



Web Programming How to Tips and Tricks

By IT Funda Corporation (<http://www.ITFundaCorporation.com>)

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Web Programming Introduction

Introduction of browsers and familiarization of different browsers

As per Wikipedia, a web browser or Internet browser is a software application for retrieving, presenting, and traversing information resources on the World Wide Web (The World Wide Web, abbreviated as WWW and commonly known as the Web, is a system of interlinked hypertext documents accessed via the Internet).

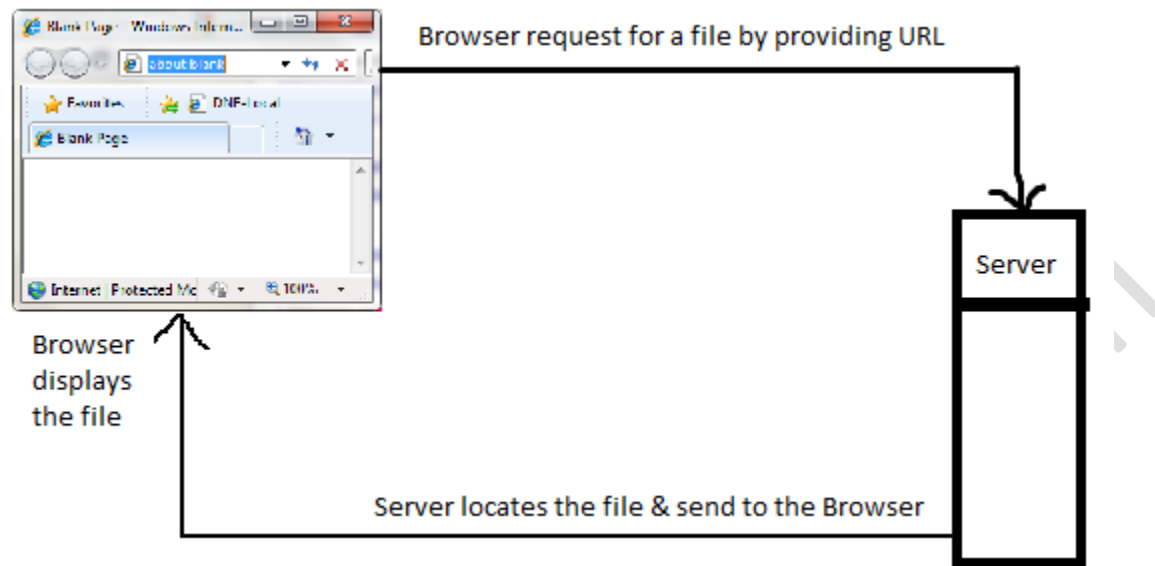
An information resource is identified by a Uniform Resource Locator (URL) and may be a web page, image, video, or other piece of content. Hyperlinks present in resources enable users to easily navigate their browsers to related resources.

Although browsers are primarily intended to access the World Wide Web, they can also be used to access information provided by Web servers in **private networks** or **files in file systems**. Some browsers can also be used to save information resources to file systems.

Mostly well-known browsers are

- Microsoft IE (Internet Explorer)
- Mozilla Firefox
- Google Chrome
- Opera
- Safari
- Netscape Navigator

How web browser works?



Picture 1 - Overview of how browser works



Step 1 : Browser breaks the url <http://www.itfunda.com/default.aspx> to

1. http (protocol)
2. itfunda.com (server name)
3. default.aspx (file name)

Step 2 : Browser communicates to the Name server to get the IP

Step 3 : Browser establishes a connection to the server at port 80 of that IP

Step 4 : Browser use HTTP protocol and send the GET request

Step 5 : The server processes request & sends the HTML content to the browser

Step 6 : The browser reads the HTML content and render the page

Picture 2 - Steps of communication between browser and the server

What is a server?

A server is a computer that serves the request of its client.

There are many types of server based on what they serve, below are list of few server types

- Web Server
- Mail server
- Database server
- Application server

A **web server** is a computer connected to the network that hosts the website or web application and serves the html pages to its client through HTTP protocol.

In order to process the request from client, a server needs a software program and that software program differs from technology to technology, being used by the server

Some of the very famous server programs are

- Internet Information Services (IIS) - primarily used for Microsoft .NET Technologies
- Apache HTTP server - primarily used for Java and other technologies

How a web server works?

1. Receive the page name to process from client/browser
2. Based on what is written in the page, the page is processed
 - a. If it is a static page, web server reads the page content from the hard disk and send the response to the client
 - b. If it is a dynamic page, process the page based on the instructions (code) written. This instruction can contain
 - i. Connect to a database or database server and get the content
 - ii. Perform business
 - iii. Connect to another server and receive data
 - iv. Process all the data
3. The page content is sent back to the client/browser

Brief about HTTP Protocol

As per W3.org, The Hypertext Transfer Protocol (HTTP) is an application-level protocol for distributed, collaborative, hypermedia information systems. It is a generic, stateless protocol which can be used for many tasks beyond its use for hypertext, such as name servers and distributed object management systems, through extension of its request methods, error codes and headers.

Hypertext is text displayed on a computer or other electronic device with references (hyperlinks) to other text that the reader can immediately access, usually by a mouse click or keypress sequence.

This protocol is mainly used to communicate information for web and it involves several steps comprising requests, connections, methods, status codes, responses etc.

Http request structure

1. Request Line

- GET /path/file.html HTTP/1.0
2. Headers
Host: itfunda.com
Date: Fri, 23 June 2010 10:45:34 GMT
FROM: email or from address
Accept: text/html
User-agent: Mozilla
Etc.
 3. <Empty line>
 4. Message body

```
GET /path/file.html HTTP/1.0
Host: itfunda.com
Date: Fri, 23 June 2008 10:45:34 GMT
FROM: email or from address
Accept: text/html
User-agent: Mozilla
```

```
<html>
```

```
...
```

```
</html>
```

Http response structure

1. Status line
HTTP/1.0 200 OK
2. Headers
Date: Fri, 23 June 2008 10:45:34 GMT
Content-Type: text/html
Content-Length: 2345
3. <Empty line >
4. Message body

```
HTTP/1.0 200 OK
Date: Fri, 23 June 2010 10:45:34 GMT
Content-Type: text/html
Content-Length: 2345
```

```
<html>
```

```
...
```

```
</html>
```

HTML

Introduction of HTML

HTML is a language to form the structure of the web page. HTML allows us to

1. Publish online document with paragraphs, tables, list, pictures etc.
2. Retrieve documents via hyperlink and button
3. Design forms to communicate with web server
4. Play song, video and other stuffs in the document.

Elements of HTML

(Note: Please copy-paste each code snippets of following demo inside `<body></body>` HTML tag and open the page in browser to see the output. If code snippet already has `<body></body>` element, ignore this.)

1. A - How to display hyperlink?

Hyperlink (also called link) is generally a text that appears as active text, hovering mouse changes mouse icon to hand and clicking this text executes an event. By default this text color is blue with underline style.

CODE

```
<a href="http://www.dotnetfunda.com" title="DotNetFunda.com">DotNetFunda.com</a>
```

Above code shall display DotNetFunda.com text as hyperlink. Title attribute is used to display the tooltip for the hyperlink that appears when user mouse over the hyperlink.

OUTPUT



Notice the hyperlink in the above output image.

Demo url: <http://localhost:20324/HTML/a.htm>

2. B - How to display text in BOLD style?

Used to show a text in bold style.

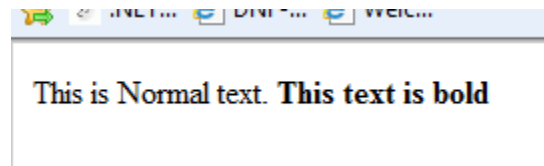
CODE

This is Normal text.

```
<b>This text is bold</b>
```

In the above code snippet, 2nd line displays the text in bold style.

OUTPUT



Notice the 2nd statement in the bold style.

Demo url: <http://localhost:20324/HTML/b.htm>

3. Body - How and where to write content in the HTML file?

The html file content should be written in between <body> and </body> tags. The content of the body tag can be plain text or any other html controls or element.

CODE

```
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <title></title>
</head>
<body>
  This is Normal text.
</body>
</html>
```

Above code shall display "This is Normal text." in the browser.

4. Br - How to create a line break in html page?

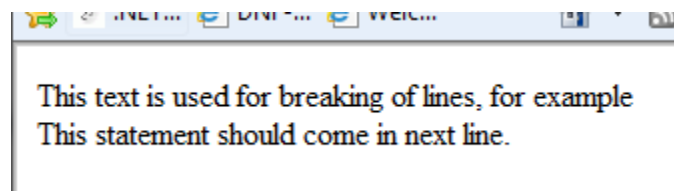
Writing the plain text with line break in html page doesn't give output with line break in the browser. To explicitly create a line break, we can follow this approach.

CODE

This text is used for breaking of lines, for example
This statement should come in next line.

In the above code snippet, despite both sentences are written into the same line, the output shall display 2nd sentence in the next line.

OUTPUT



Notice the 2nd statement is coming in the next line.

Demo url: <http://localhost:20324/HTML/Br.htm>

5. Code - How to display computer code in html page?

To display computer code, we can follow this approach.

CODE

This is normal text. This is normal text. This is normal text. This is normal text. This is normal text. This is normal text. This is normal text. This is normal text. This is normal text. This is normal text.

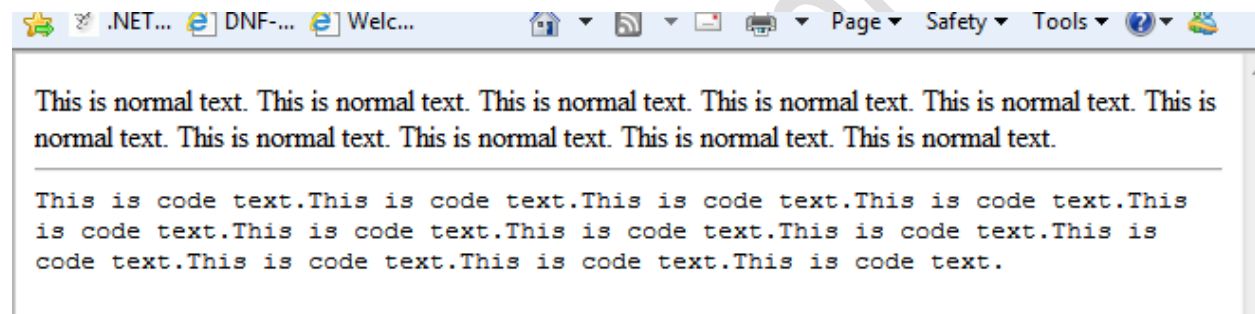
```
<hr />
```

```
<code>
```

This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text. This is code text.

```
</code>
```

OUTPUT



Notice the 2nd paragraph is coming in different font style.

Demo url: <http://localhost:20324/HTML/Code.htm>

6. Div - How to display division (section) in the html content?

Division is a separate section in the html page.

CODE

This is normal text.

```
<div style="color:red">
```


```
<h3>This is a header inside div</h3>
```

```
<p>This is a paragraph inside div.</p>
```

```
</div>
```

In the above code snippet, h3 and p element is wrapped inside div tag that is a division from the rest of the content of the page.

OUTPUT



This is normal text.

This is a header inside div

This is a paragraph inside div.

The style applied in the div gets applied to all text inside the div.

Demo url: <http://localhost:20324/HTML/Div.htm>

7. Font - How to format text in color, size and font style in HTML?

To change the font name, colour and size we can follow his approach.

CODE

```
<font size="5" face="arial" color="red">This text font size is 5 and color is red.</font>
```

In the above code snippet, we have set the size, face and color attribute of the font tag that change the font size, font style and color of the text.

OUTPUT



This text font size is 5 and color is red.

Notice that the text is appearing in Arial, red and 5 font size 5.

Demo url: <http://localhost:20324/HTML/Font.htm>

8. Form - How to display HTML form to submit data to other page?

It is a container for the forms element like textbox, dropdown etc. that is used to take input from the user.

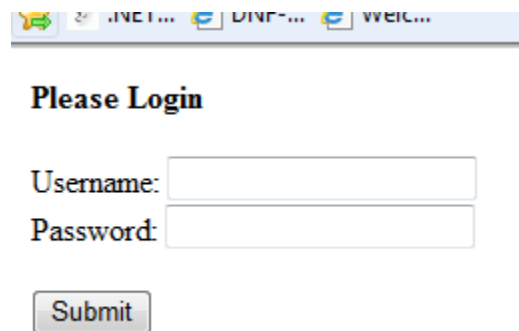
CODE

```
<form action="Font.htm" method="post">
<h4>
  Please Login</h4>
  Username:
  <input type="text" name="user" /><br />
  Password:
  <input type="password" name="password" />
<p>
```

```
<input type="button" name="btn" value="Submit" /></p>
</form>
```

In the above code snippet, you can see that two textboxes (username and Password) and a button are kept inside form element. This enables the user to enter his/her Username and Password to the website. When the Submit button is clicked the form elements details is submitted to *Font.htm* page that is set as *action* attribute. Method attribute is used to set the method of form submission. When it is *get*, the form data is submitted by suffixing the form data in the url as query string and when it is *post*, the form data is submitted as response stream.

OUTPUT



Similarly, other form html elements like Select, RadioButton, CheckBox etc. also can be kept.

Demo url: <http://localhost:20324/HTML/Form.htm>

9. Input - How to display Checkbox, FileUpload control, Image button, password textbox, radiobutton, reset button, submit button, multi-line textbox and button on the html page?

