Basics of HTML

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Chapter: 01

HTML Introduction

What is HTML?

HTML is the standard markup language for creating Web pages.

- HTML stands for Hyper Text Markup Language
- HTML describes the structure of Web pages using markup
- HTML elements are the building blocks of HTML pages
- HTML elements are represented by tags
- HTML tags label pieces of content such as "heading", "paragraph", "table", and so on
- Browsers dos not display the HTML tags, but use them to render the content of the page

A Simple HTML Document

Example Explained

- The `<!DOCTYPE html>` declaration defines this document to be HTML5
- The `<html>` element is the root element of an HTML page
- The `<head>` element contains meta information about the document
- The `<title>` element specifies a title for the document
- The `<body>` element contains the visible page content
- The `<h1>` element defines a large heading
- The `<p>` element defines a paragraph.

HTML Tags:

HTML tags are element names surrounded by angle brackets:

<tagname>content goes here...</tagname>

- HTML tags normally come **in pairs** like and
- The first tag in a pair is the **start tag,** the second tag is the **end tag**
- The end tag is written like the start tag, but with a **forward slash** inserted before the tag name.

Tip: The start tag is also called the **opening tag**, and the end tag the **closing tag**.

HTML Tags

Definition

HTML tags are the hidden keywords within a web page that define how your web browser must format and display the content. Most **tags** must have two parts, an opening and a closing part. For example, <**html**> is the opening tag and </**html**> is the closing tag.

Tags are instructions that are embedded directly into the text of a HTML document. Each HTML tag describes that the browser should do something instead of simply displaying the text. In HTML, the tags begin with (<) and end with (>)
HTML tags can be of two types. They are

1. Paired Tags
2. Unpaired Tags

Paired Tags:

A tag is said to be a paired tag if the text is placed between a tag and its companion tag. In paired tags, the first tag is referred to as *Opening Tag* and the second tag is referred to as *Closing Tag.*

Example

```
<h></h>          for Heading

<p></p>          for Paragraph

<a>              for links (Any Links) Video file, audio file, Image file etc.

<img>            for insert Images on web page

<i> </i>         for Italic (Text)

<b></b>          for bold (Text)

<u></u>          underline (Text)

<oL> </oL>       Defines an ordered list    For Numbering List

<ul> </ul>       Defines an unordered list  For Bullets

<Li> </Li>       Defines a list item        For List Item Number
```

Formatting tags

On web page

Note: Here <> is called opening tag. And </i> is called closing tag.

HREF rel is short for relation. It specifies the relation between the **tag** and **href** . **href stands** for hypertext reference. It's the source of the file used by the **tag**. You can use both not only when connecting an external css file, also for using <a> tags,for a regular hyperlink.

SRC Definition and Usage. The required **src** attribute specifies the URL of the image. Note: When a web page loads; it is the browser, at that moment, that gets the image from a web server and inserts it into the page.

Unpaired Tags:

An unpaired tag does not have a companion tag. Unpaired tags are also known as *Singular* or *Stand-Alone* Tags.

Example

```
<Center>, <center>      For center alignment      (Text)
<br>                    for line break            (Text)
<hr>                    for horizontal line break (Text)
```

etc. These tags does not require any companion tag.

Definition and Usage. The <**br**> tag inserts a single line break. The <**br**> tag is an empty tag which means that it has no end tag.

<hr>

In **HTML5**, the <**hr**> tag defines a thematic break. In HTML 4.01, the <**hr**> tag represents a **horizontal rule**. However, the <**hr**> tag may still be displayed as a **horizontal rule** in visual browsers, but is now defined in semantic terms, rather than presentational terms.

Tags Based on their utility

We can differentiate tags based on the purpose they used. Basically we have three types here

Formatting tags

We manage the size of the font, underline part of the text, make the text bold etc by using tags like <font>, <u>,<b>,<i> etc.

Tool to create your own basic HTML page with tags

Page Structure tags

Description, title, head, body etc are part of the page structure tags. They are part of the basic html page and do not directly affect the formatting of text or image.

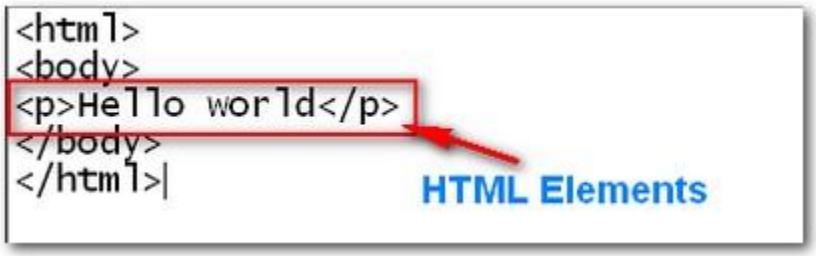
Control tags

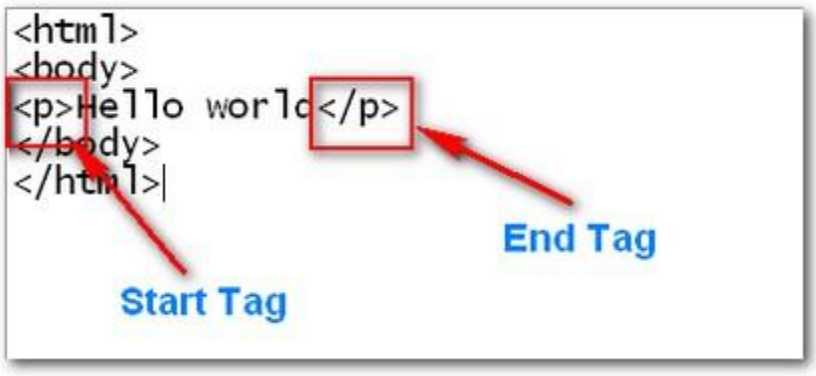
Form tags, Script tags, Radio buttons etc are part of the control tags

HTML Elements

An HTML element is everything from the start tag to the end tag:

Start tag	Element Contents	End tag
	Hello world	





HTML File Paths

A file path describes the location of a file in a web site's folder structure.

File paths are used when linking to external files like:

- **Web pages**
- **Images**
- **Style sheets**
- **Java Scripts**

For links

Path	Description
<a href="picture.jpg">	picture.jpg is located in the same folder as the current page
<a href ="images/picture.jpg">	picture.jpg is located in the images folder in the current folder
<a href ="/images/picture.jpg">	picture.jpg is located in the images folder at the root of the current web
<a href ="../picture.jpg">	picture.jpg is located in the folder one level up from the current folder
<a href ="e:/zahoor/photo/xyz.jpg	picture.jpg is located in the C,D,E,F,G,H Drive(My computer/This Pc)
img src="picture.jpg">	picture.jpg is located in the same folder as the current page
<img src="images/picture.jpg">	picture.jpg is located in the images folder in the current folder
<img src="/images/picture.jpg">	picture.jpg is located in the images folder at the root of the current web
<img src="../picture.jpg">	picture.jpg is located in the folder one level up from the current folder
<img src="e:/zahoor/photo/xyz.jpg	picture.jpg is located in the C,D,E,F,G,H Drive(My computer/This Pc)

Absolute File Paths

An absolute file path is the full URL to an internet file:

