

<img>, <area>, <map>, <param> and <object>

HTML List Tags

, <ol>, <li>, <dl>, <dt> and <dd>

HTML Table Tags

table, tr, td, th, tbody, thead, tfoot, col, colgroup and caption

HTML Form Tags

form, input, textarea, select, option, optgroup, button, label, fieldset and legend

HTML Scripting Tags

script and noscript

HTML Attribute

- HTML attributes are special words which provide additional information about the elements or attributes are the modifier of the HTML element.
- Each element or tag can have attributes, which defines the behaviour of that element.
- Attributes should always be applied with start tag.
- The Attribute should always be applied with its name and value pair.
- The Attributes name and values are case sensitive, and it is recommended by W3C that it should be written in Lowercase only.
- You can add multiple attributes in one HTML element, but need to give space between two attributes.

Syntax

```
<element attribute_name="value">content</element>
```

Example

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
   <h1> This is Style attribute</h1>
  <p style="height: 50px; color: blue">It will add style property in element</p>
   <p style="color: red">It will change the color of content</p>
</body>
</html>
```

Output:

Explanation of above example:

```
<p style="height: 50px; color: blue">It will add style property in element</p>
```

In the above statement, we have used paragraph tags in which we have applied style attribute. This attribute is used for applying CSS property on any HTML element. It provides height to paragraph element of 50px and turns it colour to blue.

```
<p style="color: red">It will change the color of content</p>
```

In the above statement we have again used style attribute in paragraph tag, which turns its colour red.

The title attribute in HTML

Description: The title attribute is used as text tooltip in most of the browsers. It display its text when user move the cursor over a link or any text. You can use it with any text or link to show the description about that link or text. In our example, we are taking this with paragraph tag and heading tag.

Example

With <h1> tag:

```
<h1 title="This is heading tag">Example of title attribute</h1>
```

With <p> tag:

```
<p title="This is paragraph tag">Move the cursor over the heading and paragraph, and you will see a description as a tooltip</p>
```

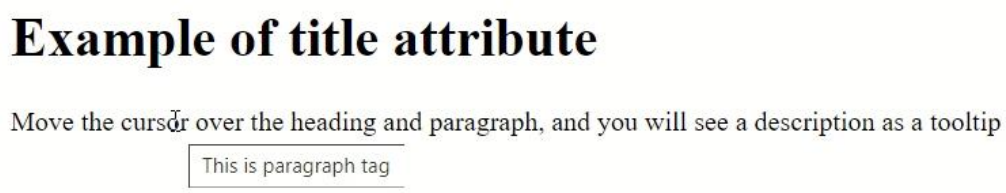
Code:

```
<!DOCTYPE html>
<html>
  <head>
 </head>
<body>

  <h1 title="This is heading tag">Example of title attribute</h1>
  <p title="This is paragraph tag">Move the cursor over the heading and paragraph, and you will see a description as a tooltip</p>

</body>
</html>
```

Output:



The href attribute in HTML

Description: The href attribute is the main attribute of <a> anchor tag. This attribute gives the link address which is specified in that link. The href attribute provides the hyperlink, and if it is blank, then it will remain in same page.

Example

With link address:

```
<a href="https://github.com/TapauServer ">This is a link</a>
```

Without link address:

```
<a href="">This is a link</a>
```

This is a link

The src Attribute

The src attribute is one of the important and required attribute of <img> element. It is source for the image which is required to display on browser. This attribute can contain image in same directory or another directory. The image name or source should be correct else browser will not display the image.

Example

```
<img src="whitepeacock.jpg" height="400" width="600">
```

Output:

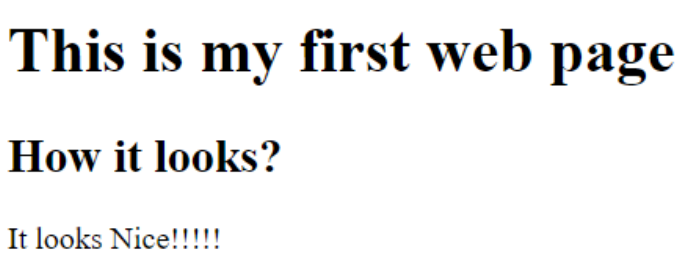
HTML Elements

An HTML file is made of elements. These elements are responsible for creating web pages and define content in that webpage. An element in HTML usually consist of a start tag <tag name>, close tag </tag name> and content inserted between them. Technically, an element is a collection of start tag, attributes, end tag, content between them.

Such as:

```
<p> Hello world!!! </p>
Example
<!DOCTYPE html>
<html>
<head>
   <title>WebPage</title>
</head>
<body>
  <h1>This is my first web page</h1>
   <h2> How it looks?</h2>
    <p>It looks Nice!!!!!</p>
</body>
</html>
```

Output:



All the content written between body elements are visible on web page.

Void element: All the elements in HTML do not require to have start tag and end tag, some elements does not have content and end tag such elements are known as Void elements or empty elements. These elements are also called as unpaired tag.

Some Void elements are
 (represents a line break) , <hr>(represents a horizontal line), etc.

Nested HTML Elements: HTML can be nested, which means an element can contain another element.

Block-level and Inline HTML elements

For the default display and styling purpose in HTML, all the elements are divided into two categories:

- Block-level element.
- Inline element.

Block-level element:

- These are the elements, which structure main part of web page, by dividing a page into coherent blocks.
- A block-level element always start with new line and takes the full width of web page, from left to right.
- These elements can contain block-level as well as inline elements.

Following are the block-level elements in HTML.

<address>, <article>, <aside>, <blockquote>, <canvas>, <dd>, , <dl>, <dt>, <fieldset>, <figcaption>, <figure>, <footer>, <form>, <h1>-<h6>, <header>, <hr>, <li>, <main>, <nav>, <noscript>, <ol>, <output>, <p>, <pre>, <section>, <table>, <tfoot>, <ul> and <video>.

Example:

```
<!DOCTYPE html>
<html>
        <head>
  </head>
<body>
  <div style="background-color: lightblue">This is first div</div>
  <div style="background-color: lightgreen">This is second div</div>
  <p style="background-color: pink">This is a block level element</p>
</body>
</html>
```

Output:

This is first div

This is second div

This is a block level element

In the above example we have used

tag, which defines a section in a web page, and takes full width of page.

We have used style attribute which is used to styling the HTML content, and the background color are showing that it's a block level element.

Inline elements:

- Inline elements are those elements, which differentiate the part of a given text and provide it a particular function.
- These elements does not start with new line and take width as per requirement.
- The Inline elements are mostly used with other elements.

<a>, <abbr>, <acronym>, <b>, <bdo>, <big>,
, <button>, <cite>, <code>, <dfn>, , <i>, <img>, <input>, <kbd>, <label>, <map>, <object>, <q>, <samp>, <script>, <select>, <small>, , , <sub>, <sup>, <textarea>, <time>, <tt>, <var>.

Example:

```
<!DOCTYPE html>
<html>
   <head>
   </head>
<body>
   <a href="https://github.com/TapauServer ">Click on link</a>
   <span style="background-color: lightblue">this is inline element</span>
   <p>This will take width of text only</p>
 </body>
</html>
```

Output:

Click on link this is inline element

This will take width of text only

Following is the list of the some main elements used in HTML:

Start tag	Content	End tag	Description
<h1> ..... <h6>	These are headings of HTML	</h1>??.. </h6>	These elements are used to provide the headings of page.
	This is the paragraph		This element is used to display a content in form of paragraph.
	This is div section		This element is used to provide a section in web page.
 			This element is used to provide a line break. (void element)
<hr>			This element is used to provide a horizontal line. (void element)

HTML Formatting

HTML Formatting is a process of formatting text for better look and feel. HTML provides us ability to format text without using CSS. There are many formatting tags in HTML. These tags are used to make text bold, italicized, or underlined. There are almost 14 options available that how text appears in HTML and XHTML.

In HTML the formatting tags are divided into two categories:

- Physical tag: These tags are used to provide the visual appearance to the text.
- Logical tag: These tags are used to add some logical or semantic value to the text.

Here, we are going to learn 14 HTML formatting tags. Following is the list of HTML formatting text

Element name	Description
	This is a physical tag, which is used to bold the text written between it.
	This is a logical tag, which tells the browser that the text is important.
<i>	This is a physical tag which is used to make text italic.
	This is a logical tag which is used to display content in italic.
<mark>	This tag is used to highlight text.
<u>	This tag is used to underline text written between it.
<tt>	This tag is used to appear a text in teletype. (not supported in HTML5)
<strike>	This tag is used to draw a strikethrough on a section of text. (Not supported in HTML5)
<sup>	It displays the content slightly above the normal line.
<sub>	It displays the content slightly below the normal line.
<del>	This tag is used to display the deleted content.
<ins>	This tag displays the content which is added
<big>	This tag is used to increase the font size by one conventional unit.
<small>	This tag is used to decrease the font size by one unit from base font size.

.

1) Bold Text

HTML and formatting elements

The HTML element is a physical tag which display text in bold font, without any logical importance. If you write anything within ..... element, is shown in bold letters.

See this example:

```
<p> <b>Write Your First Paragraph in bold text.</b></p>
```

Output:

Write Your First Paragraph in bold text.

The HTML tag is a logical tag, which displays the content in bold font and informs the browser about its logical importance. If you write anything between ???????. , is shown important text.

See this example:

```
<p><strong>This is an important content</strong>, and this is normal content</p>
```

Output:

This is an important content, and this is normal content

Example

```
<!DOCTYPE html>
<html>
<head>
   <title>formatting elements</title>
</head>
<body>
<h1>Explanation of formatting element</h1>
<p><strong>This is an important content</strong>, and this is normal
content</p>
</body>
</html>
```

2) Italic Text

HTML <i> and formatting elements

The HTML element is physical element, which display the enclosed content in italic font, without any added importance. If you write anything within ..... element, is shown in italic letters.

See this example:

```
<p> <i>Write Your First Paragraph in italic text.</i></p>
```

Output:

Write Your First Paragraph in italic text.

The HTML tag is a logical element, which will display the enclosed content in italic font, with added semantics importance.

See this example:

```
<p><em>This is an important content</em>, which displayed in italic font.</p>
```

Output:

This is an important content, which displayed in italic font.

```
<!DOCTYPE html>
<html>
<head>
   <title>formatting elements</title>
</head>
<body>
<h1>Explanation of italic formatting element</h1>
<p><em>This is an important content</em>, which displayed in italic font.</p>
</body>
</html>
```

3) HTML Marked formatting

If you want to mark or highlight a text, you should write the content within <mark>.....</mark>.

See this example:

```
<h2>  I want to put a <mark> Mark</mark> on your face</h2>
```

Output:

4) Underlined Text

If you write anything within <u>.....</u> element, is shown in underlined text.

See this example:

```
<p> <u>Write Your First Paragraph in underlined text.</u></p>
```

Output:

Write Your First Paragraph in underlined text.

5) Strike Text

Anything written within <strike>.....</strike> element is displayed with strikethrough. It is a thin line which cross the statement.

See this example:

```
<p> <strike>Write Your First Paragraph with strikethrough</strike>.</p>
```

Output:

~~Write Your First Paragraph with strikethrough~~.

6) Monospaced Font

If you want that each letter has the same width then you should write the content within <tt>.....</tt> element.

Note: We know that most of the fonts are known as variable-width fonts because different letters have different width. (for example: 'w' is wider than 'i'). Monospaced Font provides similar space among every letter.

See this example:

```
<p>Hello <tt>Write Your First Paragraph in monospaced font.</tt></p>
```

Output:

Hello Write Your First Paragraph in monospaced font.

7) Superscript Text

If you put the content within ^{.....} element, is shown in superscript; means it is displayed half a character's height above the other characters.

See this example:

```
<p>Hello <sup>Write Your First Paragraph in superscript.</sup></p>
```

Output:

Hello Write Your First Paragraph in superscript.

8) Subscript Text

If you put the content within _{.....} element, is shown in subscript ; means it is displayed half a character's height below the other characters.

See this example:

```
<p>Hello <sub>Write Your First Paragraph in subscript.</sub></p>
```

Output:

Hello Write Your First Paragraph in subscript.

9) Deleted Text

Anything that puts within ~~.....~~ is displayed as deleted text.

See this example:

```
<p>Hello <del>Delete your first paragraph.</del></p>
```

Output:

Hello ~~Delete your first paragraph.~~

10) Inserted Text

Anything that puts within <ins>.....</ins> is displayed as inserted text.

See this example:

```
<p> <del>Delete your first paragraph.</del><ins>Write another paragraph.</ins></p>
```

Output:

~~Delete your first paragraph.~~Write another paragraph.

11) Larger Text

If you want to put your font size larger than the rest of the text then put the content within <big>.....</big>. It increase one font size larger than the previous one.

See this example:

```
<p>Hello <big>Write the paragraph in larger font.</big></p>
```

Output:

Hello Write the paragraph in larger font.

12) Smaller Text

If you want to put your font size smaller than the rest of the text then put the content within <small>.....</small>tag. It reduces one font size than the previous one.

See this example:

```
<p>Hello <small>Write the paragraph in smaller font.</small></p>
```

Output:

Hello Write the paragraph in smaller font.

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.

Headings in HTML helps the search engine to understand and index the structure of web page.

See this example:

<h1>Heading no. 1</h1>

<h2>Heading no. 2</h2>

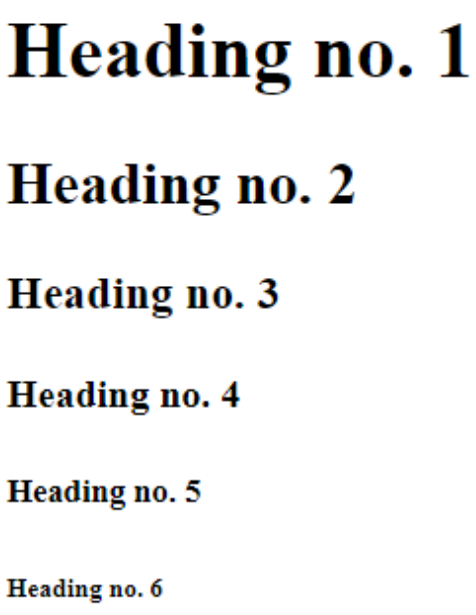
<h3>Heading no. 3</h3>

<h4>Heading no. 4</h4>

<h5>Heading no. 5</h5>

<h6>Heading no. 6</h6>

Output:



HTML headings can also be used with nested elements. Following are different codes to display the way to use heading elements.

Example:

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

Output:

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.

Supporting Browsers

Element	Chrome	IE	Firefox	Opera	Safari
<h1> to <h6>	Yes	Yes	Yes	Yes	Yes

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 <p> tag indicates starting of new paragraph.

See this example:

```
<p>This is first paragraph.</p>
```

```
<p>This is second paragraph.</p>
<p>This is third paragraph.</p>
```

Output:

This is first paragraph.

This is second paragraph.

This is third paragraph.

Space inside HTML Paragraph

If you put a lot of spaces inside the HTML p tag, browser removes extra spaces and extra line while displaying the page. The browser counts number of spaces and lines as a single one.

```
<p>
I am
going to provide
you a tutorial on HTML
and hope that it will
be very beneficial for you.
</p>
<p>
Look, I put here a lot
of spaces                but          I know, Browser will ignore it.
```

```
</p>
<p>
You cannot determine the display of HTML</p>
<p>because resized windows may create different result.
</p>
```

Output:

I am going to provide you a tutorial on HTML and hope that it will be very beneficial for you.

Look, I put here a lot of spaces but I know, Browser will ignore it.

You cannot determine the display of HTML

because resized windows may create different result.

As you can see, all the extra lines and unnecessary spaces are removed by the browser.

How to Use
 and <hr> tag with paragraph?

An HTML
 tag is used for line break and it can be used with paragraph elements. Following is the example to show how to use
 with <p> element.

Example:

```
<!DOCTYPE html>
<html>
   <head>
  </head>
 <body>
    <h2> Use of line break with pragraph tag</h2>
       <p><br>Papa and mama, and baby and Dot,
   <br>Willie and me?the whole of the lot
          <br>Of us all went over in Bimberlie's sleigh,
            <br>To grandmama's house on Christmas day.
       </p>
  </body>
</html>
```

Output:

Use of line break with pragraph tag

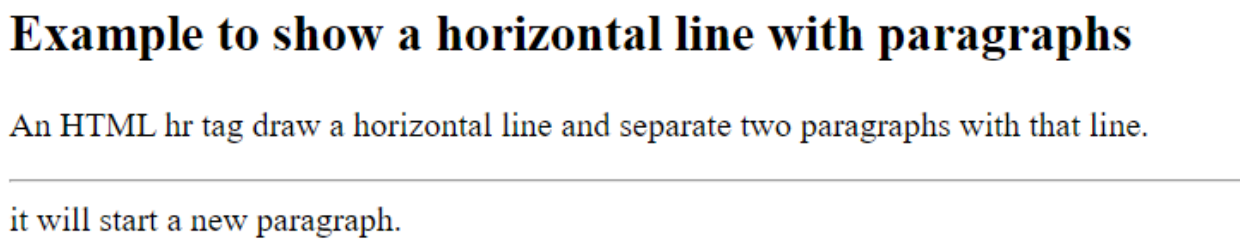
Papa and mama, and baby and Dot,
Willie and me?the whole of the lot
Of us all went over in Bimberlie's sleigh,
To grandmama's house on Christmas day.

An HTML <hr> tag is used to apply a horizontal line between two statements or two paragraphs. Following is the example which is showing use of <hr> tag with paragraph.

Example:

```
<!DOCTYPE html>
<html>
 <head>
   </head>
 <body>
  <h2> Example to show a horizontal line with paragraphs</h2>
    <p> An HTML hr tag draw a horizontal line and separate two paragraphs with
that line.<hr> it will start a new paragraph.
    </p>
 </body>
</html>
```

Output:



Supporting Browsers

Element	Chrome	IE	Firefox	Opera	Safari
<p>	Yes	Yes	Yes	Yes	Yes

HTML Anchor

The HTML anchor tag defines a hyperlink that links one page to another page. It can create hyperlink to other web page as well as files, location, or any URL. The "href" attribute is the most important attribute of the HTML a tag. and which links to destination page or URL.

href attribute of HTML anchor tag

The href attribute is used to define the address of the file to be linked.

In other words, it points out the destination page.

The syntax of HTML anchor tag is given below.

```
<a href = "....."> Link Text </a>
```

Let's see an example of HTML anchor tag.

```
<a href="second.html">Click for Second Page</a>
```

Specify a location for Link using target attribute

If we want to open that link to another page then we can use target attribute of <a> tag. With the help of this link will be open in next page.

Example:

```
<!DOCTYPE html>
<html>
<head>
   <title></title>
</head>
<body>
<p>Click on <a href="https://github.com/TapauServer/" target="_blank"> this-link </a>to go on github of TapauServer.</p>
</body>
</html>
```

Output:

Click on this-link to go on github of TapauServer.

Note:

- The target attribute can only use with href attribute in anchor tag.
- If we will not use target attribute then link will open in same page.

Appearance of HTML anchor tag

An unvisited link is displayed underlined and blue.

A visited link displayed underlined and purple.

An active link is underlined and red.

Supporting Browsers

Element	Chrome	IE	Firefox	Opera	Safari
<a>	Yes	Yes	Yes	Yes	Yes

HTML Image

HTML img tag is used to display image on the web page. HTML img tag is an empty tag that contains attributes only, closing tags are not used in HTML image element.

Let's see an example of HTML image.

```
<h2>HTML Image Example</h2>
<img src="tapau.jpg" alt="Good Morning Friends"/>
```

Output:

HTML Image Example

Attributes of HTML img tag

The src and alt are important attributes of HTML img tag. All attributes of HTML image tag are given below.

1) src

It is a necessary attribute that describes the source or path of the image. It instructs the browser where to look for the image on the server.

The location of image may be on the same directory or another server.

2) alt

The alt attribute defines an alternate text for the image, if it can't be displayed. The value of the alt attribute describe the image in words. The alt attribute is considered good for SEO prospective.

3) width

It is an optional attribute which is used to specify the width to display the image. It is not recommended now. You should apply CSS in place of width attribute.

4) height

It h3 the height of the image. The HTML height attribute also supports iframe, image and object elements. It is not recommended now. You should apply CSS in place of height attribute.

Use of height and width attribute with img tag

You have learnt about how to insert an image in your web page, now if we want to give some height and width to display image according to our requirement, then we can set it with height and width attributes of image.

Example:

```
<img src="meesedap.jpg" height="180" width="300" alt="noodle image">
```

Output:

Use of alt attribute

We can use alt attribute with tag. It will display an alternative text in case if image cannot be displayed on browser. Following is the example for alt attribute:

```
<img src="youtube.png" height="180" width="300" alt="youtube image">
```

Output:

How to get image from another directory/folder?

To insert an image in your web, that image must be present in your same folder where you have put the HTML file. But if in some case image is available in some other directory then you can access the image like this:

```
<img src="E:/images/animal.png" height="180" width="300" alt="animal image">
```

In above statement we have put image in local disk E------>images folder------>animal.png.

Use <img> tag as a link

We can also link an image with other page or we can use an image as a link. To do this, put <img> tag inside the <a> tag.

Example:

```
<a href="https://www.javatpoint.com/what-is-robotics"><img src="robot.jpg" height="100" width="100"></a>
```

Output:

Supporting Browsers

Element	Chrome	IE	Firefox	Opera	Safari
<img>	Yes	Yes	Yes	Yes	Yes

HTML Table

HTML table tag is used to display data in tabular form (row * column). There can be many columns in a row.

We can create a table to display data in tabular form, using <table> element, with the help of <tr> , <td>, and <th> elements.

In Each table, table row is defined by <tr> tag, table header is defined by <th>, and table data is defined by <td> tags.

HTML tables are used to manage the layout of the page e.g. header section, navigation bar, body content, footer section etc. But it is recommended to use div tag over table to manage the layout of the page .

HTML Table Tags

Tag	Description
<table>	It defines a table.
<tr>	It defines a row in a table.
<th>	It defines a header cell in a table.
<td>	It defines a cell in a table.
<caption>	It defines the table caption.
<colgroup>	It specifies a group of one or more columns in a table for formatting.
<col>	It is used with <colgroup> element to specify column properties for each column.
<tbody>	It is used to group the body content in a table.
<thead>	It is used to group the header content in a table.
<tfooter>	It is used to group the footer content in a table.

HTML Table Example

Let's see the example of HTML table tag. It output is shown above.

```
<table>
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</th></tr>
<tr><td>Sonoo</td><td>Jaiswal</td><td>60</td></tr>
<tr><td>James</td><td>William</td><td>80</td></tr>
<tr><td>Swati</td><td>Sironi</td><td>82</td></tr>
<tr><td>Chetna</td><td>Singh</td><td>72</td></tr>
</table>
```

Output:

First_Name	Last_Name	Marks
Sonoo	Jaiswal	60
James	William	80
Swati	Sironi	82
Chetna	Singh	72

In the above html table, there are 5 rows and 3 columns = 5 * 3 = 15 values.

HTML Table with Border

There are two ways to specify border for HTML tables.

- By border attribute of table in HTML
- By border property in CSS

1) HTML Border attribute

You can use border attribute of table tag in HTML to specify border. But it is not recommended now.