Used to place different form elements to take different types and ways of input from the user.

CODE

```
<form action="Br.htm">
  Checkbox: <input type="checkbox" id="chkBox1" name="chkBox1" /><br />
  FileUpload control <input type="file" id="file1" name="file" /><br />
  Hidden field <input type="hidden" id="hidden1" name="hidden1" /><br />
  Image button <input type="image" id="image1" name="image1" src="images/button1.gif" /><br />
  Password textbox <input type="password" id="password1" name="password1" /><br />
  RadioButton - <input type="radio" id="radio1" name="radio1" value="1"/> Value 1 <input type="radio"
id="radio2" name="radio1" value="2" /> Value 2 <input type="radio" id="radio3" name="radio1" value="3" />
Value 3<br />
  Reset button <input type="reset" id="reset1" name="reset1" value="Reset" /><br />
  Submit button <input type="submit" id="submit1" name="submit1" value="Submit" /><br />
  Textbox <input type="text" id="txtName" name="txtName" /><br />
  Textarea <textarea id="textarea1" name="textarea1" rows="5" cols="30"></textarea><br />
  Button <input type="button" id="button1" name="button1" value="Button" /><br />
</form>
```

1. *Checkbox* is used to get value in the form of Yes/No from the user
2. *FileUpload* is used to give option to the user to upload file to the server
3. *Hidden field* is used to store some pre-defined hidden value that is not displayed to the user
4. *Image button* is used to convert an image to the button that can submit data to the server
5. *Password textbox* is used to display a textbox to the user, when user type some text a mask character appears in the textbox so that others can't guess what user is typing.
6. *RadioButton* is used to provide options to the user to select any one of them
7. *Reset button* is used to reset the values of all form elements to the default
8. *Submit button* is used to submit the form data to the server
9. *TextBobox* is used to take textual input from the user
10. *Textarea* is used to take textual input of large length from the user
11. *Button* is used to display a button to the user

OUTPUT

A screenshot of a web form demonstrating various HTML input controls. The controls are arranged vertically and labeled on the left:

- Checkbox:** A small square checkbox.
- FileUpload control:** A text input field followed by a "Browse..." button.
- Hidden field:** Not visible in the screenshot.
- Image button:** A green button with the text "Order Now".
- Password textbox:** A text input field with a masked password (represented by dots).
- RadioButton:** Three radio buttons labeled "Value 1", "Value 2", and "Value 3". The first one is selected.
- Reset button:** A button labeled "Reset".
- Submit button:** A button labeled "Submit".
- Textbox:** A single-line text input field.
- Textarea:** A multi-line text area with a vertical scrollbar.
- Button:** A button labeled "Button".

Demo url: <http://localhost:20324/HTML/Input.htm>

10. How to limit the number of characters allowed in the textbox?

In case we want to limit the number of characters allowed in the textbox, we can follow this approach.

CODE

Five characters allowed: `<input type="text" maxlength="5" name="txtAddress" id="txtAddress" />`

By setting the *maxlength* property to certain digit we can limit the number of characters allowed for a

textbox.

OUTPUT

Five characters allowed:

Demo url: <http://localhost:20324/HTML/Input.htm>

11. IFrame - How to display a sub window in the html page?

In case we want to display a sub-window (another page content inside the page), we can follow this approach.

IFrame.htm (main page)

```
<body>
  <p>This text is in the main page.</p>
  <iframe src="frame1.htm" width="200" height="100" frameborder="0"></iframe>
  <p>This text is in the main page.</p>
</body>
```

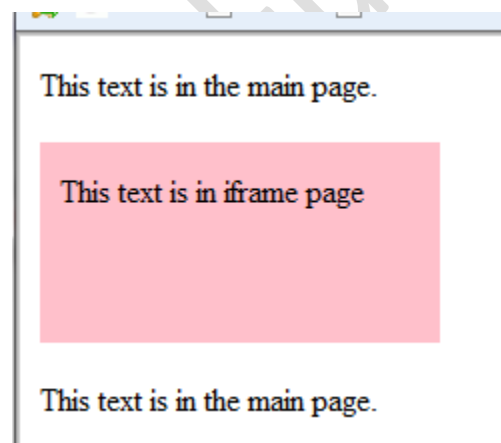
Width and Height properties of the iframe is used to specify the width and height of the sub window. Src property is used to specify the html page that should be displayed in the sub window.

frame1.htm

```
<body style="background-color: pink">
  <p>This text is in iframe page</p>
</body>
```

In the below output window, notice that apart from the text being displayed that is written on the main page, a sub window is also being displayed in which *frame1.htm* page content is being shown.

OUTPUT



Demo url : <http://localhost:20324/HTML/IFrame.htm>

12. H1 to H6- How to display headings in html page?

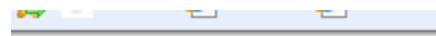
To display the heading of type h1 to h6, we can follow this approach.

CODE

```
<h1>This line is h1</h1>  
<h2>This line is h2</h2>  
<h3>This line is h3</h3>  
<h4>This line is h4</h4>  
<h5>This line is h5</h5>  
<h6>This line is h6</h6>
```

To auto format the text into heading, H1 to H6 tags can be used.

OUTPUT



This line is h1

This line is h2

This line is h3

This line is h4

This line is h5

This line is h6

Demo url: <http://localhost:20324/HTML/H1toH6.htm>

13. Head - How & where to write title, meta, link and script tags in html page?

To specify the meta, title, link and script tag we can use head tag. Elements that can be placed inside head are

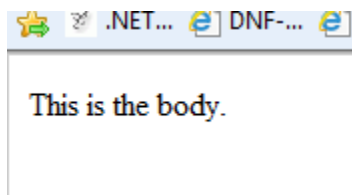
- Title - to display the title of the page
- Meta - to write meta tags for the page (mostly used by the browser or search engines)
- Link - to link the external files like .css
- Script - to include the script like JavaScript code

CODE

```
<html xmlns="http://www.w3.org/1999/xhtml">  
<head>
```

```
<title>This is the title</title>
<meta name="Keywords" content="html, css" />
<meta name="Description" content="This is the description of the page" />
</head>
<body>
  This is the body.
</body>
</html>
```

OUTPUT



Demo url: <http://localhost:20324/HTML/Head.htm>

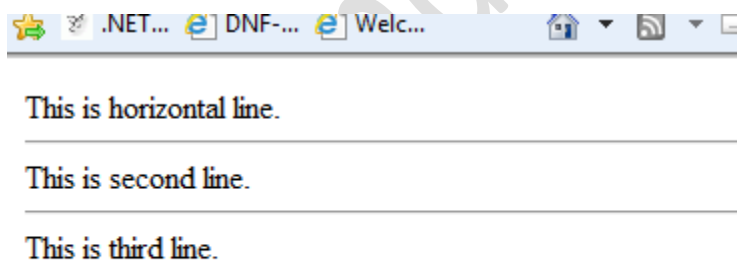
14. Hr - How to display horizontal line in html page?

To display horizontal line in the web page, we can follow this approach.

CODE

```
This is horizontal line.
<hr />
This is second line.
<hr />
This is third line.
<hr />
```

OUTPUT



Demo url: <http://localhost:20324/HTML/Hr.htm>

15. HTML - What is the use of html tag in html page?

HTML element is used to start writing the HTML page. Every valid html document must starts with this tag.

CODE

```
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <title></title>
</head>
<body>

</body>
</html>
```

Demo url: <http://localhost:20324/HTML/HTMLPage.htm>

16. *Img - How to display image or picture in html page?*

To display image in html page, this approach can be followed.

CODE

```

```

OUTPUT

Demo url: <http://localhost:20324/HTML/Img.htm>

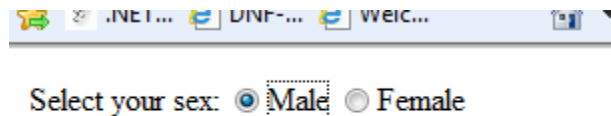
17. *Label - how to display a label or associate a control with a label in html page?*

To associate a label with a form element, we can follow this approach.

CODE

```
<form>
Select your sex:
<input type="radio" name="sex" id="male" value="M" checked="checked" /><label for="male">Male</label>
<input type="radio" name="sex" id="female" value="F" /><label for="female">Female</label>
</form>
```

In the above code snippet, first label is associated with the first male radio button and second label is associated with the second radio button. Clicking on the first label selects the first radio button and clicking on second label selects second radio button.

OUTPUT

Demo url: <http://localhost:20324/HTML/Label.htm>

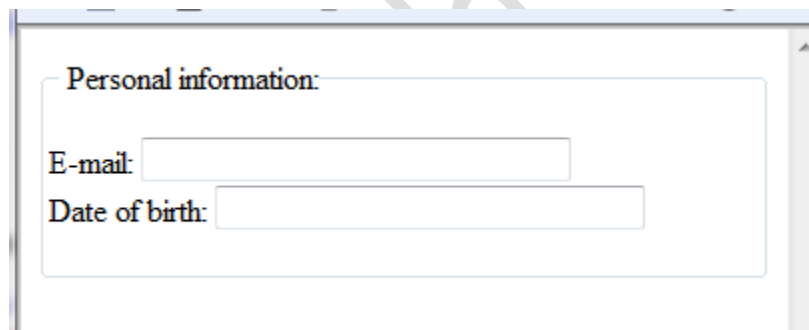
18. FieldSet - Legend - How to group or create a block of html controls in html page?

To group or create a block of html contents we can follow this approach.

CODE

```
<form action="a.htm" method="post">
<fieldset>
  <legend>Personal information:</legend>
  <p>
    E-mail: <input name="txtEmail" type="text" size="30" /><br />
    Date of birth: <input name="txtDOB" type="text" size="30" /><br /><br />
  </p>
</fieldset>
</form>
```

The combination of *fieldset* and *legend* is used to display a block of information on the page. Fieldset shows the block and legend provides heading for the block.

OUTPUT

Demo url: <http://localhost:20324/HTML/FieldSet-Legend.htm>

19. OL/UL - LI - How to display ordered and un-ordered list in html page?

To display ordered and un-ordered list in html page, we can follow this approach.

CODE

```
<h4>Numbered list:</h4>
<ol>
  <li>Apples</li>
  <li>Bananas</li>
```

```
<li>Lemons</li>
<li>Oranges</li>
</ol>
<h4>Bullets list:</h4>
<ul>
  <li>Apples</li>
  <li>Bananas</li>
  <li>Lemons</li>
  <li>Oranges</li>
</ul>
```

The combination of ol-li is used to display the ordered list and ul-li is used to display un-ordered list. In both cases *li* is used to display items of the list.

OUTPUT

Numbered list:

1. Apples
2. Bananas
3. Lemons
4. Oranges

Bullets list:

- Apples
- Bananas
- Lemons
- Oranges

Demo url: <http://localhost:20324/HTML/OL-UL-LI.htm>

20. Link - How to reference external css file in html page?

To refer external .css (cascading stylesheet file) in html page, we can follow this approach.

CODE

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <title>This is title of the page</title>
  <link href="styles.css" type="text/css" rel="Stylesheet" />
</head>
<body>
  <h1>I am formatted with a linked style sheet</h1>
  <p> Me too!</p>
```

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

In the above code snippet, we have placed link tag that reference the external css style sheet file.

STYLES.CSS

```
body {background-color:Yellow;}  
h1 {color:Green;}  
p {color:Red;}  

```

Because of this .css style for body, h1 and p tag, the output of the page looks like below image.

OUTPUT



Demo url: <http://localhost:20324/HTML/Link.htm>

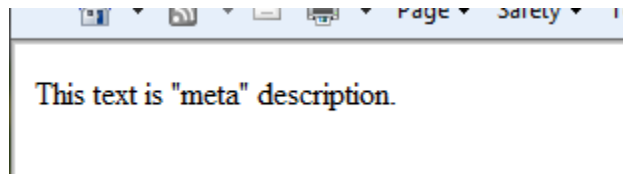
21. Meta - How & why to write meta tags in html page?

To write keywords, description, authors and other information related with the webpage that are mostly used by the search engines or browsers, we can follow this approach.

CODE

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">  
<html xmlns="http://www.w3.org/1999/xhtml">  
<head>  
  <title>This is title</title>  
  <meta name="description" content="This is the sample web programming page." />  
  <meta name="keywords" content="HTML, CSS, XML, JavaScript, jQuery" />  
  <meta name="author" content="itfunda.com" />  
</head>  
<body>  
  This text is "meta" tag demonstration.  
</body>  
</html>
```

In the above code snippet, we have description, keywords, and author meta tags that tells the description, keyword and author of the page. These meta tags are generally used for search engines as well as browsers.

OUTPUT

Demo url: <http://localhost:20324/HTML/Meta.htm>

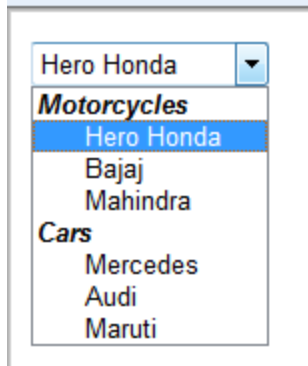
22. P - How to display a paragraph in html page?

To write a paragraph in the webpage we can follow this approach.