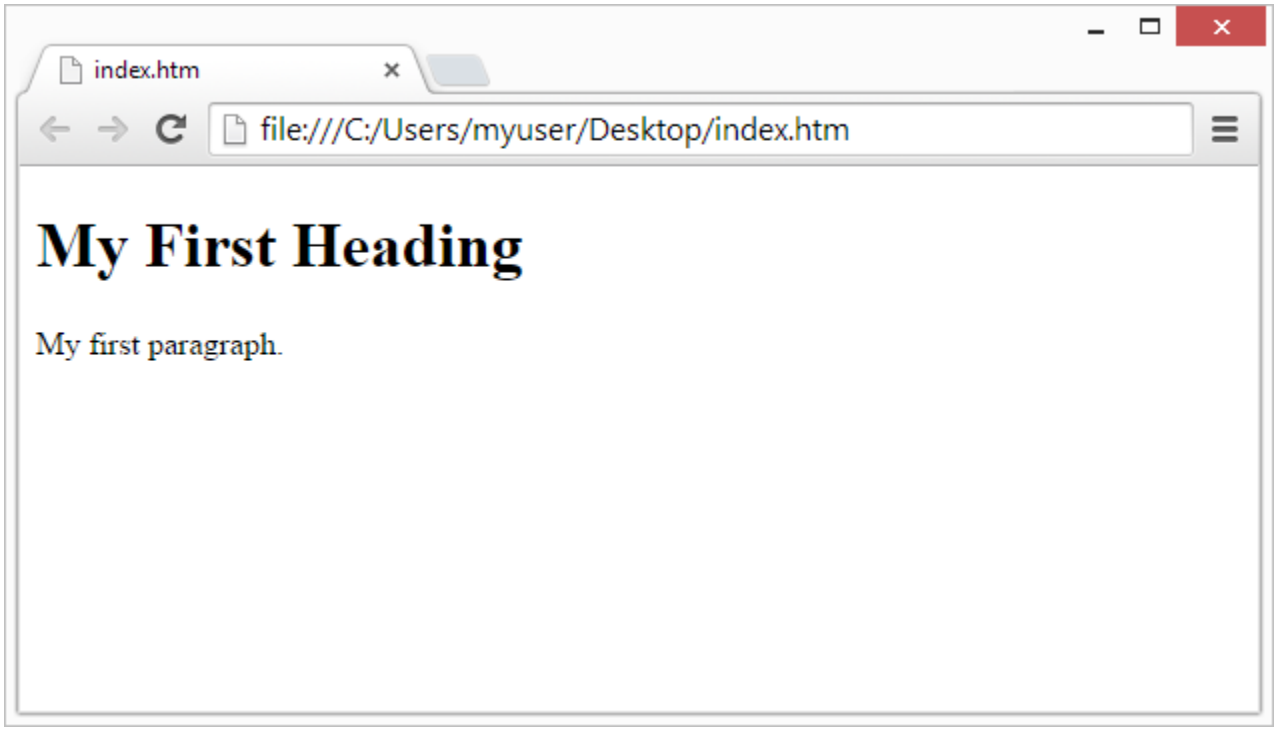
Example

```
<!DOCTYPE html>
<html>
<head>
<title></title>
</head>
<body>
<h2>Using a Full URL File Path</h2>
<img src="https://www.w3schools.com/images/picture.jpg" alt="Mountain" style="width:300px">
</body>
</html>
```

Web Browsers

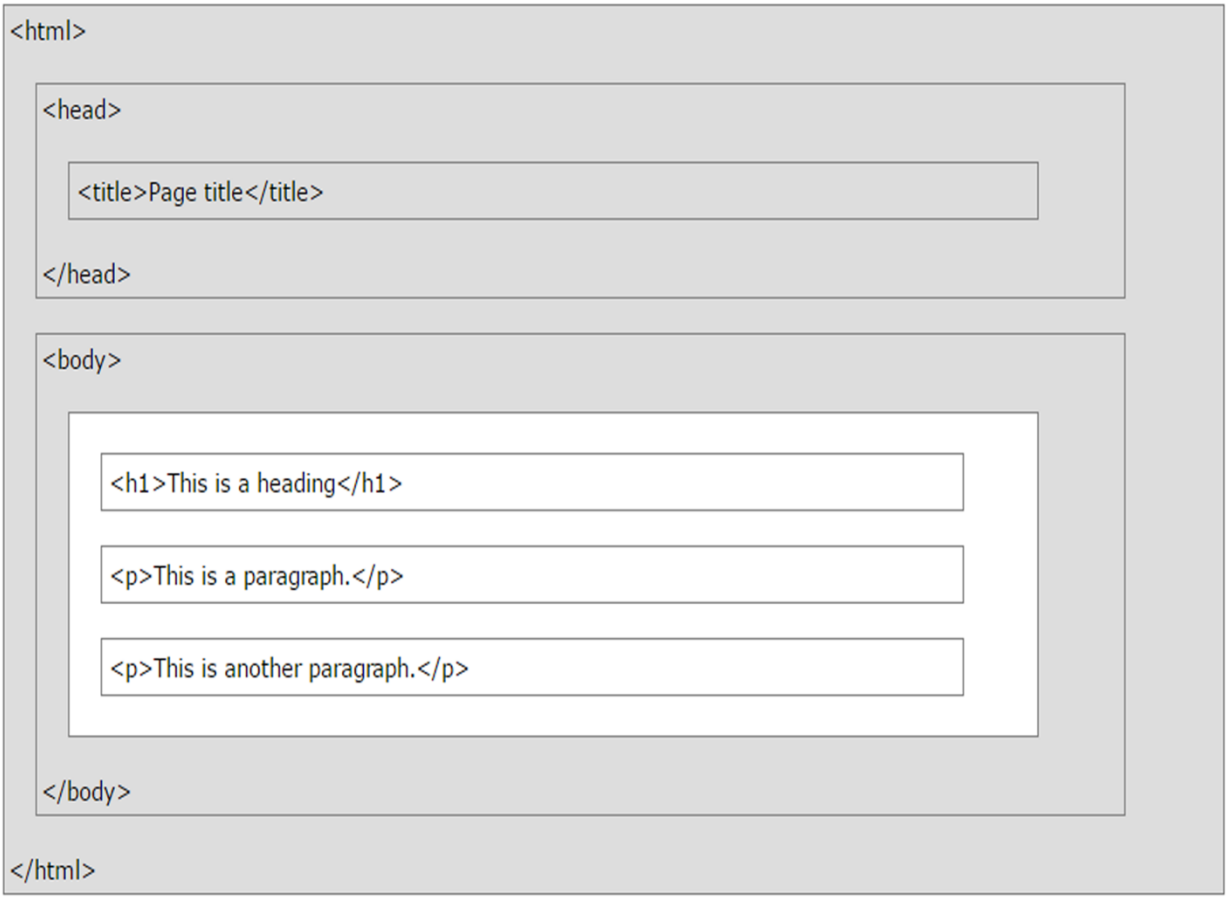
The purpose of a web browser (Chrome, IE, Firefox, and Safari) is to read HTML documents and display them.

The browser does not display the HTML tags, but uses them to determine how to display the document:



HTML Page Structure (web page design layout)

Below is a visualization of an HTML page structure:



Note: Only the content inside the <body> section (the white area above) is displayed in a browser.

The <! DOCTYPE> Declaration

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

It must only appear once, at the top of the page (before any HTML tags).

The <! DOCTYPE> declaration is not case sensitive.

The <! DOCTYPE> declaration for HTML is:

```
<!DOCTYPE html>
```

HTML Versions

Since the early days of the web, there have been many versions of HTML:

Year	Version
1991	HTML
1995	HTML 2.0
1997	HTML 3.2
1999	HTML 4.01
2000	XHTML
2014	HTML5

Chapter: 02

HTML Editors

Write HTML Using Notepad or TextEdit

Web pages can be created and modified by using professional HTML editors.

However, for learning HTML we recommend a simple text editor like Notepad (PC) or Text Edit (Mac).

We believe using a simple text editor is a good way to learn HTML.

Follow the four steps below to create your first web page with Notepad or Text Edit.