```
<table border="1">
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</th></tr>
<tr><td>Sonoo</td><td>Jaiswal</td><td>60</td></tr>
<tr><td>James</td><td>William</td><td>80</td></tr>
<tr><td>Swati</td><td>Sironi</td><td>82</td></tr>
<tr><td>Chetna</td><td>Singh</td><td>72</td></tr>
</table>
```

Output:

First_Name	Last_Name	Marks
Sonoo		
Jaiswal		
60		
James		
William		
80		
Swati		
Sironi		
82		
Chetna		
Singh		
72		

2) CSS Border property

It is now recommended to use border property of CSS to specify border in table.

```
<style>
table, th, td {
  border: 1px solid black;
```

```
}
</style>
```

You can collapse all the borders in one border by border-collapse property. It will collapse the border into one.

```
<style>
table, th, td {
  border: 2px solid black;
  border-collapse: collapse;
}
</style>
```

Output:

Name	Last Name	Marks
Sonoo		
Jaiswal		
60		
James		
William		
80		
Swati		
Sironi		
82		
Chetna		
Singh		
72		

HTML Table with cell padding

You can specify padding for table header and table data by two ways:

- By cellpadding attribute of table in HTML
- By padding property in CSS

The cellpadding attribute of HTML table tag is obselete now. It is recommended to use CSS. So let's see the code of CSS.

```
<style>
table, th, td {
  border: 1px solid pink;
  border-collapse: collapse;
}
th, td {
  padding: 10px;
}
</style>
```

Output:

Name	Last Name	Marks
Sonoo		
Jaiswal		
60		
James		
William		
80		
Swati		
Sironi		
82		
Chetna		
Singh		
72		

HTML Table width:

We can specify the HTML table width using the CSS width property. It can be specify in pixels or percentage.

We can adjust our table width as per our requirement. Following is the example to display table with width.

```
table{
    width: 100%;
   }
```

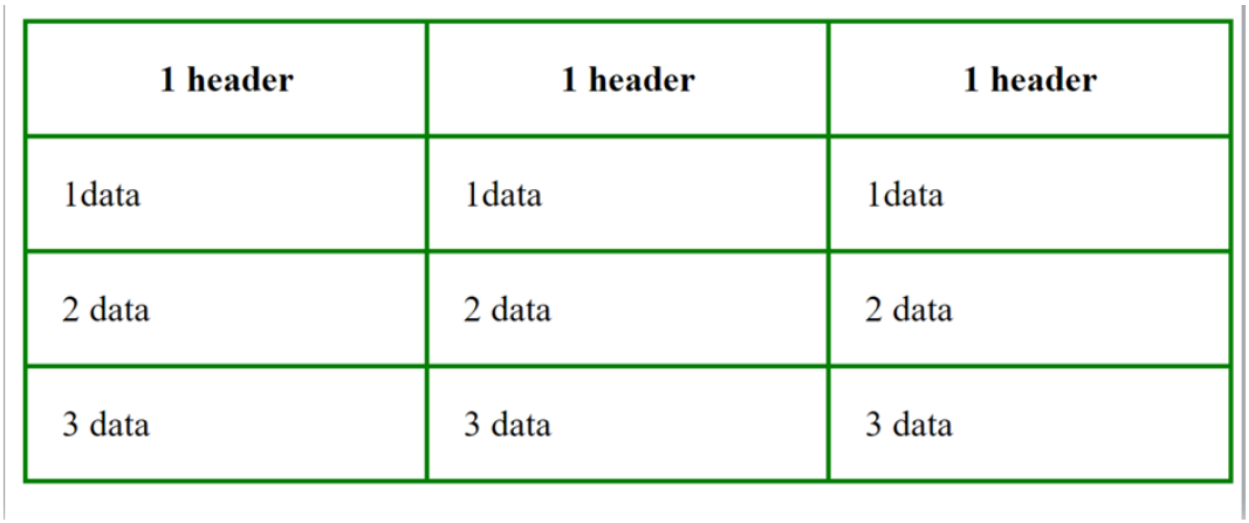
Example:

```
<!DOCTYPE html>
<html>
<head>
   <title>table</title>
   <style>
      table{
         border-collapse: collapse;
         width: 100%;
      }
   th,td{
      border: 2px solid green;
      padding: 15px;
   }

   </style>
 </head>
<body>
 <table>
   <tr>
      <th>1 header</th>
      <th>1 header</th>
      <th>1 header</th>
   </tr>
   <tr>
      <td>1data</td>
      <td>1data</td>
      <td>1data</td>
   </tr>
   <tr>
      <td>2 data</td>
      <td>2 data</td>
      <td>2 data</td>
   </tr>
   <tr>
      <td>3 data</td>
      <td>3 data</td>
```

```
      <td>3 data</td>
   </tr>
</table>
</body>
</html>
```

Output:



1 header	1 header	1 header
1data	1data	1data
2 data	2 data	2 data
3 data	3 data	3 data

HTML Table with colspan

If you want to make a cell span more than one column, you can use the colspan attribute.

It will divide one cell/row into multiple columns, and the number of columns depend on the value of colspan attribute.

Let's see the example that span two columns.

CSS code:

```
<style>
table, th, td {
  border: 1px solid black;
  border-collapse: collapse;
}
th, td {
  padding: 5px;
}
</style>
```

HTML code:

```
<table style="width:100%">
  <tr>
  <th>Name</th>
  <th colspan="2">Mobile No.</th>
  </tr>
  <tr>
  <td>Ajeet Maurya</td>
  <td>7503520801</td>
  <td>9555879135</td>
  </tr>
</table>
```

Output:

Name	Mobile No.
Ajeet Maurya	
7503520801	
9555879135	

HTML Table with rowspan

If you want to make a cell span more than one row, you can use the rowspan attribute.

It will divide a cell into multiple rows. The number of divided rows will depend on rowspan values.

Let's see the example that span two rows.

CSS code:

```
<style>
table, th, td {
  border: 1px solid black;
  border-collapse: collapse;
}
th, td {
  padding: 10px;
}
</style>
```

HTML code:

```
<table>
<tr><th>Name</th><td>Ajeet Maurya</td></tr>
<tr><th rowspan="2">Mobile No.</th><td>7503520801</td></tr>
<tr><td>9555879135</td></tr>
</table>
```

Output:

Name
Ajeet Maurya
Mobile No.
7503520801
9555879135

HTML table with caption

HTML caption is diplayed above the table. It must be used after table tag only.

Styling HTML table even and odd cells

```
<table>
<caption>Student Records</caption>
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</th></tr>
<tr><td>Vimal</td><td>Jaiswal</td><td>70</td></tr>
<tr><td>Mike</td><td>Warn</td><td>60</td></tr>
<tr><td>Shane</td><td>Warn</td><td>42</td></tr>
<tr><td>Jai</td><td>Malhotra</td><td>62</td></tr>
</table>
```

CSS code:

```
<style>
table, th, td {
  border: 1px solid black;
  border-collapse: collapse;
}
th, td {
  padding: 10px;
}
table#alter tr:nth-child(even) {
```

```
  background-color: #eee;
}
table#alter tr:nth-child(odd) {
  background-color: #fff;
}
table#alter th {
  color: white;
  background-color: gray;
}
</style>
```

Output:

First_Name	Last_Name	Marks
Sonoo	Jaiswal	60
James	William	80
Swati	Sironi	82
Chetna	Singh	72

Supporting Browsers

Element	Chrome	IE	Firefox	Opera	Safari
<table>	Yes	Yes	Yes	Yes	Yes

HTML Lists

HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

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

HTML Ordered List or Numbered List

In the ordered HTML lists, all the list items are marked with numbers by default. It is known as numbered list also. The ordered list starts with <ol> tag and the list items start with <li> tag.

```
<ol>
 <li>Aries</li>
 <li>Bingo</li>
 <li>Leo</li>
 <li>Oracle</li>
</ol>
```

Output:

1. Aries
2. Bingo
3. Leo
4. Oracle

HTML Unordered List or Bulleted List

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 <ul> tag and list items start with the <li> tag.

```
<ul>
 <li>Aries</li>
 <li>Bingo</li>
 <li>Leo</li>
 <li>Oracle</li>
</ul>
```

Output:

- Aries
- Bingo
- Leo
- Oracle

HTML Description List or Definition List

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:

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

```
<dl>
 <dt>Aries</dt>
 <dd>-One of the 12 horoscope sign.</dd>
 <dt>Bingo</dt>
 <dd>-One of my evening snacks</dd>
<dt>Leo</dt>
<dd>-It is also an one of the 12 horoscope sign.</dd>
 <dt>Oracle</dt>
 <dd>-It is a multinational technology corporation.</dd>
</dl>
```

Output:

Aries

-One of the 12 horoscope sign.

Bingo

-One of my evening snacks

Leo

-It is also an one of the 12 horoscope sign.

Oracle

-It is a multinational technology corporation.

HTML Nested List

A list within another list is termed as nested list. If you want a bullet list inside a numbered list then such type of list will called as nested list.

Code:

```
<!DOCTYPE html>
<html>
<head>
  <title>Nested list</title>
</head>
<body>
  <p>List of Indian States with thier capital</p>
<ol>
  <li>Delhi
    <ul>
      <li>NewDelhi</li>
    </ul>
  </li>
  <li>Haryana
    <ul>
```

```
        <li>Chandigarh</li>
      </ul>
    </li>
    <li>Gujarat
      <ul>
        <li>Gandhinagar</li>
      </ul>
    </li>
    <li>Rajasthan
      <ul>
        <li>Jaipur</li>
      </ul>
    </li>
    <li>Maharashtra
      <ul>
        <li>Mumbai</li>
      </ul>
    </li>
    <li>Uttarpradesh
      <ul>
        <li>Lucknow</li></ul>
    </li>
</ol>
</body>
</html>
```

Output:

List of Indian States with thier capital

1. Delhi
    - NewDelhi
2. Haryana
    - Chandigarh
3. Gujarat
    - Gandhinagar
4. Rajasthan
    - Jaipur
5. Maharashtra
    - Mumbai
6. Uttarpradesh
    - Lucknow

Supporting Browsers

Element	Chrome	IE	Firefox	Opera	Safari
<dl>	Yes	Yes	Yes	Yes	Yes

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

Let's see the list of HTML 5 form tags.

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.

HTML 5 Form Tags

Let's see the list of HTML 5 form tags.

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

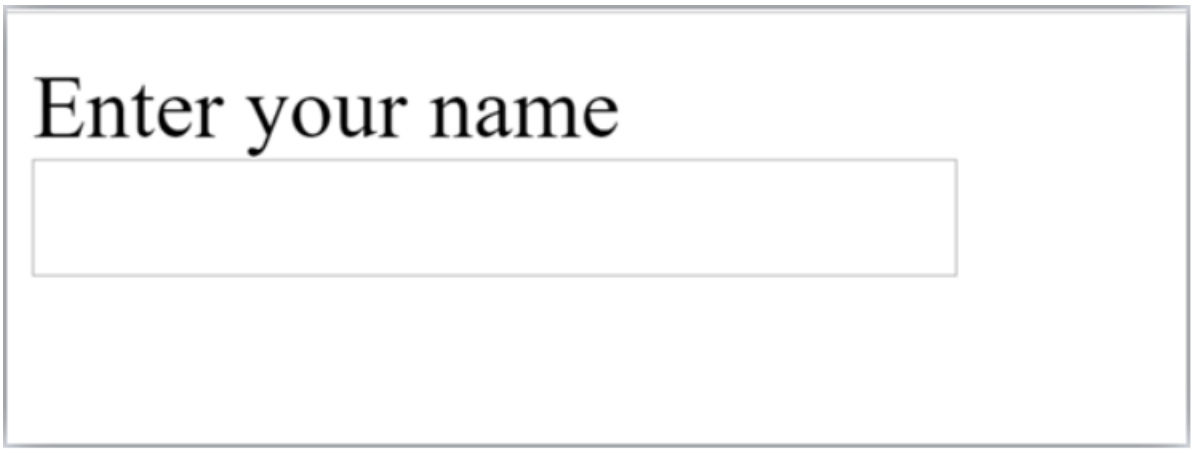
The HTML <input> element is fundamental form element. It is used to create form fields, to take input from user. We can apply different input filed to gather different information form user. Following is the example to show the simple text input.

Example:

```
<body>
  <form>
    Enter your name  <br>
```

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

Output:



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

Output:

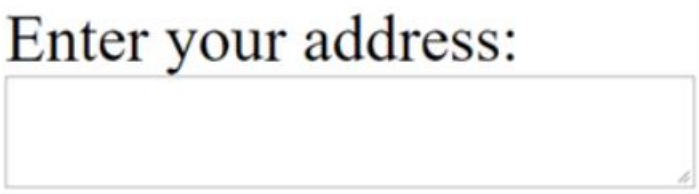
HTML <textarea> tag in form

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>
```

Output:



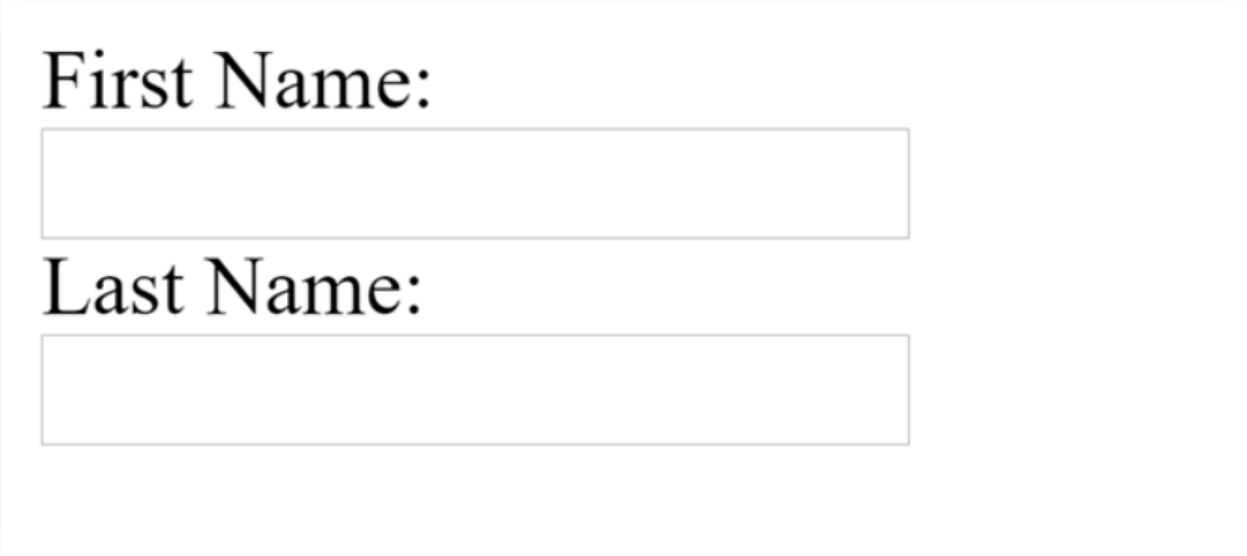
Label Tag in Form

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.

```
<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:



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>
```

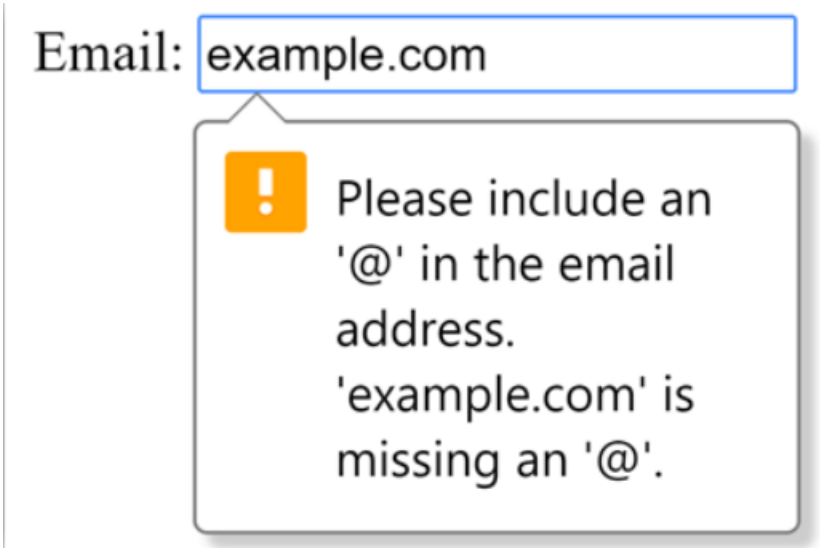
Output:

HTML 5 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>
```

It will display in browser like below:



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.

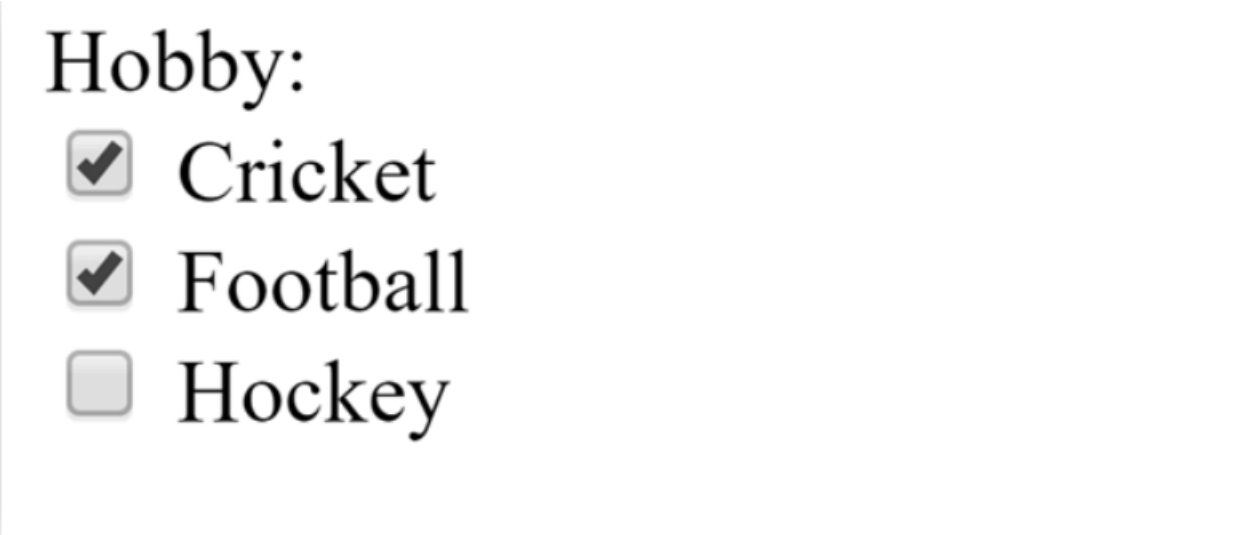
```
<form>
   <label for="gender">Gender: </label>
         <input type="radio" id="gender" name="gender" value="male"/>Male
         <input type="radio" id="gender" name="gender"
value="female"/>Female <br/>
</form>
```

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:



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

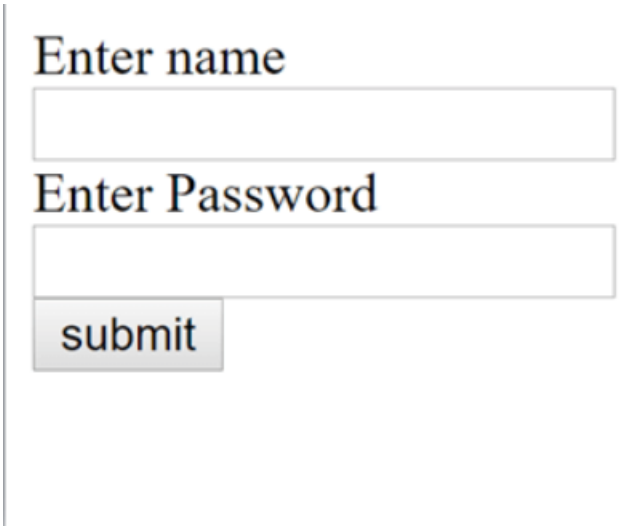
The value attribute can be anything which we write on button on web page.

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>
```

Output:



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>
     <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>
lt;/form>
```

Output:

HTML Form Example

Following is the example for a simple form of registration.

```
<!DOCTYPE html>
 <html>
 <head>
  <title>Form in HTML</title>
</head>
 <body>
    <h2>Registration form</h2>
   <form>
    <fieldset>
      <legend>User personal information</legend>
      <label>Enter your full name</label><br>
      <input type="text" name="name"><br>
       <label>Enter your email</label><br>
       <input type="email" name="email"><br>
       <label>Enter your password</label><br>
       <input type="password" name="pass"><br>
       <label>confirm your password</label><br>
       <input type="password" name="pass"><br>
```

```
      <br><label>Enter your gender</label><br>
      <input type="radio" id="gender" name="gender" value="male"/>Male
<br>
      <input type="radio" id="gender" name="gender" value="female"/>Female
<br/>
      <input type="radio" id="gender" name="gender" value="others"/>others
<br/>
       <br>Enter your Address:<br>
      <textarea></textarea><br>
      <input type="submit" value="sign-up">
   </fieldset>
 </form>
 </body>
</html>
```

Output:

HTML Form Example

Let's see a simple example of creating HTML form.

```
<form action="#">
<table>
<tr>
   <td class="tdLabel"><label for="register_name" class="label">Enter
name:</label></td>
   <td><input type="text" name="name" value="" id="register_name"
style="width:160px"/></td>
</tr>
<tr>
   <td class="tdLabel"><label for="register_password" class="label">Enter
password:</label></td>
   <td><input type="password" name="password" id="register_password"
style="width:160px"/></td>
</tr>
<tr>
   <td class="tdLabel"><label for="register_email" class="label">Enter
Email:</label></td>
   <td
><input type="email" name="email" value="" id="register_email"
style="width:160px"/></td>
</tr>
<tr>
   <td class="tdLabel"><label for="register_gender" class="label">Enter
Gender:</label></td>
   <td>
<input type="radio" name="gender" id="register_gendermale" value="male"/>
<label for="register_gendermale">male</label>
<input type="radio" name="gender" id="register_genderfemale"
value="female"/>
<label for="register_genderfemale">female</label>
   </td>
</tr>
```

```
<tr>
   <td class="tdLabel"><label for="register_country" class="label">Select
Country:</label></td>
   <td><select name="country" id="register_country" style="width:160px">
   <option value="india">india</option>
   <option value="pakistan">pakistan</option>
   <option value="africa">africa</option>
   <option value="china">china</option>
   <option value="other">other</option>
</select>
</td>
</tr>
<tr>
   <td colspan="2"><div align="right"><input type="submit" id="register_0"
value="register"/>
</div></td>
</tr>
</table>
</form>
```

Supporting Browsers

Element	Chrome	IE	Firefox	Opera	Safari
<form>	Yes	Yes	Yes	Yes	Yes

SOURCE: https://www.javatpoint.com/html-tutorial

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