CODE

```
<p>
This is 1st paragraph. This is 1st paragraph. This is 1st paragraph. This is 1st
paragraph. This is 1st paragraph. This is 1st paragraph. This is 1st paragraph.
This is 1st paragraph. This is 1st paragraph. This is 1st paragraph. This is 1st
paragraph. This is 1st paragraph. This is 1st paragraph.
</p>
<p>
This is 2nd paragraph. This is 2nd paragraph. This is 2nd paragraph. This is 2nd
paragraph. This is 2nd paragraph. This is 2nd paragraph. This is 2nd paragraph.
This is 2nd paragraph. This is 2nd paragraph.
</p>
<p>
This is 3rd paragraph. This is 3rd paragraph. This is 3rd paragraph. This is 3rd
paragraph. This is 3rd paragraph. This is 3rd paragraph. This is 3rd paragraph.
This is 3rd paragraph. This is 3rd paragraph.
</p>
```

OUTPUT



Demo url: <http://localhost:20324/HTML/Select-OptGroup-Option.htm>

24. How to display a list box in html page?

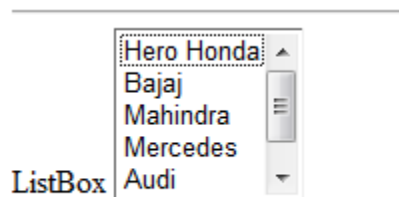
In case we want to display a listbox that can show multiple items and allow single selection, we can follow this approach.

CODE

```
ListBox
<select name="selectVehicle1" id="selectVehicle1" size="5">
  <option value="1">Hero Honda</option>
  <option value="2">Bajaj</option>
  <option value="3">Mahindra</option>
  <option value="4">Mercedes</option>
  <option value="5">Audi</option>
  <option value="6">Maruti</option>
</select>
```

ListBox is similar to dropdown except that it can show multiple items to the user. The above code snippet will show a ListBox with 5 items, the rest items (if any) come after scrolling.

OUTPUT



Demo url: <http://localhost:20324/HTML/Select-OptGroup-Option.htm>

25. How to display a list box and enable user to select multiple items from the listbox?

In case we want to display a listbox that can show multiple items and allow multiple selection, we can follow this approach.

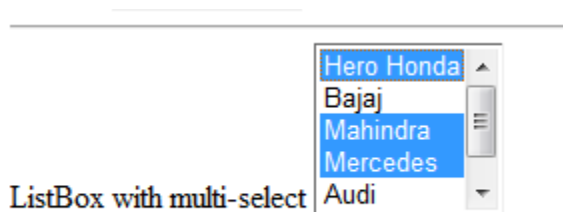
CODE

ListBox with multi-select

```
<select name="selectVehicle1" id="select1" size="5" multiple="multiple">
  <option value="1">Hero Honda</option>
  <option value="2">Bajaj</option>
  <option value="3">Mahindra</option>
  <option value="4">Mercedes</option>
  <option value="5">Audi</option>
  <option value="6">Maruti</option>
</select>
```

Setting *multiple* property to “multiple” allows user to select multiple items from the ListBox. Multiple items can be selected by pressing the control key or by dragging the mouse over ListBox?

OUTPUT



Demo url: <http://localhost:20324/HTML/Select-OptGroup-Option.htm>

26. Pre - How to display pre-formatted content in html page?

In case we want to display pre-formatted text in the web page, we can follow this approach.

CODE

```
<pre>
Text in a pre element
maintains its width and line breaks
</pre>

<p>The pre element is often used to display computer code:</p>

<pre>    for (int i = 0; i < 10; i++)
    {
        Response.Write(i.ToString());
    }
</pre>
```

In the above code snippet, the text inside pre tag maintains its width, alignment, and spaces. On the

page the font style also changes.

OUTPUT

Text in a pre element
maintains its width and line breaks

The pre element is often used to display computer code:

```
for (int i = 0; i < 10; i++)  
{  
    Response.Write(i.ToString());  
}
```

Demo url: <http://localhost:20324/HTML/Pre.htm>

27. Script - How to write client side scripting language code in html page?

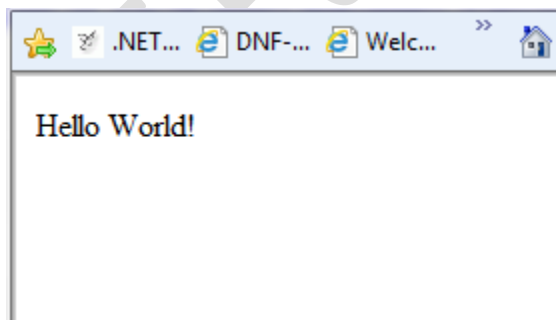
In case we want to write client side scripting language code (eg. JavaScript code) in the html page, we can follow this approach.

CODE

```
<script type="text/javascript">  
    document.write("Hello World!")  
    function ClickMe() {  
        alert("Clicked !");  
    }  
</script>
```

In the above code we have *document.write* method that is used to write text on the web page. We have also declared a *ClickMe* function, when called it gives an alert to the user.

OUTPUT



Demo url: <http://localhost:20324/HTML/Script.htm>

28. Span- How to write inline text with style in html page?

In case we want to write inline text in the html page, we can follow this approach. Wrapping text inside `` doesn't break the line and gives us flexibility to apply the CSS style.

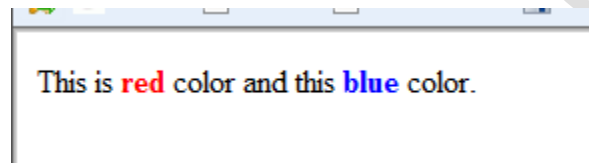
CODE

```
<style type="text/css">
  span.red
  {
    color: red;
    font-weight: bold;
  }
  span.blue
  {
    color: blue;
    font-weight: bold;
  }
</style>
```

This is `red` color and this `blue` color.

In the above code snippet, we have written a sentence with span tag. For first span we have specified "red" class and second we have specified "blue" class that changes the color of *red* and *blue* word respectively.

OUTPUT



Demo url: <http://localhost:20324/HTML/Span.htm>

29. Style - How to specify CSS style information for an element or write CSS style class in the html page?

In case we want to write CSS class in the web page, we can follow this approach.

CODE

```
<style type="text/css">
  h1
  {
    color: red;
  }
  p
  {
    color: blue;
  }
</style>
```

```
</style>
```

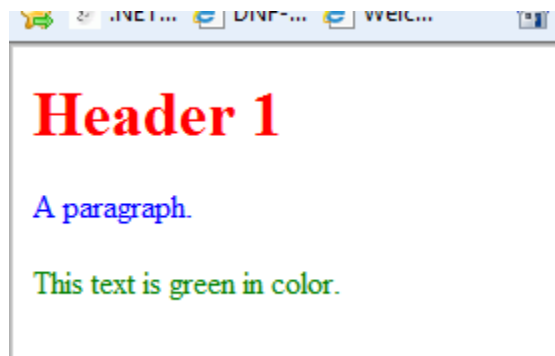
```
<h1>Header 1</h1>
```

```
<p>A paragraph.</p>
```

```
<div style="color:Green;">This text is green in color.</div>
```

In the above code snippet, we have declared two CSS classes for *h1* and *p* html tag respectively. We have also specified *style* attribute of the *div* that brings the text wrapped in the *div* in green color.

OUTPUT



30. Sub - How to write subscript text in html page?

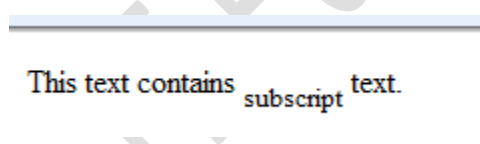
In case we want to write subscript text in the html page, we can follow this approach.

CODE

```
<p>This text contains <sub>subscript</sub> text.</p>
```

In the above code snippet, we have wrapped “subscript” word in *sub* tag that brings this word in subscript style.

OUTPUT



Demo url: <http://localhost:20324/HTML/Sub.htm>

31. Sup- How to write superscript text in html page?

In case we want to write superscript text in the html page, we can follow this approach.

CODE

<p>This text contains ^{superscript} text.</p>

In the above code snippet, we have wrapped “superscript” word in *sup* tag that brings this word in superscript style.

OUTPUT

This text contains ^{superscript} text.

Demo url: <http://localhost:20324/HTML/Sub.htm>

32. Table, Tr, Th, Td - How to write data in tabular format in html page?

In case we want to write tabular format data in html page, we can follow this approach.

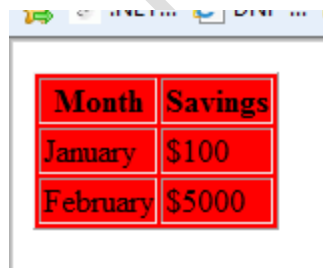
CODE

```
<table border="1" style="background-color: red;">
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
  <tr>
    <td>February</td>
    <td>$5000</td>
  </tr>
</table>
```

In the above code snippet, we have following elements

- table - parent element to start creating tabular structure
- tr - to create row
- th - to create column heading
- td - to create a column

OUTPUT



Month	Savings
January	\$100
February	\$5000

Demo url: <http://localhost:20324/HTML/Table.htm>

33. TextArea

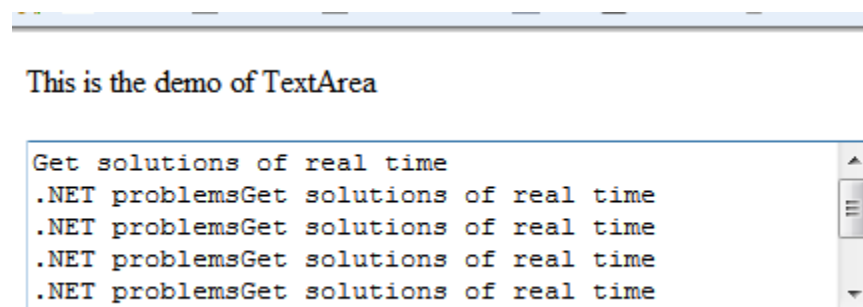
In case we want to display a multiline textbox in the html page, we can follow this approach.

CODE

```
<p>This is the demo of TextArea</p>  
<textarea rows="5" cols="50"></textarea>
```

In the above code snippet, *rows* of the textarea is used to set the number of lines (height) of the multiline textbox and *cols* is used to set the number of column (width) of the multiline textbox.

OUTPUT



Demo url: <http://localhost:20324/HTML/TextArea.htm>

34. Title

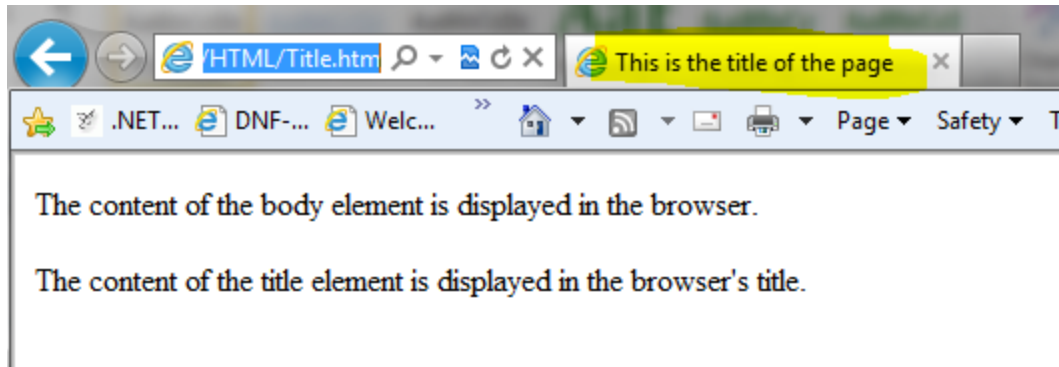
In case we want to write Title for the html page, we can follow this approach.

CODE

```
<head>  
  <title>This is the title of the page</title>  
</head>
```

Title tag can only be used inside *head* tag and is used to set the title of the web page.

OUTPUT



Demo url: <http://localhost:20324/HTML/Title.htm>

CSS

Introduction of CSS

CSS (Cascading Style Sheet) is a style sheet language that allows us to attach styles (e.g., fonts, spacing, and colors etc.) to structured documents (e.g., HTML documents and XML applications). By separating the presentation style of documents from the content of documents, CSS simplifies Web authoring and site maintenance.

How CSS works in HTML?

CSS works on the HTML element of the page when the element has completely loaded in the browser.

How CSS are applied in the web page?

A CSS Style can be applied on the page in 3 ways. A single CSS style must end with ";" (semi-colon) character. The property and its value should be written separated by ":" (colon).

1. By specifying Inline CSS Style using *style* attribute.

```
<input type="text" name="txtBox1" id="txtBox1" style="border:1px solid green;" />
```

2. By writing style blocks in the content page. Remember that css style properties are written inside open and close curly braces.

```
<head>
  <title>Title</title>
  <style type="text/css">
    p
    {
      border:1px solid Red;
    }
  </style>
</head>
```

3. By creating a separate CSS file and linking it to the content page using *link* HTML tag.

```
<head>
  <title>Title</title>
  <link href="../../Styles/Site.css" type="text/css" rel="Stylesheet" />
</head>
```

CSS has mainly two parts

1. Selectors - used to select an element to apply style
2. Styles - the style that need to be applied on the elements

CSS style can be applied in many ways to the elements using Selectors

Selectors are a way to select specific type of element from the HTML page.