Step 1: Open Text Edit (Mac)

Open **Finder > Applications > TextEdit**

Also change some preferences to get the application to save files correctly. In **Preferences > Format >** choose **"Plain Text"**

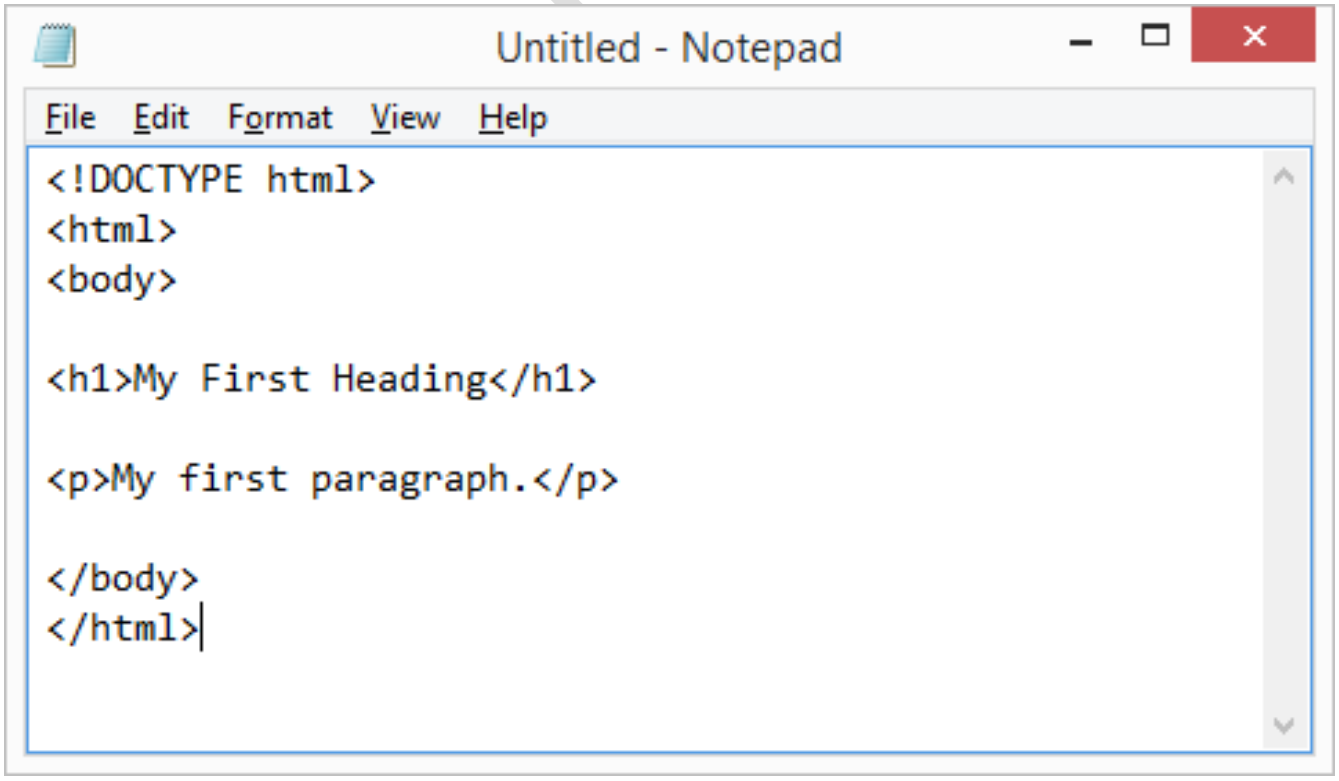
Then under "Open and Save", check the box that says "Ignore rich text commands in HTML files".

Then open a new document to place the code**.**

Step 2: Write Some HTML

Write or copy some HTML into Notepad.

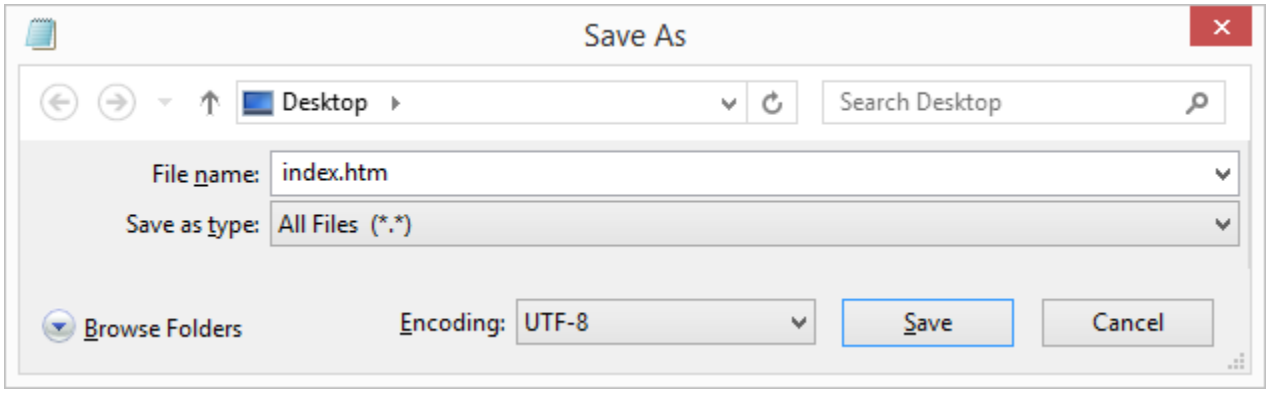
```
<! DOCTYPE html>
<html>
<body>

<h1>My First Heading.</h1>

<p>My first paragraph.</p>

</body>
</html>
```



Step 3: Save the HTML Page

Save the file on your computer. Select **File > Save as** in the Notepad menu.

Name the file **"index.htm"** and set the encoding to **UTF-8** (which is the preferred encoding for HTML files).

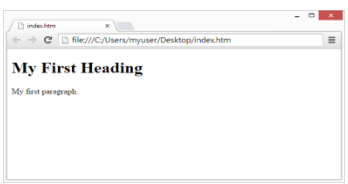


You can use either .htm or .html as file extension. There is no difference, it is up to you.

Step 4: View the HTML Page in Your Browser

Open the saved HTML file in your favorite browser (double clicks on the file, or right-click - and choose "Open with").

The result will look much like this:



Chapter: 03

HTML Basic

Examples:

Don't worry if these examples use tags you have not learned.

You will learn about them in the next chapters.

HTML Documents

All HTML documents must start with a document type declaration: **<!DOCTYPE html>**.

The HTML document itself begins with **<html>** and ends with **</html>**.

The visible part of the HTML document is between **<body>** and **</body>**.

Example

```
<!DOCTYPE html>
<html>
<body>
<h1>My First Heading</h1>
<p>My first paragraph.</p>
</body>
</html>
```

HTML Headings

HTML headings are defined with the **<h1>** to **<h6>** tags.

<h1> defines the most important heading. <h6> defines the least important heading:

Example

```
<!DOCTYPE html>
<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>
```

Note: **Browsers automatically add some white space (a margin) before and after a heading.**

Headings Are Important

Search engines use the headings to index the structure and content of your web pages.

Users skim your pages by its headings. It isIMPORTANT to use headings to show the document structure.

<h1> headings should be used for main headings, followed by <h2> headings, then the lessIMPORTANT <h3>, and so on.

Note: Use HTML headings for headings only. Don't use headings to make text **BIG** or **bold**.

HTML Horizontal Rules

Instead, the term "thematic break" is used to describe the meaning of the <hr> element: The hr element represents a paragraph-level thematic break, e.g. a scene change in a story, or a transition to another topic within a section of a reference book.

The <hr> tag defines a thematic break in an HTML page, and is most often displayed as a horizontal rule.
The <hr> element is used to separate content (or define a change) in an HTML page:

Example

```
<!DOCTYPE html>
<html>
<body>

<h1>This is heading 1</h1>
<p>This is some text.</p>
<hr>

<h2>This is heading 2</h2>
<p>This is some other text.</p>
<hr>

<h2>This is heading 2</h2>
<p>This is some other text.</p>

</body>
</html>
```

The HTML <head> Element

The HTML **<head>** element has nothing to do with HTML headings.
The <head> element is a container for metadata. HTML metadata is data about the HTML document.
Metadata is not displayed.
The <head> element is placed between the <html> tag and the <body> tag:

Example

```
<!DOCTYPE html>
<html>
<head>
<title>My First HTML</title>
<meta charset="UTF-8">
</head>
<body>

<p>The HTML head element contains meta data.</p>
<p>Meta data is data about the HTML document.</p>

</body>
</html>
```

Exercise: 1

Add a heading to the paragraph with the text "zahoor".

```
<!DOCTYPE html>
<html>
<body>

<p>Would you like to talk with me in englis.</p>

</bodyh
</html>
```

Exercise: 2

Add a horizontal rule between the heading and the paragraph.

```
<!DOCTYPE html>
<html>
<body>

<h1>London</h1>

<p>Zahoor Would you like to talk with me.</p>

</body>
</html>
```

Exercise:3

Add six headings to the document with the text "zahoor".

Start with the most IMPORTANT heading and end with the least important heading.

```
<!DOCTYPE html>
<html>
<body>


</body>
</html>
```

Zahoor Hussain

Exercise:4

Mark up the following text with appropriate tags:
"Universal Studios Presents" is the most IMPORTANT content.
"Jurassic Park" is the next most important content.
"About" is of lesser importance than Jurassic Park.
The last sentence is just a paragraph.

```
<!DOCTYPE html>
<html>
<body>

Universal Studios Presents

Jurassic Park

About

On the Island of Isla Nublar, a new park has been built: Jurassic Park is a theme park of cloned dinosaurs!!

</body>
</html>
```

HTML Paragraphs

HTML paragraphs are defined with the **<p>** tag:

Example

```
<!DOCTYPE html>
<html>
<body>

<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p>This is a paragraph.</p>

</body>
</html>
```

HTML Display

You cannot be sure how HTML will be displayed.

Large or small screens, and resized windows will create different results.

With HTML, you cannot change the output by adding extra spaces or extra lines in your HTML code.

The browser will remove any extra spaces and extra lines when the page is displayed:

```
<!DOCTYPE html>
<html>
<body>

<p>
This paragraph
contains a lot of lines
in the source code,
but the browser
ignores it.
</p>

<p>
This paragraph
contains      a lot of spaces
in the source     code,
but the    browser
ignores it.
</p>
```

```
<p>
The number of lines in a paragraph depends on the size of the browser window. If you resize the browser window, the number of lines in this paragraph will change.
</p>

</body>
</html>
```

Don't Forget the End Tag

Most browsers will display HTML correctly even if you forget the end tag:

```
<!DOCTYPE html>
<html>
<body>

<p>This is a paragraph.
<p>This is a paragraph.
<p>This is a paragraph.

<p>Don't forget to close your HTML tags!</p>

</body>
</html>
```

HTML Line Breaks

The HTML **
** element defines a **line break**.

Use
 if you want a line break (a new line) without starting a new paragraph:

```
<!DOCTYPE html>
<html>
<body>

<p>This is<br>a paragraph<br>with line breaks</p>

</body>
</html>
```

The Poem Problem

This poem will display on a single line:

```
<!DOCTYPE html>
<html>
<body>

<p>In HTML, spaces and new lines are ignored:</p>

<p>

 My Bonnie lies over the ocean.

 My Bonnie lies over the sea.

 My Bonnie lies over the ocean.

 Oh, bring back my Bonnie to me.

</p>

</body>
</html>
```

The HTML <pre> Element

The HTML <pre> element defines preformatted text.
The text inside a <pre> element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:

Example

```
<!DOCTYPE html>
<html>
<body>

<p>The pre tag preserves both spaces and line breaks:</p>

<pre>
  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.
</pre>

</body>
</html>
```

Exercise:1

Add a paragraph to this document with the text "zahoor Hussain!".

```
<!DOCTYPE html>
<html>
<body>

</body>
</html>
```

Solution

```
<!DOCTYPE html>
<html>
<body>

<p>Zahoor Hussain!</p>

</body>
</html>
```

Exercise:2

Clean up this document with proper end tags.

```
<!DOCTYPE html>
<html>
<body>

<h1>This is a Heading

<p>This is a paragraph.
<p>This is a paragraph.
<p>This is a paragraph.

</body>
</html>
```

Solution

```
<!DOCTYPE html>
<html>
<body>

<h1>This is a Heading</h1>
<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p>This is a paragraph.</p>

</body>
</html>
```

Exercise:3

Fix the display of the poem below. Display the poem over 4 lines using
 elements.

```
<!DOCTYPE html>
<html>
<body>

<p>
My Bonnie lies over the ocean.
My Bonnie lies over the sea.
My Bonnie lies over the ocean.
Oh, bring back my Bonnie to me.
</p>

</body>
</html>
```

Solution

```
<!DOCTYPE html>
<html>
<body>

<p>
My Bonnie lies over the ocean.<br>
My Bonnie lies over the sea.<br>
My Bonnie lies over the ocean.<br>
Oh, bring back my Bonnie to me.
</p>

</body>
</html>
```

Exercise:4

Fix the display of this poem. Display the poem as suggested in the code below using <pre>.

```
<!DOCTYPE html>
<html>
<body>

<p>

  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.

</p>

</body>
</html>
```

Solution

```
<!DOCTYPE html>
<html>
<body>

<pre>

  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.

</pre>

</body>
</html>
```

Ordered list

Definition and Usage

The <ol> tag defines an ordered list. An ordered list can be numerical or alphabetical.

Use the <li> tag to define list items.

Chapter Summary

- Use the **style** attribute for styling HTML elements
- Use **background-color** for background color
- Use **color** for text colors
- Use **font-family** for text fonts
- Use **font-size** for text sizes
- Use **text-align** for text alignment

HTML Styles

Font Size

```
<!Docktype html>
<html>
<body>

<h1 style="font-size:1000%;">Pakistan</h1>

</body>
</html>
```

Font Color

```
<!DOCTYPE html>
<html>
<body>

<p>I am normal</p>
<p style="color:red;">I am red</p>
<p style="color:blue;">I am blue</p>
<p style="font-size:36px;">I am big</p>

</body>
</html>
```

The HTML Style Attribute

Setting the style of an HTML element, can be done with the **style attribute**.

The HTML style attribute has the following **syntax**:

```
<tagname style="property:value;">
```

HTML Background Color

The **background-color** property defines the background color for an HTML element.

This example sets the background color for a page to powderblue:

```
<!DOCTYPE html>
<html>
<body style="background-color:powderblue;">

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

HTML Text Color

The **color** property defines the text color for an HTML element:

```
<!DOCTYPE html>
<html>
<body>

<h1 style="color:blue;">This is a heading</h1>
<p style="color:red;">This is a paragraph.</p>

</body>
</html>
```

HTML Fonts

The **font-family** property defines the font to be used for an HTML element:

```
<!DOCTYPE html>
<html>
<body>
```

```
<h1 style="font-family:verdana;">This is a heading</h1>
<p style="font-family:courier;">This is a paragraph.</p>

</body>
</html>
```

HTML Text Size

The **font-size** property defines the text size for an HTML element:

```
<!DOCTYPE html>
<html>
<body>

<h1 style="font-size:300%;">This is a heading</h1>
<p style="font-size:160%;">This is a paragraph.</p>

</body>
</html>
```

HTML Text Alignment

The **text-align** property defines the horizontal text alignment for an HTML element:

```
<!DOCTYPE html>
<html>
<body>

<h1 style="text-align:center;">Centered Heading</h1>
<p style="text-align:center;">Centered paragraph.</p>

</body>
</html>
```

Exercise: 1

Change the text color of the paragraph to "blue".