1. Using the Tag name - How to apply CSS style to a specific type of element in the HTML page?

By writing the element name as CSS class name implements style for all elements of that type on the page.

```
p
{
  background: Red;
  font-size: 20px;
  color: Green;
}
```

Demo url: <http://localhost:2862/CSS/CssTagName.htm>

2. Using the Class attribute of the element -How to apply CSS style using the class attribute of the HTML element?

By declaring the CSS class name prefixed with “.” and setting the class attribute of the html element we can apply CSS style using the class name.

CSS

```
.class1
{
  width: 960px;
  background-color: Green;
}
```

HTML

```
<div class="class1">Your content here</div>
```

To filter more where a particular element should be affected, you can write something like

```
div.class1
{
  width: 360px;
  background-color: Green;
```



```
}
```

Above code will only affect a div with class as “class1”, if there will be another div with another class or without class, those will not get affected.

Demo url: <http://localhost:2862/CSS/Classattribute.htm>

3. *Using the ID attribute of the element - How to write CSS class for an element having a specific ID?*

By declaring the CSS class name as the HTML element id value prefixed with “#”, we can write CSS class for element having a specific ID.

CSS

```
#myId
{
    background-color:Green;
}
```

HTML

```
<div id="myId">Your content here</div>
```

Demo url: <http://localhost:2862/CSS/IDattribute.htm>

4. *How to apply same CSS style for more than one selector?*

To apply same CSS style for more than one selector, we can write the selector separated by “,” at the time of declaration.

```
p, .class1, #p1
{
    border:5px solid silver;
}
```

Demo url: <http://localhost:2862/CSS/sameformore.htm>

Here, above style will be applied to all paragraphs, element having class attribute as “class1” and element having id as “p1”.

What if a single element has been applied with more than one way of CSS style? - An inline CSS style (using style attribute of the element) will override style defined in head tag or external CSS file.

Frequently used CSS properties

For Background

5. *How to change the background color of the element?*
6. *How to set the background image of the element?*
7. *How to set the background image position to center?*

8. How to repeat the background picture horizontally?

9. How to repeat the background picture vertically?

To change the background of the HTML element, background properties are used.

```
background-color: Green;  
background-image:url("image.gif");  
background-position:center;  
background-repeat:repeat-x;  
background-repeat:repeat-y;
```

In the above code snippet,

- I. 1st line will change the background color
- II. 2nd line will set the background image
- III. 3rd line will position the background image in center
- IV. 4th line will repeat the background image horizontally
- V. 5th line will repeat the background image vertically

Demo url: <http://localhost:2862/CSS/ForBackground.htm>

TODO: Look at some other values of above properties and see the differences

For Text

10. How to change the text color?

11. How to center align the text?

12. How to remove all formatting of the text?

13. How to transform the text?

14. How to add the text indent ?

To change the text style, text properties are used.

```
color:Blue;  
text-align:center;  
text-decoration:none;  
text-transform:capitalize;  
text-indent:50px;
```

In the above code snippet,

- I. 1st line will change the text color to blue
- II. 2nd line will align the text in center
- III. 3rd line will remove all decoration styles from the text
- IV. 4th line will capitalize the texts from the element
- V. 5th line will indent the first line of the paragraph

Demo url: <http://localhost:2862/CSS/ForText.htm>

TODO: Look at some other values of above properties and see the differences

For font

- 15. How to change the font of the text?
- 16. How to change the size of the font?
- 17. How to format the text in italic style?
- 18. How to format the text in bold style?

To change the font style, font properties can be used.

```
font-family:Arial, "Times New Roman", Verdana;  
font-size:50px;  
font-style:italic;  
font-weight:bold;
```

In the above code snippet

- i. 1st line will change the font to Arial, if not available "Times New Roman" else Verdana
- ii. 2nd line will change the font size to 50px
- iii. 3rd line will change the font style to *italic*
- iv. 4th line will change the font style to bold

Demo url: <http://localhost:2862/CSS/Forfont.htm>

TODO: Look at some other values of above properties and see the differences

For Links

- 19. How to change the link color of the page?
- 20. How to change the visited link color of the page?
- 21. How to change the link color when it is mouse hovered?
- 22. How to change the active link color?

To change the links appearance on the page, anchor related properties can be used

```
a:link {color:Blue;}  
a:visited {color:Maroon;}  
a:hover {color:Red;}  
a:active {color:Pink;}
```

In the above code snippet

- i. 1st line will change the link color
- ii. 2nd line will change the visited page link color
- iii. 3rd line will change the link color when hovering mouse on it
- iv. 4th line will change the active link color

Demo url: <http://localhost:2862/CSS/ForLinks.htm>

TODO: Look at some other values of above properties and see the differences

For List

23. How to change the un-ordered list bullet style?

24. How to bring a custom image as bullet in the un-ordered list?

To change the list appearance, list related properties are used

```
list-style-type:circle;  
list-style-image:url('bullet.gif');
```

In the above code snippet

- i. 1st line will change the appearance of list to circle
- ii. 2nd line will change the appearance of list to image specified

Demo url: <http://localhost:2862/CSS/Forlist.htm>

TODO: Look at some other values of above properties and see the differences

For Table

25. How to apply CSS style for the table?

To change the table appearance, table related properties are used

```
table, th, td  
{  
    border:2px solid Brown;  
    border-collapse:collapse;  
}
```

In the above code snippet

- i. 1st line will apply table, th and td border to 2px
- ii. 2nd line will collapse the border

Demo url: <http://localhost:2862/CSS/ForTable.htm>

TODO: Look at some other properties related with border and change the values of above properties to see the differences

For Margin & Padding

26. How to apply margin around a particular element?

27. How to apply top-margin for a particular element?

28. How to apply padding around a particular element?

29. How to apply bottom padding for a particular element?

30. How to set the width of the element?

31. How to apply top, right, bottom and left margin in a single statement?

To apply the margin and padding in the CSS, margin and padding related properties are used.

- Margin: space around the border

- Padding: space around the content
- Border: border that includes the padding and content area

```
margin:20px;  
margin-top:20px;  
padding:20px;  
padding-bottom:15px;  
width:500px;  
margin:20px 100px 30px 100px;
```

In the above code snippet,

- 1st line will apply the margin space to 20px
- 2nd line will apply top margin space to 20px
- 3rd line will apply the padding space to 20px
- 4th line will apply bottom padding space to 15px (in the same way, top, left, right can be applied)
- 6th line will apply the width to 500px
- 7th line will apply the margin top to 20px, right to 100px bottom to 30px and left to 100px (similarly padding can also be applied)

Demo url: <http://localhost:2862/CSS/ForMargin.htm>

TODO: Look at some other properties related with margin and padding

For Border

32. How to apply border size, border style and border color in a single statement?

33. How to set the bottom border style?

34. How to set the bottom border color?

35. How to set the bottom border width?

36. How to set the border width?

To apply different border styles, border related properties are used.

```
border:3px dotted silver;  
border-bottom-style:solid;  
border-bottom-color:Red;  
border-bottom-width:15px;  
border:3px;
```

In the above code snippet

- 1st line will apply the element border to 3px dotted and silver color, this is the short form of applying border individually.
- 2nd line will change the bottom border style to solid (same applies for top, left, right)
- 3rd line will change the bottom border color to red (same applies for top, left, right)
- 4th line will change the bottom border width to 15px (same applies for top, left, right)

- v. 5th line will change the border width to 3px

The way we have used bottom border properties, we can also use top, left and right properties.

Demo url: <http://localhost:2862/CSS/Border.htm>

TODO: Look at some other properties related with border

For visibility and display

37. How to completely hide the element from the html page?

38. How to bring the next element inline?

39. How to display an element as a block?

40. How to hide an element but let it occupy its space?

41. How to show the hidden element?

To apply visibility and display, we can use visibility and display properties.

```
display:none;  
display:inline;  
display:block;  
  
visibility:hidden;  
visibility:visible;
```

In the above code snippet,

- i. 1st line will hide the element
- ii. 2nd line will display the element in the same line
- iii. 3rd line will display the element as the block
- iv. 4th line will hide the element, however occupy it's element space
- v. 5th line will show the element.

Demo url: <http://localhost:2862/CSS/visibility.htm>

TODO: Look at some other properties related with display and visibility.

For positioning

42. How to position the element relative to the first parent element?

43. How to position the element relative to the browser window?

44. How to float the element to the left?

45. How to align the text to right?

46. How to specify the z-index (How to set the stack order of the elements or How to send the element to the back and front)?

To position the element at a specific position, position, float and alignment related properties are used.

```
position:absolute;  
position:fixed;  
float:left;
```

```
text-align:right;  
z-index:500;
```

In the above code snippet

- i. 1st line will position the element relative to the first parent element
- ii. 2nd line will position the element relative to the browser window
- iii. 3rd line will float the element to the left (same applies for right)
- iv. 4th line will align the element text to right (same applies for left and center)
- v. 5th line will set the z-index to 500 (it is used to set the stack order of the element, generally used to arrange the element based on the display order in case of overlapped element).

Demo url: <http://localhost:2862/CSS/Positionfloat.htm>

Demo url: <http://localhost:2862/CSS/positionabsoluteZ-index.htm>

TODO: Look at some other properties related position, float and alignment and understand the difference.

Pseudo-elements

47. How to change paragraph's first character style?

48. How to change paragraph's first line style?

To format the paragraph texts, Pseudo-elements can be used.

```
p:first-line  
{  
  color:Green;  
}  
p:first-letter  
{  
  font-size:25px;  
}
```

In the above code snippet,

- 1st class will change the first line of each paragraph to green
- 2nd class will change the first character of each paragraph to 25px of size.

Demo url: <http://localhost:2862/CSS/Pseudo-elements.htm>

JavaScript

Introduction of JavaScript

JavaScript is the scripting language supported by most of the browsers and is used to add functionality, validate forms and make the web page more interactive. JavaScript is a case sensitive language.

1. How to write JavaScript statement?

Each JavaScript statement should be terminated using “;” (semi colon) character. JavaScript code can also be grouped using opening braces “{” and closing curly braces “}”.

2. How to write comment in JavaScript?

The single line comment can start with “//” (double forward slashes) and multi-line comment should be wrapped inside “/*” (forward slash and asterisk) and “*/” (asterisk and forward slash) characters.

3. How to declare a variable in JavaScript?

Variables are case sensitive and must start with an alphabet letter or an underscore (_).

```
<script language="javascript" type="text/javascript">
  var firstName;
  var lastName = "Funda";

  myName = "Sheo";
</script>
```

In the above code snippet

- i. The 1st line declares the firstName variable
- ii. The 2nd line declares the last name variable and assign value
- iii. 3rd line assigns a value to undeclared variable that automatically creates a valid variable.

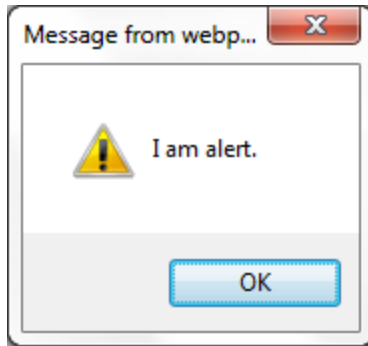
Demo url: <http://localhost:20325/JavaScript/declareVariable.htm>

4. How to show an alert to the user in JavaScript?

In case we want to alert the user with some information, alert method can be used.

```
alert("I am alert.");
```

Above code snippet shall give “Yes” alert to the user as displayed in the picture below.



If you want alert messages to display in multiple line, you can separate the messages with “\n”.

Demo url: <http://localhost:20325/JavaScript/Alert.htm>

Where and how to keep JavaScript code?

JavaScript code can be kept inside either HTML Page or in an external .js file.

5. Inside HTML Page - How to write JavaScript code in the html page?

The JavaScript code can be kept into html page inside Script tag.

```
<script language="javascript" type="text/javascript">
document.write("<b>Hello world using JavaScript!</b>");
</script>
```

Above code snippet, shall write the text in inverted command on the page in bold style.

Demo url: <http://localhost:20325/JavaScript/KeepingJavaScriptCode.htm>

6. How to prevent JavaScript tag showing up in case a browser doesn't support JavaScript?

To handle the scenario where your page runs on the browser that doesn't support JavaScript, you should write your code something like below.

```
<script language="javascript" type="text/javascript">
<!--
document.write("<b>Hello world using JavaScript!</b>");
//-->
</script>
```

If you will not wrap the code inside <!-- and //-->, browser that doesn't support JavaScript shall display the raw JavaScript code in the html page as output.

7. Where to keep JavaScript code in HTML page?

Ideally, JavaScript codes should be kept under <head></head> tag and called from <body> parts of the page, however JavaScript code can be kept anywhere in the page under <script> tag.

```
<head>
<title>Title</title>
<script language="javascript" type="text/javascript">
function AlertMe() {
    alert("I am called from JavaScript!");
}
```

```
    }  
  </script>  
</head>
```

```
<input type="button" id="btnTest" onclick="AlertMe()" value="Click me!" />
```

Above code snippet shall show an alert message when “Click me!” button will be clicked.

8. How to create a function in JavaScript?

JavaScript codes can be directly placed inside the `<script></script>` block or can be written inside the function so that they executes when that function is called. To define a function, we use a reserved keyword *function* and write function name. The block of code that we want to execute inside the function is written under the opening (`{`) and closing curly braces (`}`).

```
<script language="javascript" type="text/javascript" src="JavaScript.js">  
  function AlertMe()  
  {  
    alert("I am displaying from alert method");  
  }  
</script>  
  
<input type="button" id="btnTest" onclick="AlertMe()" value="Click me!" />
```

In above code snippet, the alert message will be displayed only when the “Click me!” button will be clicked as *AlertMe()* function is being called on click of this button.