```
<!DOCTYPE html>
<html>
<body>
```

```
<p style="color:red">This is a paragraph.</p>

</body>
</html>
```

Solution

```
<!DOCTYPE html>
<html>
<body>Solution

<p style="color:blue">This is a paragraph.</p>

</body>
</html>
```

Exercise:

Change the font of the paragraph to "courier".

```
<!DOCTYPE html>
<html>
<body>

<p>This is a paragraph.</p>

</body>
</html>
```

Solution

```
<!DOCTYPE html>
<html>
<body>

<p style="font-family:courier">This is a paragraph.</p>

</body>
</html>
```

Exercise: 4

Change the text size of the paragraph to 50px.

Solution

```
<!DOCTYPE html>
<html>
<body>

<p style="font-size:50px">This is a paragraph.</p>

</body>
</html>
```

Exercise:

Change the background color of the page below to yellow.

```
<!DOCTYPE html>
<html>
<body>

<h1>This is a heading</h1>

<p>This is a paragraph.</p>

</body>
</html>
```

Solution

```
<!DOCTYPE html>
<html>
<body style="background-color:yellow">

<h1>This is a heading</h1>

<p>This is a paragraph.</p>

</body>
</html>
```

Exercise: 6

Center align all content on the page.

```
<!DOCTYPE html>
<html>
<body>

<h1>This is a heading</h1>

<h2>This is also a heading</h2>

<p>This is a paragraph.</p>

<p>This is also paragraph.</p>

</body>
</html>
```

Soloution

```
<!DOCTYPE html>
<html>
<body style="text-align:center">

<h1>This is a heading</h1>

<h2>This is also a heading</h2>

<p>This is a paragraph.</p>

<p>This is also paragraph.</p>

</body>
</html>
```

HTML <small> Element

The HTML **<small>** element defines smaller text:

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML <small>Small</small> Formatting</h2>

</body>
</html>
```

HTML <mark> Element

The HTML **<mark>** element defines marked or highlighted text:

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML <mark>Marked</mark> Formatting</h2>

</body>
```

</html>

HTML <del> Element

The HTML **<del>** element defines ~~deleted~~ (removed) text.

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML <small>Small</small> Formatting</h2>

</body>
</html>
```

HTML <ins> Element

The HTML **<ins>** element defines inserted (added) text.

```
<!DOCTYPE html>
<html>
<body>

<p>The ins element represent inserted (added) text.</p>

<p>My favorite <ins>color</ins> is red.</p>

</body>
</html>
```

HTML <sub> Element

The HTML **<sub>** element defines $_{\text{subscripted}}$ text.

```
<!DOCTYPE html>
```

```
<html>
<body>

<p>This is <sub>subscripted</sub> text.</p>

</body>
</html>
```

HTML <sup> Element

The HTML **<sup>** element defines superscripted text.

```
<!DOCTYPE html>
<html>
<body>

<p>This is <sup>superscripted</sup> text.</p>

</body>
</html>
```

Color Names

In HTML, a color can be specified by using a color name:

Example

Color	Name
	Red
	Orange

	Yellow
	Cyan
	Blue

```
<!DOCTYPE html>
<html>
<body>

<h2 style="background-color:red">
Background-color set by using red
</h2>

<h2 style="background-color:orange">
Background-color set by using orange
</h2>

<h2 style="background-color:yellow">
Background-color set by using yellow
</h2>

<h2 style="background-color:blue;color:white">
Background-color set by using blue
</h2>

<h2 style="background-color:cyan">
Background-color set by using cyan
</h2>

</body>
</html>
```

RGB Value

In HTML, a color can also be specified as an RGB value, using this formula: rgb(red, green, blue)
Each parameter (red, green, and blue) defines the intensity of the color between 0 and 255.
For example, rgb(255,0,0) is displayed as red, because red is set to its highest value (255) and the others are set to 0.
To display the color black, all color parameters must be set to 0, like this: rgb(0,0,0).
To display the color white, all color parameters must be set to 255, like this: rgb(255,255,255).

```
<!DOCTYPE html>
<html>
<body>

<h2 style="background-color:rgb(255,0,0)">
Background-color set by using rgb(255,0,0)
</h2>

<h2 style="background-color:rgb(0,255,0)">
Background-color set by using rgb(0,255,0)
</h2>

<h2 style="background-color:rgb(0,0,255)">
Background-color set by using rgb(0,0,255)
</h2>

<h2 style="background-color:rgb(255,255,0)">
Background-color set by using rgb(255,255,0)
</h2>

<h2 style="background-color:rgb(255,0,255)">
Background-color set by using rgb(255,0,255)
</h2>

<h2 style="background-color:rgb(0,255,255)">
Background-color set by using rgb(0,255,255)
</h2>

</body>
</html>
```

HEX Value

In HTML, a color can also be specified using a hexadecimal value in the form: #RRGGBB, where RR (red), GG (green) and BB (blue) are hexadecimal values between 00 and FF (same as decimal 0-255).

For example, #FF0000 is displayed as red, because red is set to its highest value (FF) and the others are set to the lowest value (00).

Example

Color	HEX

	#FF0000
	#FFFF00
	#00FF00
	#00FFFF
	#0000FF

```
<!DOCTYPE html>
<html>
<body>

<h2 style="background-color:#FF0000">
Background-color set by using #FF0000
</h2>

<h2 style="background-color:#00FF00">
Background-color set by using #00FF00
</h2>

<h2 style="background-color:#0000FF">
Background-color set by using #0000FF
</h2>

<h2 style="background-color:#FFFF00">
Background-color set by using #FFFF00
</h2>
```

```
<h2 style="background-color:#FF00FF">
Background-color set by using #FF00FF
</h2>

<h2 style="background-color:#00FFFF">
Background-color set by using #00FFFF
</h2>

</body>
</html>
```

HTML Link Colors

By default, a link will appear like this (in all browsers):

- An unvisited link is underlined and blue
- A visited link is underlined and purple
- An active link is underlined and red

You can change the default colors, by using styles:

```
<!DOCTYPE html>
<html>
<head>
<style>
a:link {
   color: green;
   background-color: transparent;
   text-decoration: none;
```

```
}
a:hover {
    color: red;
    background-color: transparent;
    text-decoration: underline;
}
</style>
</head>
<body>

<p>You can change the default colors of links</p>

<a href="html_images.asp" target="_blank">HTML Images</a>

</body>
</html>
```

Defining an HTML Table

An HTML table is defined with the **<table>** tag.
Each table row is defined with the **<tr>** tag. A table header is defined with the **<th>** tag. By default, table headings are bold and centered. A table data/cell is defined with the **<td>** tag.

```
<!DOCTYPE html>
<html>
<body>

<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
            <th>Male/F.Male</th>
    <th>Age</th>
  </tr>
```

```
  <tr>
    <td>Zahoor</td>
    <td>Hussain</td>
          <td>M</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Abid </td>
    <td>Ali</td>
          <td>M</td>
    <td>34</td>
  </tr>
  <tr>
    <td>Asad.</td>
    <td>Azam</td>
          <td>M</td>
    <td>22</td>
  </tr>
</table>

</body>
</html>
```

Note: The <td> elements are the data containers of the table.
They can contain all sorts of HTML elements; text, images, lists, other tables, etc.

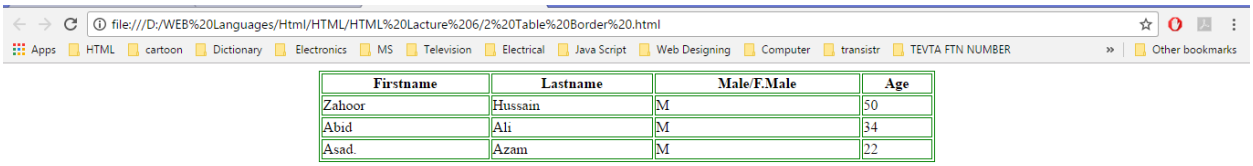
HTML Table - Adding a Border

If you do not specify a border for the table, it will be displayed without borders.
A border is set using the CSS **border** property:

```
<!DOCTYPE html>
<html>

<Style>table, th, td {border: .5px solid green;}
</style>

<body>
<center>
<table style="width:50%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
          <th>Male/F.Male</th>
    <th>Age</th>
  </tr>
```

```
  <tr>
    <td>Zahoor</td>    <td>Hussain</td>
        <td>M</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Abid </td>
    <td>Ali</td>
        <td>M</td>
    <td>34</td>
  </tr>
  <tr>
    <td>Asad.</td>
    <td>Azam</td>
        <td>M</td>
    <td>22</td>
  </tr>
</table>
</center>

</body>
</html>
```

Remember to define borders for both the table and the table cells.



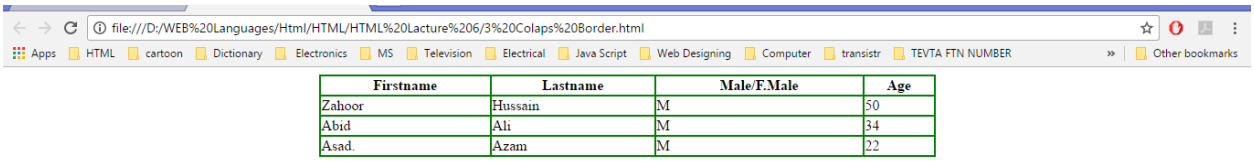
Firstname	Lastname	Male/F.Male	Age
Zahoor	Hussain	M	50
Abid	Ali	M	34
Asad.	Azam	M	22

HTML Table - Collapsed Borders

If you want the borders to collapse into one border, add the CSS **border-collapse** property:

```
<!DOCTYPE html>
<html>

<Style>table, th, td {border: .5px solid green;}
</style>

<body>
<center>
<table style="width:50%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
        <th>Male/F.Male</th>
    <th>Age</th>
```

```
  </tr>
  <tr>
    <td>Zahoor</td>    <td>Hussain</td>
          <td>M</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Abid </td>
    <td>Ali</td>
          <td>M</td>
    <td>34</td>
  </tr>
  <tr>
    <td>Asad.</td>
    <td>Azam</td>
          <td>M</td>
    <td>22</td>
  </tr>
</table>
</center>

</body>
</html>
```



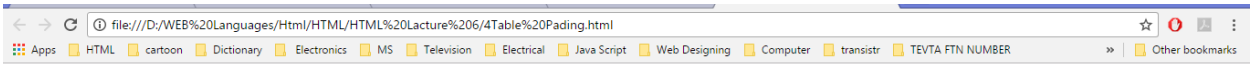
Firstname	Lastname	Male/F.Male	Age
Zahoor	Hussain	M	50
Abid	Ali	M	34
Asad.	Azam	M	22

HTML Table - Adding Cell Padding

Cell padding specifies the space between the cell content and its borders.
If you do not specify a padding, the table cells will be displayed without padding.
To set the padding, use the CSS **padding** property:

```
<!DOCTYPE html>
<html>

<Style>table, th, td {border: 2px solid green; border-collapse: collapse;}
th, td {padding: 20px;}
</style>

<body>
<center>
<table style="width:50%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
          <th>Male/F.Male</th>
```

```
   <th>Age</th>
  </tr>
  <tr>
   <td>Zahoor</td>    <td>Hussain</td>
        <td>M</td>
   <td>50</td>
  </tr>
  <tr>
   <td>Abid </td>
   <td>Ali</td>
        <td>M</td>
   <td>34</td>
  </tr>
  <tr>
   <td>Asad.</td>
   <td>Azam</td>
        <td>M</td>
   <td>22</td>
  </tr>
</table>
</center>

</body>
</html>
```



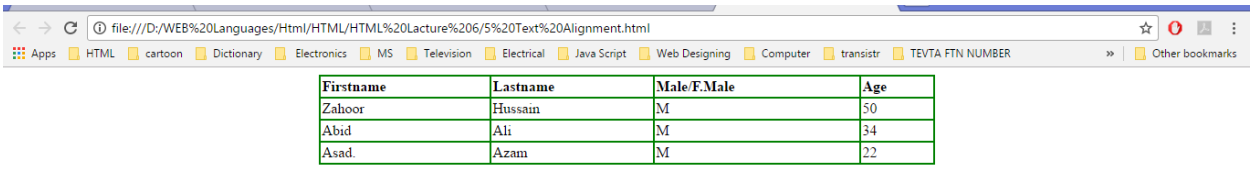
Firstname	Lastname	Male/F.Male	Age
Zahoor	Hussain	M	50
Abid	Ali	M	34
Asad.	Azam	M	22

HTML Table - Left-align Headings

By default, table headings are bold and centered.
To left-align the table headings, use the CSS **text-align** property:

```
<!DOCTYPE html>
<html>

<Style>table, th, td {border: 2px solid green; border-collapse: collapse;}
th, td {padding: 2px;}
th {text-align: left;}
</style>

<body>
<center>
<table style="width:50%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
```

```
            <th>Male/F.Male</th>
  <th>Age</th>
 </tr>
 <tr>
  <td>Zahoor</td>    <td>Hussain</td>
            <td>M</td>
  <td>50</td>
 </tr>
 <tr>
  <td>Abid </td>
  <td>Ali</td>
            <td>M</td>
  <td>34</td>
 </tr>
 <tr>
  <td>Asad.</td>
  <td>Azam</td>
            <td>M</td>
  <td>22</td>
 </tr>
</table>
</center>
```



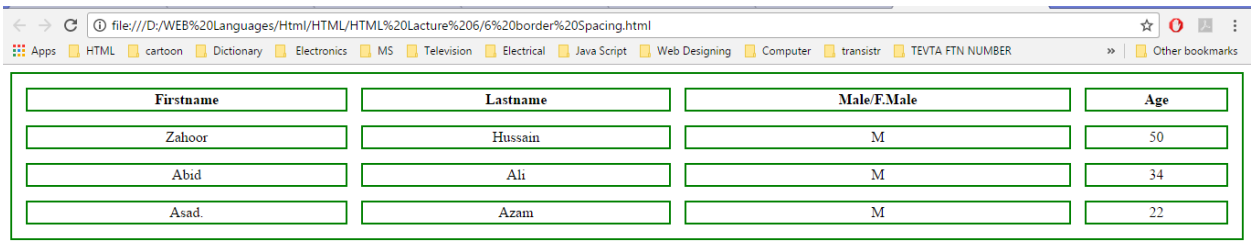
Firstname	Lastname	Male/F.Male	Age
Zahoor	Hussain	M	50
Abid	Ali	M	34
Asad.	Azam	M	22

HTML Table - Adding Border Spacing

Border spacing specifies the space between the cells.
To set the border spacing for a table, use the CSS **border-spacing** property:

```
<!DOCTYPE html>
<html>

<Style>table, th, td {border: 2px solid green;}
th, td {padding: 2px;}
th,td {text-align: center;}
table {border-spacing: 15px;}
</style>

<body>
<center>
<table style="width:100%">
  <tr>
```

```
  <th>Firstname</th>
  <th>Lastname</th>
        <th>Male/F.Male</th>
  <th>Age</th>
 </tr>
 <tr>
  <td>Zahoor</td>   <td>Hussain</td>
        <td>M</td>
  <td>50</td>
 </tr>
 <tr>
  <td>Abid </td>
  <td>Ali</td>
        <td>M</td>
  <td>34</td>
 </tr>
 <tr>
  <td>Asad.</td>
  <td>Azam</td>
        <td>M</td>
  <td>22</td>
 </tr>
</table>
</center>

</body>
</html>
```



HTML Block and Inline Elements

Every HTML element has a default display value depending on what type of element it is. The default display value for most elements is block or inline.