Demo url: <http://localhost:20325/JavaScript/Alert.htm>

9. How to write the JavaScript code in external file and use it in the html page?

Create a new .js file called JavaScript.js (you can name it anything you like) and place following code inside.

```
function AlertMe()  
{  
  alert("I am being called from external JavaScript file");  
}
```

Note that JavaScript code is not wrapped with `<script></script>` tag if it is written in external .js file.

Now keep following script tag under `<head></head>` of the html page. Ideally the script blocks should be placed in the `<head>` tag however it's not mandatory.

```
<script language="javascript" type="text/javascript" src="JavaScript.js"></script>
```

Now the *AlertMe()* method can be called from the html page.

```
<input type="button" id="btnTest" onclick="AlertMe()" value="Click me!" />
```

Demo url: <http://localhost:20325/JavaScript/ExternalJsFile.htm>

10. What are operators in JavaScript and how to use it?

JavaScript has many operators that help us to manipulate or validate the data in the client side.

Arithmetic operator

11. (+ Add) - How to add numbers in JavaScript?

To add two or more numbers in JavaScript, we can follow this approach.

CODE

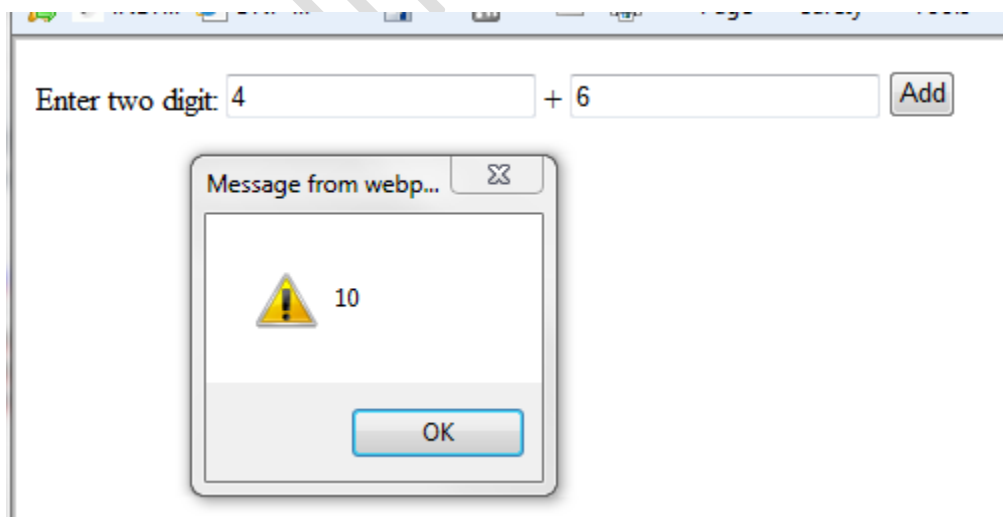
```
<script language="javascript" type="text/javascript">
    function Sum() {
        var a = document.getElementById("txtA").value;
        var b = document.getElementById("txtB").value;
        var result = parseInt(a) + parseInt(b);
        alert(result);
    }
</script>
```

Enter two digit:

```
<input type="text" id="txtA" name="txtA" />
+
<input type="text" id="txtB" name="txtB" />
<input type="button" name="btnAdd" value="Add" onclick="Sum()" />
```

In the above code snippet, two textboxes are there. When the button is clicked *Sum* function executes that gets the values of both textboxes and add it using “+” operator. At last it shows the result in the alert.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/Add.htm>

12. (- Subtract) How to subtract a number from another in JavaScript?

To subtract two or more numbers in JavaScript, we can follow this approach.

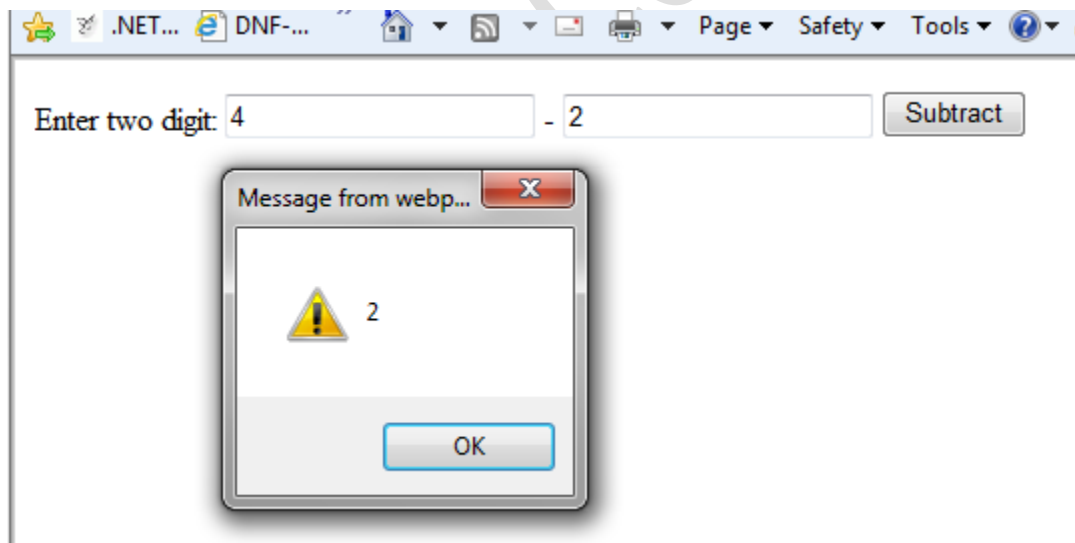
CODE

```
<script language="javascript" type="text/javascript">
    function Subtract() {
        var a = document.getElementById("txtA").value;
        var b = document.getElementById("txtB").value;
        var result = parseInt(a) - parseInt(b);
        alert(result);
    }
</script>

Enter two digit:
<input type="text" id="txtA" name="txtA" />
-
<input type="text" id="txtB" name="txtB" />
<input type="button" name="btnSubtract" value="Submit" onclick="Subtract()" />
```

In the above code snippet, we have two textboxes. On click of Submit button, Subtract function is called that retrieves the textboxes values and subtract using “-” operator. At last shows the result as alert.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/Subtract.htm>

13. (* Multiply) How to multiply numbers in JavaScript?

To multiply two or more numbers in JavaScript, we can follow this approach.

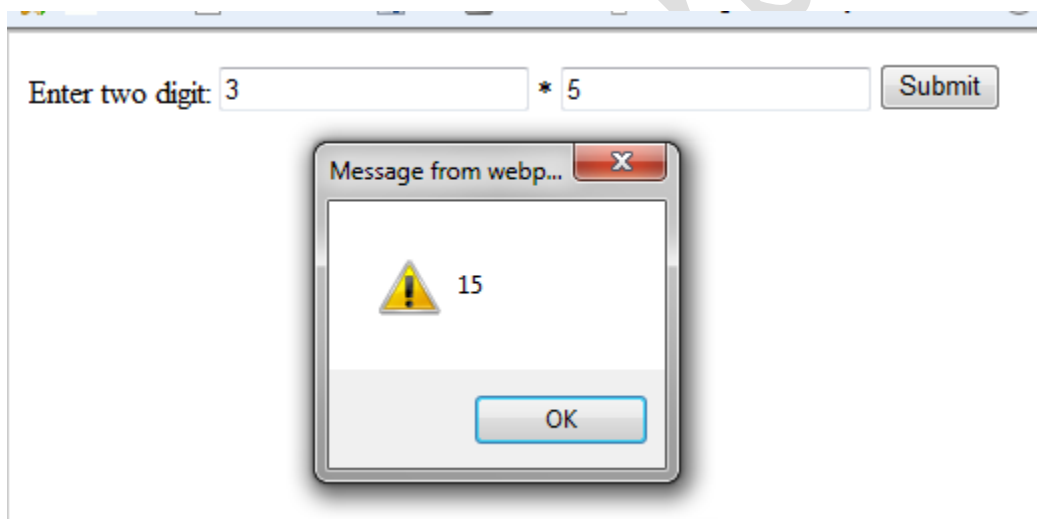
CODE

```
<script language="javascript" type="text/javascript">
    function Multiply() {
        var a = document.getElementById("txtA").value;
        var b = document.getElementById("txtB").value;
        var result = parseInt(a) * parseInt(b);
        alert(result);
    }
</script>
```

Enter two digit:

```
<input type="text" id="txtA" name="txtA" />
*
<input type="text" id="txtB" name="txtB" />
<input type="button" name="btnMultiply" value="Submit" onclick="Multiply()" />
```

In the above code snippets, on click of Submit button *Multiply* function executes. In this function, both textbox values are retrieved and multiplied after parsing their values. At last the result is shown in the alert box.

OUTPUT

Demo url: <http://localhost:15534/JavaScript/Multiply.htm>

14. (/ Division) How to divide numbers in JavaScript?

To divide number in JavaScript, we can follow this approach.

CODE

```
<script language="javascript" type="text/javascript">
    function Division() {
        var a = document.getElementById("txtA").value;
        var b = document.getElementById("txtB").value;
```

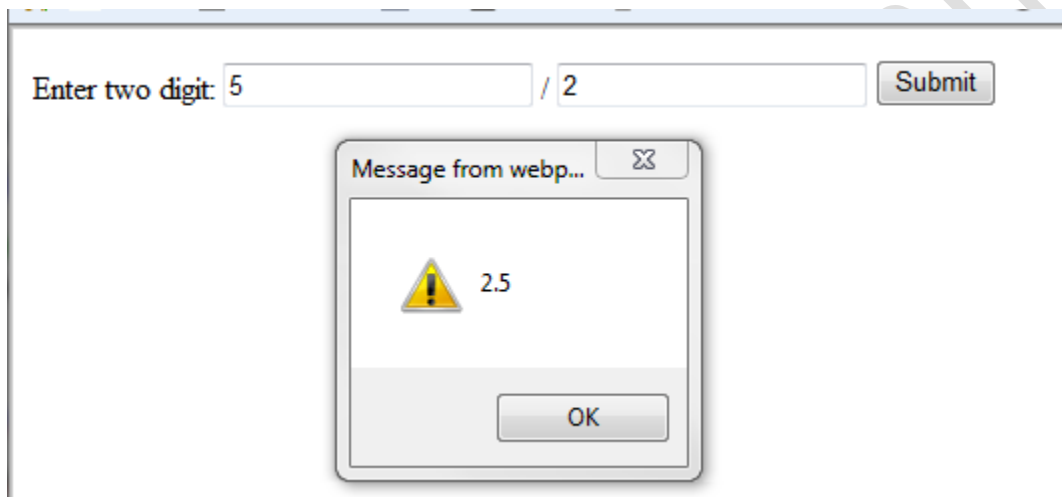
```
    var result = parseInt(a) / parseInt(b);  
    alert(result);  
}  
</script>
```

Enter two digit:

```
<input type="text" id="txtA" name="txtA" />  
/  
<input type="text" id="txtB" name="txtB" />  
<input type="button" name="btnDivision" value="Submit" onclick="Division()" />
```

In the above code snippet, we have two textboxes. On click of button, we are calling the *Division* function that divide the numbers and show result in the alert.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/Division.htm>

15. (% Division remainder) How to get the division remainder in JavaScript?

Demo url: <http://localhost:15534/JavaScript/Divisionremainder.htm>

16. (++ Increment) How to easily increment the number by one?

Demo url: <http://localhost:15534/JavaScript/increment.htm>

17. (-- Decrement) How to easily decrement the number by one?

Demo url: <http://localhost:15534/JavaScript/Decrement.htm>

Assignment operator

18. (= Assignment) How to assign value to a particular variable in JavaScript?

Demo url: <http://localhost:15534/JavaScript/Assignvalue.htm>

19. (+= Add and assign) How to add and assign value in JavaScript?

Demo url: <http://localhost:15534/JavaScript/AddandAvalue%20.htm>

20. (-= Subtract and assign) How to subtract and assign value in JavaScript?

Demo url: <http://localhost:15534/JavaScript/SubtractandAvalue.htm>

21. (= Multiply and assign) How to multiply and assign value in JavaScript?*

Demo url: <http://localhost:15534/JavaScript/MultiplyandAvalue.htm>

22. (/= Divide and assign) How to divide and assign value in JavaScript?

Demo url: <http://localhost:15534/JavaScript/DivisionandAvalue.htm>

23. (%= Divide and get remainder and assign value) How to divide, get remainder and assign value easily?

Demo url: <http://localhost:15534/JavaScript/DivisionremainderandAvalue.htm>

Comparison operator

- == (is equal to)
- != (is not equal)
- > (is greater than)
- < (is less than)
- >= (is greater than or equal to)
- <= (is less than or equal to)

Logical Operators

- && (and)
- || (or)
- ! (not)

TODO: Create a function and use different operators

24. How to create a function that accepts parameter(s) and return a value?

A function can accept one or more parameters and may or may not return value; in case we want to return some value, we must specify a reserved keyword “return” followed by the value we want to return.

```
<script language="javascript" type="text/javascript">
    function Add(a, b) {
        var sum = a + b;
        return sum;
    }
</script>

<input type="button" id="btnTest" onclick="alert(Add(5, 6))" value="Sum" />
```

Above Add(a, b) function accepts two parameter “a” and “b” and returns its sum. To call this function we will need to call them by passing two parameters that has been written in the click event of the button. Clicking button shall give alert as “11” (the sum of 5 and 6).

Demo url: <http://localhost:20325/JavaScript/FunctionParameter.htm>

A function can be also written that accepts parameters but doesn't return value.

TODO: Create a simple function without parameter and without return value, with a single parameter and without return value, with two parameters and without return value and repeat the same with return value; call each function with separate buttons.

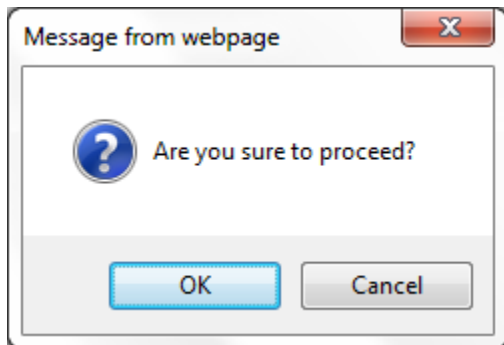
25. How to show a confirmation box in JavaScript?

In case we want to confirm an action from user, we can use confirm method.

```
<script language="javascript" type="text/javascript">
    function ConfirmMe() {
        var v = confirm('Are you sure to proceed?');
        if (v) {
            // OK pressed; user confirmed to proceed further
            // write your code to execute code
            alert("Go ahead");
        }
        else {
            // Cancel pressed; user do not want to proceed
            alert("Stop");
        }
    }
</script>

<input type="button" id="btnTest" onclick="ConfirmMe()" value="Click me!" />
```


Above code snippet shall prompt a confirmation dialogue to the user as displayed below, when user clicks OK, "Go ahead" will be alerted else "Stop" will be alerted.



Demo url: <http://localhost:20325/JavaScript/Confirmationbox.htm>

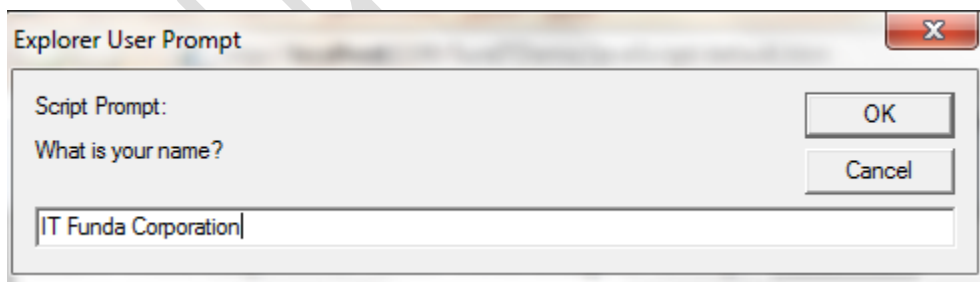
26. How to show a prompt box in JavaScript?

If we want to get an input from user, prompt method can be used.

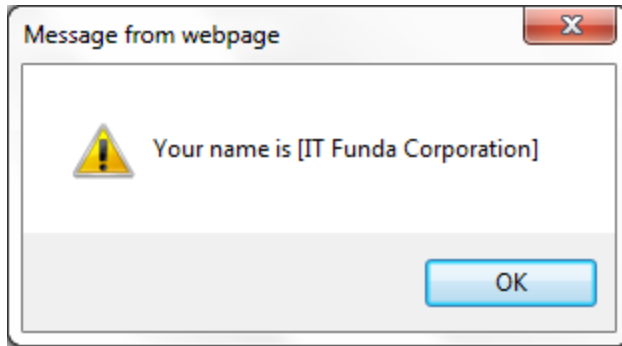
```
<script language="javascript" type="text/javascript">
    function PromptUser() {
        var yourName = prompt('What is your name?', '');
        if (yourName != null && yourName != '') {
            alert('Your name is [' + yourName + ']');
        }
    }
</script>

<input type="button" id="btnTest" onclick="PromptUser()" value="Click me!" />
```

Prompt method accepts two parameters, 1st is the message to prompt and 2nd is the default value you want to populate to the user.



Above picture shows a sample Prompt. Once name is filled and clicked OK below alert will appear in the browser.



Demo url: <http://localhost:20325/JavaScript/Promptbox.htm>

TODO: Practice alert, prompt and confirm by creating 6 different functions differently.

Conditional Statements

Conditional statements are used to perform action based on certain conditions.

27. How to write if statement in JavaScript?

If statement is used to execute a block of statements only when certain condition is met.

```
<script language="javascript" type="text/javascript">
    var myName = "Sheo";

    // if block
    if (myName == "Sheo") {
        alert("Yes");
    }

    // if else block
    if (myName == "Sheo") {
        alert("Yes");
    }
    else {
        alert("No");
    }

    // if else if else block
    if (myName == "Sheo") {
        alert("Yes");
    }
    else if (myName == "Sheo Narayan") {
        alert("Yes");
    }
    else {
        alert("No");
    }
</script>
```

Above code snippet gives “Yes” alert. Here *else* or *else if* blocks are optional.

Demo url: <http://localhost:20325/JavaScript/IfStatements.htm>

28. How to write switch statement in JavaScript?

Switch statement is used to execute a block of statements when a certain condition is met, this is used to avoid the complexity of writing if statements and longer if else statements. This is considered faster than if condition.

```
<script language="javascript" type="text/javascript">
    var myName = "Sheo";

    switch (myName) {
        case "Sheo" :
            alert("Yes");
            // other statements
            break;
        case "sheo":
            alert("yes");
            // other statements
            break;
        default:
            alert("No");
            // other statemetns
            break;
    }
</script>
```

Demo url: <http://localhost:20325/JavaScript/Switchcasestatement.htm>

TODO: Create four functions (2 each for if and switch) that will return value and alert to the user.

Loop

Loops is used to execute a block of statement a specified number of time or till a specified condition is true.

29. How to write for loop in JavaScript?

The for loop accepts three parameters; the initial value to start, condition till the loop should execute and increment the value.

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        var i = 5;
        for (i = 0; i < 5; i++) {
            alert(i);
        }
    }
</script>

<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

In above code snippet, on click of button TestFunction() shall fire that will run a for loop. That loop executes five times and gives alert messages from 0 to 4.

Demo url: <http://localhost:20325/JavaScript/Forloop.htm>

30. How to write While loop in JavaScript?

The while loop is used to execute a block of statements till specified condition is true.

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        var i = 0;
        while (i < 5) {
            alert(i);
            i++;
        }
    }
</script>

<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

NOTE: Make sure that you are incrementing/decrementing (as the case may be) the value you are going to test, otherwise an indefinite loop begins that may stuck your browser.

Demo url: <http://localhost:20325/JavaScript/WhileLoop.htm>

31. How to write Do While loop in JavaScript?

The do... while loop executes at least once and then repeat till the specified condition is true.

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        var i = 0;
        do {
            alert(i);
            i++;
        } while (i < 5);
    }
</script>

<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

The above loop executes at least once and then check for the while condition, if the condition is true then it keeps executing else comes out of loop.

NOTE: Make sure that you are incrementing/decrementing (as the case may be) the value you are going to test, otherwise an indefinite loop begins that may stuck your browser.

Demo url: <http://localhost:20325/JavaScript/DoWhileloop.htm>

Break and Continue

32. How to break a loop in JavaScript?

The **break** statement is used to break the loop completely in middle.

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        var i = 0;
        do {
            if (i == 2) {
                break;
            }
            alert(i);
            i++;
        } while (i < 5);
    }
</script>
```

Above loop executes only two times, as soon as the third iteration comes it goes into the if block and breaks the loop. User gets 0 and 1 alert only.

Demo url: <http://localhost:20325/JavaScript/Break.htm>

33. How to skip the current iteration of the loop and continue with the next iteration in JavaScript?

The **continue** statement is used to skip the current iteration and continue with the next iteration of the loop.

```
<script language="javascript" type="text/javascript">
function TestFunction() {
    var i = 0;
    do {
        i++;
        if (i == 2) {
            continue;
        }
        alert(i);
    } while (i < 5);
}
</script>
```

Above loop executes 4 times only and gives alert as 1, 3, 4, 5. It doesn't give 2 as alert because in 2nd iteration it goes into the if block and due to *continue* statement it skips that iteration and jump to the next iteration of the loop.

Demo url: <http://localhost:20325/JavaScript/Break.htm>

Events

Events are special type of actions that are detected by JavaScript. Eg. mouse click event, mouse over event etc.

We have ability to specify a JavaScript function to fire when a certain event occurs.

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        alert("Click event fired.")
    }
</script>
```

```
<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

In the above code *TestFunction()* fires when user clicks the button, this is the example of click event.

Demo url: <http://localhost:20325/JavaScript/Events.htm>

We have following events and all expects a function to fire.

34. OnFocus - How to execute a JavaScript function on focus of the element?

In case we have to execute a JavaScript function on focus of the element, we can use this approach.

CODE

```
Enter your name: <input type="text" name="txtName" id="txtName"
onfocus="GotFocus(this.id)" />
<input type="button" id="btn" name="btn" value="Submit" />

<script type="text/javascript">
    function GotFocus(id) {
        document.getElementById(id).style.background = "#c0c0c0";
    }
</script>
```

In the above code snippet, we have a textbox with *onfocus* event. When we focus (place cursor) on the textbox, *GotFocus* function executes that receives the id of the textbox that causes this event to execute. In this function, we are finding the textbox (using its id passed in to function) and setting its background color to "#c0c0c0".

OUTPUT



Demo url: <http://localhost:15534/JavaScript/OnFocus.htm>

35. Onblur - How to execute a function when an element loses focus

In case we want to execute a JavaScript function when the element loses its focus, we can follow this approach.

CODE

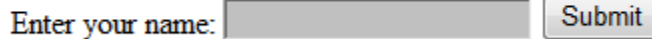
```
Enter your name: <input type="text" name="txtName" id="txtName"
onblur="CallFunction(this.id)" />
<input type="button" id="btn" name="btn" value="Submit" />

<script type="text/javascript">
    function CallFunction(id) {
        document.getElementById(id).style.background = "#c0c0c0";
    }
}
```

```
</script>
```

In the above code snippet when the textbox lose focus, the *onblur* event fires and executes *CallFunction*. In this we are setting the background color of the textbox to “#c0c0c0”.

OUTPUT



Enter your name:

Demo url: <http://localhost:15534/JavaScript/OnBlur.htm>

36. Onchange - How to executes a function when element value changes?

In case we want to execute a function when the element value is changing, we can follow this approach.

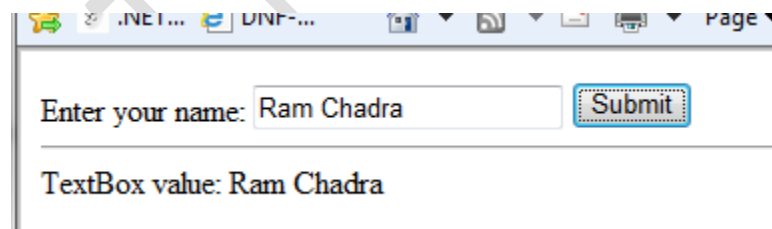
CODE

```
Enter your name: <input type="text" name="txtName" id="txtName"
onchange="CallFunction(this.id)" />
<input type="button" id="btn" name="btn" value="Submit" />
<hr />
TextBox value: <label id="lblText"></label>

<script type="text/javascript">
    function CallFunction(id) {
        document.getElementById("lblText").innerHTML =
document.getElementById(id).value;
    }
</script>
```

In the above code snippet, we have a textbox on which *onchange* event has been specified that executes “CallFunction” function. In this function we are setting the Label (lblText) inner html value to the textbox(txtName) value.

OUTPUT



Enter your name:

TextBox value: Ram Chadra

Demo url: <http://localhost:15534/JavaScript/OnChange.htm>

37. OnSubmit - How to execute a function when html form is submitted?

In case we want to execute a function when the html form is being submitted, we can follow this

approach.

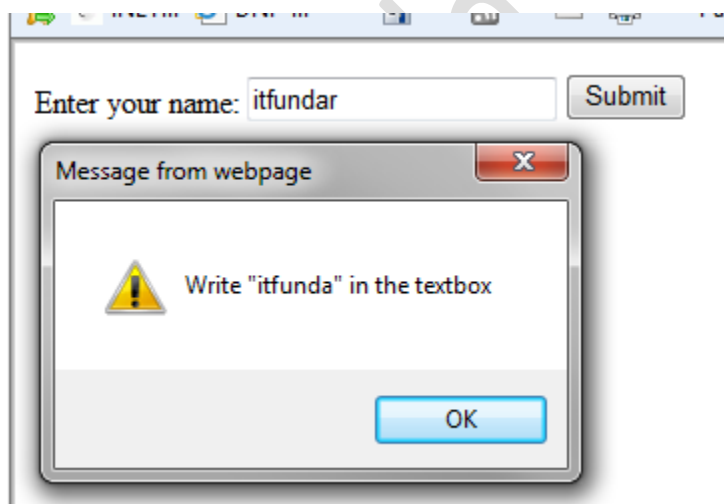
CODE

```
<form action="Alert.htm" method="post" onsubmit="return CallFunction()">
Enter your name: <input type="text" name="txtName" id="txtName"/>
<input type="submit" id="btn" name="btn" value="Submit" />