Block-level Elements

A block-level element always starts on a new line and takes up the full width available (stretches out to the left and right as far as it can).
The element is a block-level element.
Examples of block-level elements:

- <h1> - <h6>
-
- <p>
- <form>

Inline Elements

An inline element does not start on a new line and only takes up as much width as necessary.

This is an inline element inside a paragraph.

Examples of inline elements:

-
- <a>
- <img>

The Element

The element is often used as a container for other HTML elements.
The element has no required attributes, but both **style** and **class** are common.
When used together with CSS, the element can be used to style blocks of content:
(The tag defines a division or a section in an HTML document. The tag is used to group block-elements to format them with **CSS**.)

```
<!DOCTYPE html>
<html>
<body>

<div style="background-color:black;color:white;padding:20px;">
  <h2>Pakistan</h2>
  <p>Islamabad is the capital city of Pakistan. It is the most populous city in the Pakistan, with a metropolitan area of over 2 million inhabitants.</p>
  <p>Standing on the Rocks Thames, Islamabad has been a major settlement for two mille.</p>
</div>

</body>
</html>
```

The Element

The element is often used as a container for some text.
The element has no required attributes, but both **style** and **class** are common.
When used together with CSS, the element can be used to style parts of the text:

```
<!DOCTYPE html>
<html>
<body>

<h1>My <span style="color:red">(Important)Name is  </span> Zahoor</h1>

</body>
</html>
```

HTML File Paths

HTML File Paths

A file path describes the location of a file in a web site's folder structure.

File paths are used when linking to external files like:

- Web pages
- Images
- Style sheets
- JavaScript's

Absolute File Paths

An absolute file path is the full URL to an internet file:

```
<!DOCTYPE html>
<html>
<body>

<h2>Using a File Path</h2>
<img src="images/picture.jpg" alt="Mountain" style="width:500px">

</body>
</html>
```

HTML Forms

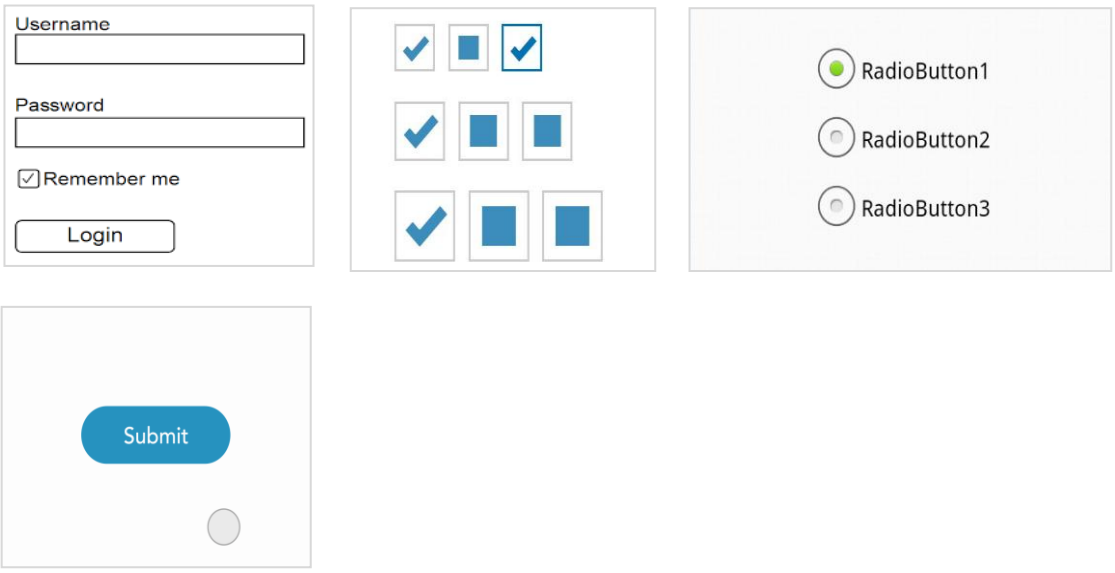
The <form> Element

The HTML **<form>** element defines a form that is used to collect user input:

```
<form>
form elements.
</form>
```

An HTML form contains **form elements**.

Form elements are different types of input elements, like text fields, checkboxes , radio buttons, submit buttons, and more.



The <input> Element

The <input> element is the most important form element.
The <input> element can be displayed in several ways, depending on the type attribute.

Examples

Type	Description
<input type="text">	Defines a one-line text input field
<input type="radio">	Defines a radio button (for selecting one of many choices)
<input type="submit">	Defines a submit button (for submitting the form)

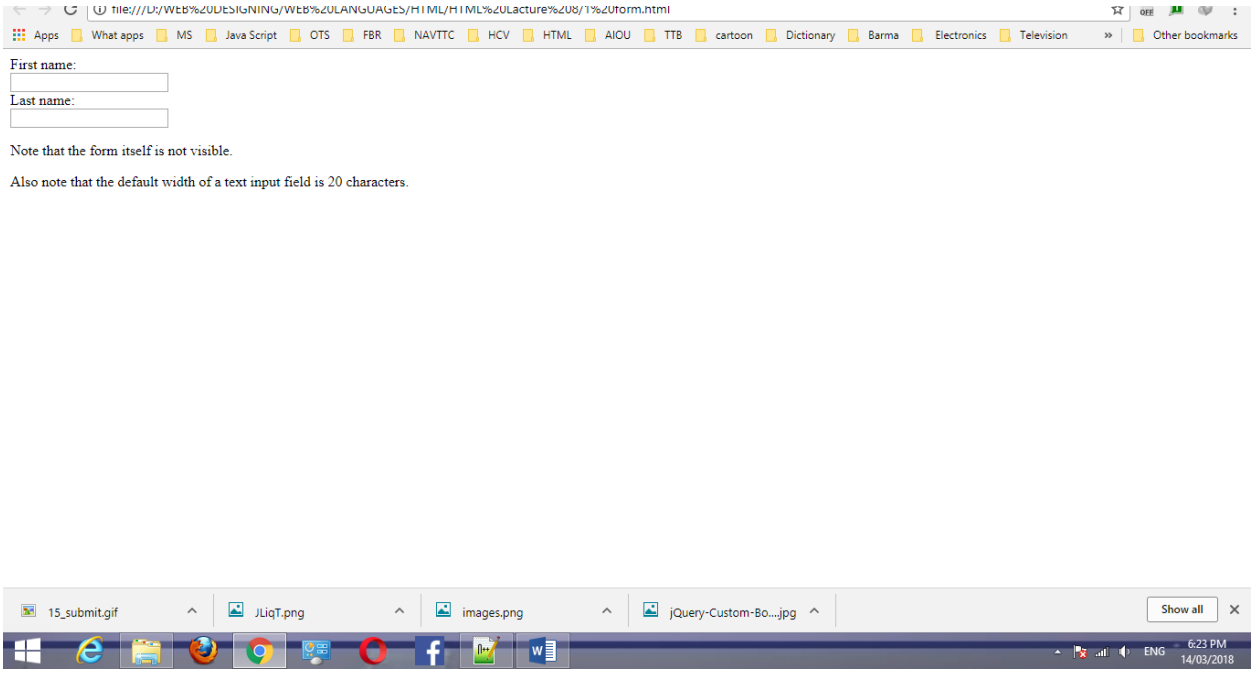
Text Input

<input type="text"> defines a one-line input field for **text input**:

```
<!DOCTYPE html>
<html>
<body>

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

<p>Note that the form itself is not visible.</p>

<p>Also note that the default width of a text input field is 20 characters.</p>

</body>
</html>
```

Note: The form itself is not visible. Also note that the default width of a text field is 20 characters.

OUT PUT



Radio Button Input

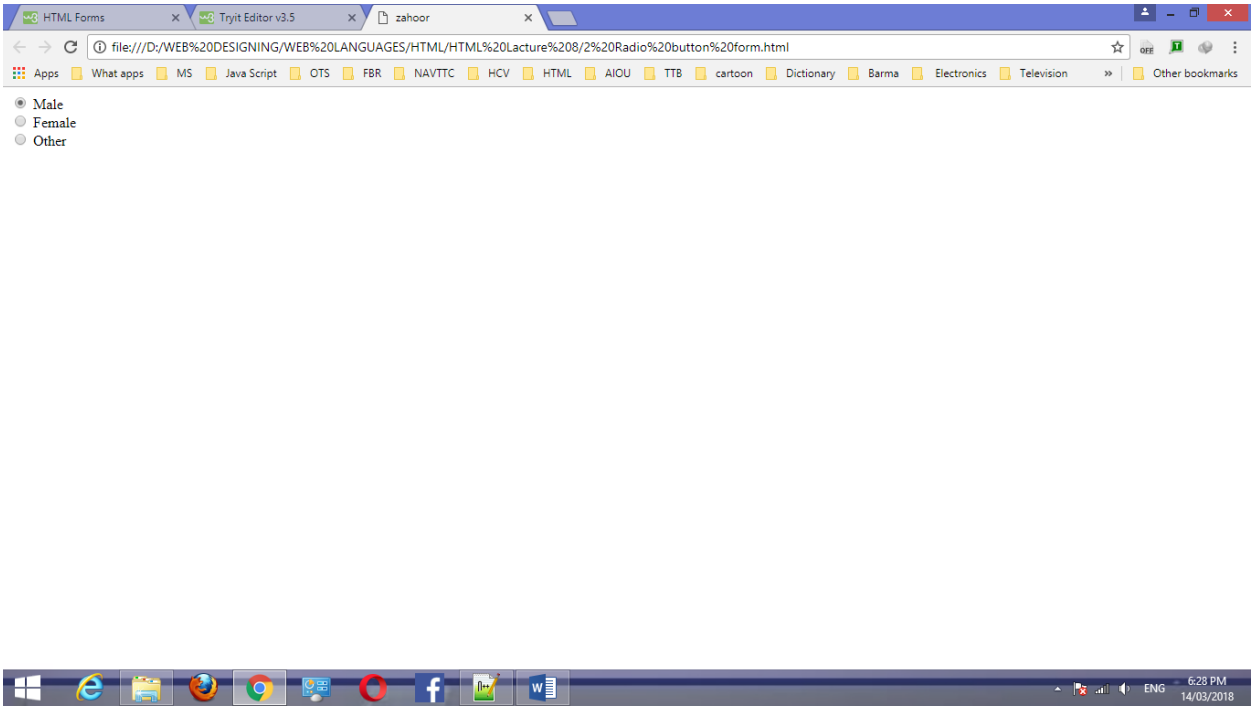
<input type="radio"> defines a **radio button**.

Radio buttons let a user select ONE of a limited number of choices:

Example

```
<!DOCTYPE html>
<html>
<body>

<form>
  <input type="radio" name="gender" value="male" checked> Male<br>
  <input type="radio" name="gender" value="female"> Female<br>
  <input type="radio" name="gender" value="other"> Other
</form>

</body>
</html>
```

OUT PUT



The Submit Button

<input type="submit"> defines a button for **submitting** the form data to a **form-handler**.
The form-handler is typically a server page with a script for processing input data.
The form-handler is specified in the form's **action** attribute:

Example

```
<!DOCTYPE html>
<html>
<body>

<form action="/action_page.php">
 First name:<br>
  <input type="text" name="firstname" value="Mickey">
  <br>
 Last name:<br>
  <input type="text" name="lastname" value="Mouse">
  <br><br>
  <input type="submit" value="Submit">
</form>

<p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p>

</body>
</html>
```

The Action Attribute

The **action** attribute defines the action to be performed when the form is submitted.

Normally, the form data is sent to a web page on the server when the user clicks on the submit button.

In the example above, the form data is sent to a page on the server called "/action_page.php". This page contains a server-side script that handles the form data:

```
<form action="/action_page.php">
```

If the action attribute is omitted, the action is set to the current page.

The Target Attribute

The **target** attribute specifies if the submitted result will open in a new browser tab, a frame, or in the current window.

The default value is "**_self**" which means the form will be submitted in the current window.

To make the form result open in a new browser tab, use the value "**_blank**":

```
<!DOCTYPE html>
<html>
<body>

<p>When submitting this form, the result will be opened in a new browser tab:</p>

<form action="/action_page.php" target="_blank">
  First name:<br>
  <input type="text" name="firstname" value="zahoor">
  <br>
  Last name:<br>
  <input type="text" name="lastname" value="hussain">
  <br><br>
  <input type="submit" value="Submit">
</form>

</body>
</html>
```

Other legal values are "**_parent**", "**_top**", or a name representing the name of an iframe.

The Method Attribute

The **method** attribute specifies the HTTP method (**GET** or **POST**) to be used when submitting the form data:

```
<!DOCTYPE html>
<html>
<body>

<p>This form will be submitted using the GET method:</p>

<form action="/action_page.php" target="_blank" method="GET">
 First name:<br>
  <input type="text" name="firstname" value="zahoor">
  <br>
 Last name:<br>
  <input type="text" name="lastname" value="hussain">
  <br><br>
  <input type="submit" value="Submit">
</form>

<p>After you submit, notice that the form values is visible in the address bar of the new browser tab.</p>

</body>
</html>
```

Post Method

```
<!DOCTYPE html>
<html>
<body>

<p>This form will be submitted using the POST method:</p>

<form action="/action_page.php" target="_blank" method="POST">
 First name:<br>
  <input type="text" name="firstname" value="Mickey">
  <br>
 Last name:<br>
  <input type="text" name="lastname" value="Mouse">
  <br><br>
  <input type="submit" value="Submit">
</form>

<p>After you submit, notice that, unlike the GET method, the form values is NOT visible in the address bar of the new browser tab.</p>

</body>
</html>
```

<!DOCTYPE html>

<html>

Zahoor Hussain

```
<body>

<form action="/action_page.php">
  First name:<br>
  <input type="text" name="firstname" value="Mickey">
  <br>

  Last name:<br>
  <input type="text" name="lastname" value="Mouse">
  <br><br>
  <input type="submit" value="Submit">
</form>

<p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p>

</body>
</html>
```

HTML <select> Tag

The <select> element is used to create a drop-down list.
The <option> tags inside the <select> element define the available options in the list.

```
<!dock type html>
<html>
<head>
<title>Zahoor Select Attributes</title>
</head>
<body>
<select>
 <option value=""></option>                    <!-- Drop down select List -->
  <option value="Pakistan">Pakistan</option>
  <option value="India">India</option>
  <option value="China">China</option>
  <option value="Iran">Iran</option>
</select>
</body>
</html>
```