<script type="text/javascript">
    function CallFunction() {
        if (document.getElementById("txtName").value == "itfunda") {
            return true;
        }
        else {
            alert("Write \"itfunda\" in the textbox");
            return false;
        }
    }
</script>
</form>
```

In the above code, we have a textbox and a button in the html form. In the Form we have written *onsubmit* event that executes when the form submitted to the server. On the *onsubmit* event we are executing “CallFunction” function. In this function, we are checking for the textbox value, if it is “itfunda” then we are returning *true* otherwise *false*. As in the *onsubmit* event we have written “return CallFunction()” so in case this function returns true and the form is submitted to the server otherwise it is not.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/OnSubmit.htm>

38. Onload - How to execute a function when html element is loaded successfully OR How to specify the default value of the html element when the page loads?.

In case we want to execute a function when a particular html element is loaded successfully in the

page, we can follow this approach.

CODE

```
<body onload="CallFunction()">

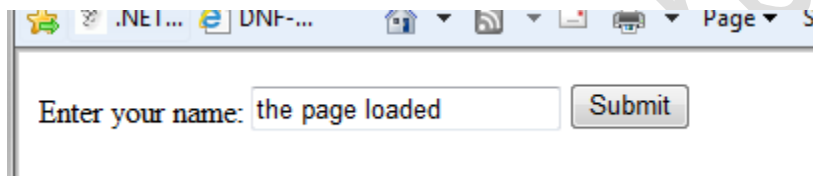
    Enter your name: <input type="text" name="txtName" id="txtName" />
    <input type="button" id="btn" name="btn" value="Submit" />

    <script type="text/javascript">
        function CallFunction() {
            document.getElementById("txtName").value = "the page loaded";
        }
    </script>

</body>
```

In the above code snippet, we have specified *onload* event in the *body* element. When the *body* element of the page loads (*body* is nothing but the complete page), the *CallFunction()* executes that writes “the page loaded” text into the textbox.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/OnLoad.htm>

39. Onunload - How to execute a function when element/object is unloaded?

In case we want to execute a function a particular element is unloaded, we can follow this approach.

CODE

```
<body onunload="CallFunction()">

    Enter your name: <input type="text" name="txtName" id="txtName" />
    <input type="button" id="btn" name="btn" value="Submit" />

    <a href="Add.htm">Go to Add page</a>

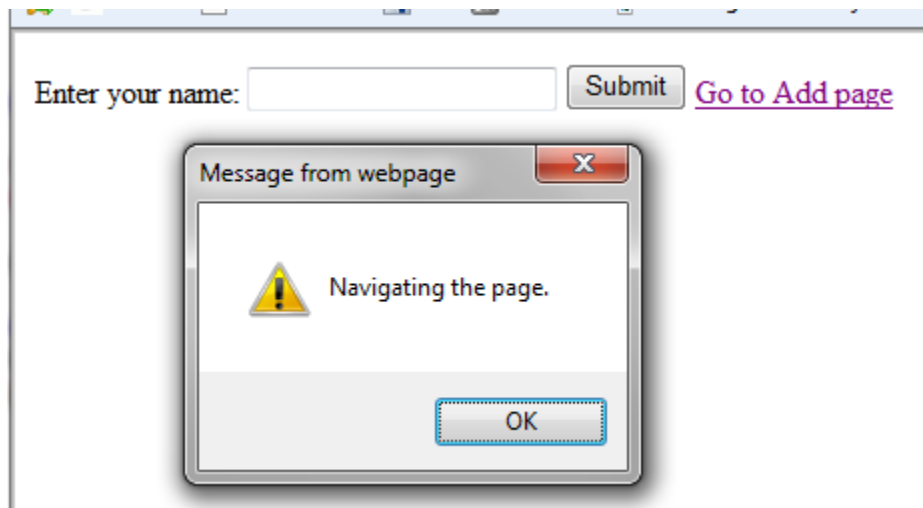
    <script type="text/javascript">
        function CallFunction() {
            alert("Navigating the page.");
        }
    </script>

</body>
```

In the above code snippet, we have specified *onunload* event in the *body* element that executes when

the page is unloaded or user navigates from this page to another page. In this event we are executing “CallFunction()” function that shows alert like displayed below.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/OnUnLoad.htm>

40. Onmouseover - How to execute a function when user mouse hover an element?

In case we want to execute a function when user mouse over an element, we can follow this approach.

CODE

```
Enter your name: <input type="text" name="txtName" id="txtName" />
<input type="button" id="btn" name="btn" value="Submit"
onmouseover="CallFunction(this.id)" />

<script type="text/javascript">
    function CallFunction(id) {
        document.getElementById(id).style.background = "#c0c0c0";
    }
</script>
```

In the above code snippet, we have specified *onmouseover* event in the button. When user mouse over this button, “CallFunction()” function executes that changes its background color to “#c0c0c0”.

OUTPUT

Enter your name:

Demo url: <http://localhost:15534/JavaScript/OnMouseOver.htm>

41. Onmouseout - How to execute a function when user moves the mouse out from the element?

In case we want to execute a function when use move mouse pointer out of the element, we can follow this approach.

CODE

```
Enter your name: <input type="text" name="txtName" id="txtName" />
<input type="button" id="btn" name="btn" value="Submit"
onmouseout="ClearColor(this.id)" onmouseover="CallFunction(this.id)" />

<script type="text/javascript">
    function CallFunction(id) {
        document.getElementById(id).style.background = "#c0c0c0";
    }
    function ClearColor(id) {
        document.getElementById(id).style.background = "";
    }
</script>
```

In the above code snippet, we have specified “onmouseover” and “onmouseout” both events that executes “CallFunction()” and “ClearColor()” functions respectively (specifying both events are not mandatory, you can go ahead with using any one event).

In the “ClearColor()” function that executes when user moves mouse out of the button, we have removed the color of the button so that it becomes completely white.

And when user moves the mouse on the button, “onmouseover” function executes that changes its background color to “#c0c0c0”.

OUTPUT

Enter your name:

Demo url: <http://localhost:15534/JavaScript/OnMouseOver.htm>

42. Ondblclick - How to execute a function when an element is double clicked?

In case we want to execute a function on double click of the element, we can follow this approach.

CODE

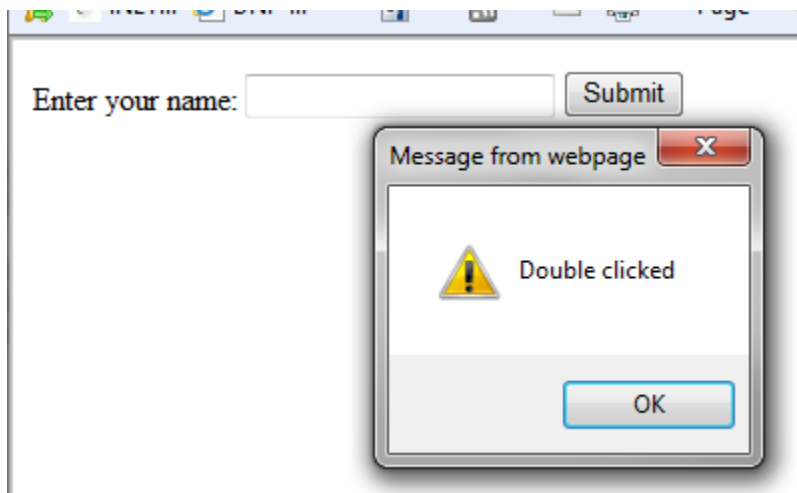
```
Enter your name: <input type="text" name="txtName" id="txtName" />
```

```
<input type="button" id="btn" name="btn" value="Submit"
ondblclick="CallFunction(this.id)"/>

<script type="text/javascript">
    function CallFunction(id) {
        alert("Double clicked");
    }
</script>
```

In the above code snippet, we have specified *ondblclick* event in the button. When the button is double clicked, "CallFunction" function executes that shows an alert.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/OnDbClick.htm>

43. Onkeypress - How to execute a function when key is pressed on the element?

In case we want to execute a function when key is pressed on the element, we can follow this approach.

CODE

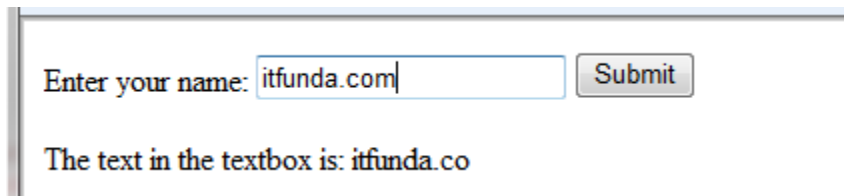
```
Enter your name: <input type="text" name="txtName" id="txtName"
onkeypress="CallFunction(this.id)" />
<input type="button" id="btn" name="btn" value="Submit" />

<p>The text in the textbox is: <label id="lblText"></label></p>

<script type="text/javascript">
    function CallFunction(id) {
        document.getElementById("lblText").innerHTML =
document.getElementById(id).value;
    }
</script>
```

In the above code snippet, we have specified *onkeypress* event on the textbox that executes “CallFunction()” function. In this function, we are setting the html label text to the textbox value.

OUTPUT



(In this case, you may notice that the last character is not appearing in the html label, this is because of the behaviour of *onkeypress* event. In order to get exact value of the textbox, use *onkeyup* event, it works exactly the same. Just replace *onkeypress* to *onkeyup*.)

Demo url: <http://localhost:15534/JavaScript/onkeypress.htm>

44. How to handle error in JavaScript?

In case of error in the JavaScript code, we can use error handling mechanism. Error is handled in JavaScript using try catch block.

```
<script language="javascript" type="text/javascript">
  function TestFunction() {
    try {
      CallAFunctionThatIsNotDefined();
    }
    catch (e) {
      alert("Oops, an error occurred, sorry! Please try again later." + e);
    }
  }
</script>

<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

In the above code snippet “CallAFunctionThatIsNotDefined()” has been called inside the try block that doesn’t exist on the page and as a result it will error out. Instead of showing actual error to the end user it’s a good idea to show some custom error like we have written in above code snippet.

Demo url: <http://localhost:20325/JavaScript/Errorhandling.htm>

45. How to display special characters in JavaScript?

Following are the list of characters that can be used to show the special characters to the users.

- \’ - single quote character
- \” - double quote character
- \& - ampersand character
- \\ - double backslash
- \n - new line

- \t - tab

```
<script type="text/javascript">
    function AlertMe() {
        alert("This sentence has a double quote \", being displayed using escape
character.!");
    }
</script>
```

```
<input type="button" id="btnAlert" name="btnAlert" onclick="AlertMe()" value="Show Alert"
/>
```

In the above code alert is showing “(double quotes) character in the alert message that is being displayed by using the escape character “\”.

Demo url: <http://localhost:20325/JavaScript/SpecialChars.htm>

TODO: Similarly practice for all special characters displayed above.

JavaScript Methods

46. How to get the length of the string?

In case we want to know the length of the string entered into the textbox in JavaScript, we can follow this approach.

CODE

```
Enter name:
<input type="text" id="txtName" name="txtName" />
<input type="button" id="btnsm" value="Get Length" onclick="GetLength()" />

<script type="text/javascript">
    function GetLength() {
        var text = document.getElementById("txtName").value;
        alert(text.length);
    }
</script>
```

In the above code snippet, we are getting the value of the textbox on click of the button in *text* variable. Then calling the length property to get the length of the string in the alert box.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/length.htm>

47. How to apply Big style to the text in JavaScript?

In case we want to apply the big font style to the text in the html page, we can use this approach.

CODE

```
<script type="text/javascript">
    document.write("This is big text ");
    document.write(" This is big text".big());
</script>
```

In the above code snippet, we have written "This is big text" in both *document.write* lines but in the 2nd statement we have called the *big()* method using the text that makes this text in big style as you can see in the below picture.

OUTPUT

This is big text This is big text

Demo url: <http://localhost:15534/JavaScript/Big.htm>

Similarly, we have applied below method into the text to get the corresponding styles.

48. How to apply small style to the text in JavaScript?

- use *Small()* to apply the small style

Demo url: <http://localhost:15534/JavaScript/Small.htm>

49. How to apply bold style to the text in JavaScript?

- use *Bold()* to apply the bold style

Demo url: <http://localhost:15534/JavaScript/Bold.htm>

50. How to apply italic style to the text in JavaScript?

- use `Italics()` to apply the italic style

Demo url: <http://localhost:15534/JavaScript/Italic.htm>

51. How to apply strikethrough style to the text in JavaScript?

- use `Strike()` to apply the strike style

Demo url: <http://localhost:15534/JavaScript/Strike.htm>

52. How to apply subscript style to the text in JavaScript?

- use `Sub()` to apply the subscript style

Demo url: <http://localhost:15534/JavaScript/subscript.htm>

53. How to apply superscript style to the text in JavaScript?

- use `Sup()` to apply the superscript style

Demo url: <http://localhost:15534/JavaScript/Superscript.htm>

54. How to convert the text to the lower case?

- use `toLowerCase()` to convert the string to lower case

Demo url: <http://localhost:15534/JavaScript/lower.htm>

55. How to convert the text to the upper case?

- use `toUpperCase()` to convert the string to upper case

Demo url: <http://localhost:15534/JavaScript/Uppper.htm>

56. How to replace a character or characters from the string in JavaScript?

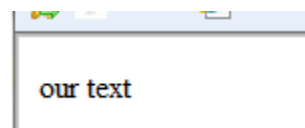
In case we want to Replace a particular word or words from the sting we can follow this approach.

CODE

```
var v = "my text";  
document.write(v.replace("my", "our"));
```

In the above code snippet we stored "my text" string into the v variable. In the next line we have called the replace method by passing the characters to replace and characters to replace with. As a result when the above code renders on the webpage, it shows "our text".

OUTPUT



Demo url: <http://localhost:15534/JavaScript/replace.htm>

57. How to get current date and time in the JavaScript?

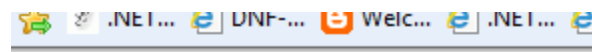
To get the current date and time in the JavaScript, follow this approach.

CODE

```
var d = new Date();  
alert(d);
```

In the above code snippet, we have instantiated the *Date* object and saved into the *d* variable. Then used the *alert* method to show the value of *d*.

OUTPUT



Tue Jun 21 12:36:15 UTC+0530 2011

Demo url: <http://localhost:15534/JavaScript/DateTime.htm>

58. How to declare and use an array in JavaScript?

To declare an array, store values and retrieving value from array in JavaScript, use this approach.

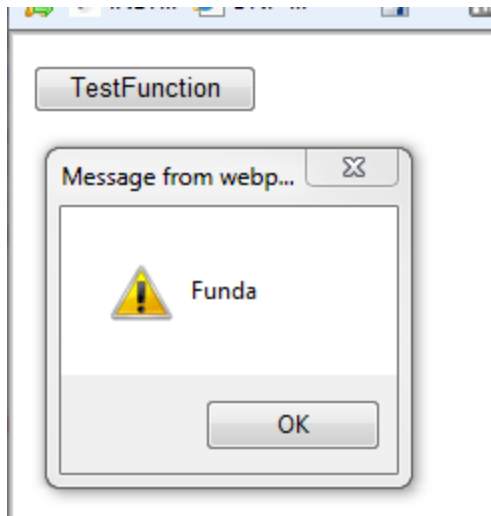
CODE

```
<script language="javascript" type="text/javascript">  
function TestFunction() {  
    var array = new Array();  
    array[0] = "IT";  
    array[1] = "Funda";  
    array[2] = "Corporation";  
    for (var i = 0; i < 3; i++) {  
        alert(array[i]);  
    }  
}  
</script>
```

In the above code snippet, we have declared an array and then setting the string values to the element of this array.

After that we are looping through the elements of this array and showing the value in alert.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/Array.htm>

59. How to round a decimal value in JavaScript?

- use `Math.round(0.56)` to round the decimal value

Demo url: <http://localhost:15534/JavaScript/round.htm>

60. How to get random number in JavaScript?

- use `Math.random()` to get the random numbers

Demo url: <http://localhost:15534/JavaScript/randomnumber.htm>

61. How to get max value from the integers?

- use `Math.max(5, 50, 300)` to get the max value from the passed arguments

Demo url: <http://localhost:15534/JavaScript/Max.htm>

62. How to get the min value from the integers?

- use `Math.min(5, 56, 58)` to get the min value from the passed arguments

Demo url: <http://localhost:15534/JavaScript/Min.htm>

63. How to find characters in a given string in JavaScript?

In case we need to find characters in a given string using JavaScript, we can follow this approach.

CODE

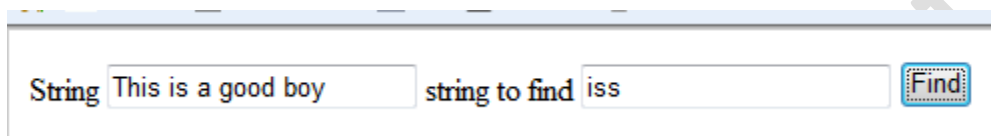
```
String <input type="text" name="txtName" id="txtName" value="This is a good boy" />
string to find <input type="text" name="txtFind" id="txtFind" value="iss" />
<input type="button" name="btnTestfunction" value="Find" onclick="TestFunction()" />

<script language="javascript" type="text/javascript">
    function TestFunction() {
        var string = document.getElementById("txtName").value;
```

```
var toFind = document.getElementById("txtFind").value;
var find = new RegExp(toFind);
alert(find.test(string));
}
</script>
```

In the above code snippet, we have two textboxes. The 1st textbox contains the string and the 2nd textbox contains the characters to find from the string. On click of the button, we are calling "TestFunction()" function. In this function we are retrieving the value of textboxes and then instantiating the RegExp object by passing the string to find. Then calling the *test* method of RegExp object by passing the string from which we need to find characters.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/Find.htm>

64. How to write a timer in JavaScript?

Timer is a kind of event that automatically executes after specified number of milli-seconds. To use timer in JavaScript, we can follow this approach.

CODE

```
<script language="javascript" type="text/javascript">
var count = 0;
function TestFunction() {
    count++;
    document.getElementById("lblText").innerHTML = count;
    t = setTimeout("TestFunction()", 1000);
}
</script>
<label id="lblText">0</label>
<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

Above function executes after every 1 second and set the label value after incrementing. As the function is being called in setTimeout method, it will keep executing indefinite number of times.

Demo url: <http://localhost:15534/JavaScript/Timer.htm>

65. How to stop the timers in JavaScript?

In case we have implemented timer in JavaScript and want to break or stop it, we can follow this approach.

CODE

```
<script language="javascript" type="text/javascript">
    var count = 0;
    function TestFunction() {
        count++;
        document.getElementById("lblText").innerHTML = count;
        t = setTimeout("TestFunction()", 1000);
    }

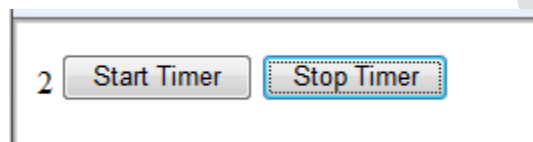
    function StopCount() {
        clearTimeout(t);
    }
</script>

<label id="lblText">0</label>
<input type="button" id="btnTest" onclick="TestFunction()" value="Start Timer" />
<input type="button" id="btnStop" value="Stop Timer" onclick="StopCount()" />
```

In the above code snippet, we have implemented a timer using *setTimeout* method that stores the tick into the *t* variable. This timer executes inside the “*TestFunction*” function that fires when the “Start Timer” button is clicked.

In the click event of “Stop Timer” button we have called the “*StopCount()*” function that calls *clearTimeout()* method by passing the *t* variable that stops the timer.

OUTPUT



Demo url: <http://localhost:15534/JavaScript/Timer.htm>

66. How to open a popup window using JavaScript?

In case we want to open a popup window from JavaScript, we can follow this approach.

CODE

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        window.open("http://www.dotnetfunda.com", "", "width=200,height=300");
    }
</script>

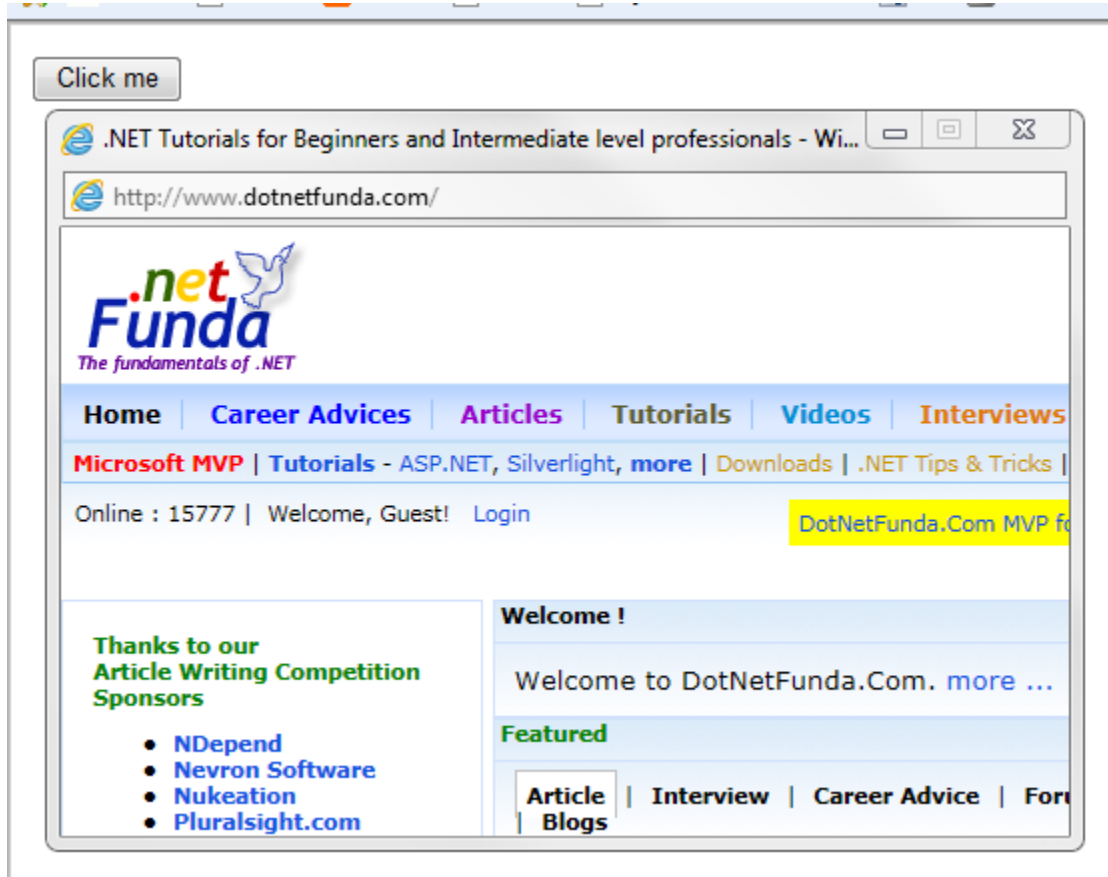
<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

In the click of the above button, a new popup window opens with DotNetFunda.Com website.

1. The 1st parameter of Open method is url to open
2. The 2nd parameter is the name of the window that is being opened (can be used from javascript)

- to identify this window)
- The 3rd parameter is features that are to be used to open the window (eg. width, height, menubar, resizable etc.)

OUTPUT



Demo url: <http://localhost:15534/JavaScript/popup.htm>

67. How to redirect the user from current page to another page using JavaScript?

If we want to redirect the user from current page to another page using JavaScript, we can follow this approach.

CODE

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        alert(location.href);
        location.href = "http://www.itfunda.com";
    }
</script>

<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

In case we want to get the current url of the web page, we can get it using `location.href` as we have done in the alert method.

If we want to redirect the user from current page to another page, we can set the `location.href` property, in this case we have set to <http://www.itfunda.com> that redirects the user from current page to ITFunda.com website.

Demo url: <http://localhost:15534/JavaScript/location.htm>

68. How to reload/refresh current page in JavaScript?

In case we want to refresh the current page using JavaScript, we can follow this approach.

CODE

```
<script type="text/javascript">
    document.write(new Date());

    function TestFunction() {
        location.reload();
    }
</script>
<p><input type="button" id="btnReload" value="Reload" onclick="TestFunction()" /></p>
```

In the above code on click of the button, we are executing “TestFunction” function. Inside this function we are calling the `location.reload()` method that reloads the current page.

Demo url: <http://localhost:15534/JavaScript/reload.htm>

Dealing with HTML Controls in JavaScript

To find out HTML Controls in JavaScript, we can use following methods

69. How to find a HTML element from the html page using on it's ID?

To find the html controls by their id attribute, we can follow this approach.

CODE

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        alert(document.getElementById("lblText").innerHTML);
    }
</script>

<label id="lblText">0</label>
<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

In the above function, `getElementById` finds a label with id “lblText” and shows its inner HTML content as an alert.

70. How to find a HTML element from the html page using it's name attribute?

To find out the html elements by their tag names, we can follow this approach.

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        document.getElementsByTagName("label")[0].innerHTML = 50;
    }
</script>

<label id="lblText">0</label>
<label id="Label1">0</label>
<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

This is used to find all the elements of the page using the tag name. It returns all the elements in the form of array.

In the above function, `getElementsByTagName` finds all html elements by tag name. “length” property can be used to know the number of elements found on the page and indexer can be used to access a particular element.

In the above code snippet, we are retrieving the first *label* of the page and setting its *innerHTML* to 50.

71. How to set html element CSS style using JavaScript?

In case we need to set the CSS style to the html element using JavaScript, we can follow this approach.

To set the CSS style using JavaScript, style followed by CSS property name can be used.

CODE

```
<script language="javascript" type="text/javascript">
    function TestFunction() {
        document.getElementById("lblText").style.background = "red";
    }
</script>

<label id="lblText">0</label>
<input type="button" id="btnTest" onclick="TestFunction()" value="Click me" />
```

In the above code snippet, we have found out the label using its id and then setting its background color to “red” using the *style.background* property.

Above function changes the background color of “lblText” to red.

72. How to validate a html form in JavaScript?

In case we are in the need of validating the html form using JavaScript, we can follow this approach.

Validating the HTML form is the matter of finding the control and checking for the required data.

CODE

```
<script language="javascript" type="text/javascript">
    function ValidateTheForm() {
        if (document.getElementById("txtFirstName").value == "") {
            alert("Please specify first name, it is mandatory !");
            return false;
        }
        else {
            return true;
        }
    }
</script>

<form action="HTMLPage.htm" method="post">
    First Name: <input type="text" id="txtFirstName" name="txtName" /> *
    Last Name: <input type="text" id="txtLastName" name="txtName" />

    <input type="submit" id="btnSubmit" value="Submit" onclick="return ValidateTheForm()" />
</form>
```

In the above code snippet, we have two textboxes (txtFirstName, txtLastName) and a Submit button that fires ValidateTheForm() function and returns true or false. In this example, I am assuming that FirstName is mandatory field, so in the ValidateTheForm() function we are checking for its value and if it is empty we are showing an alert and returning false. Returning false will prevent the form being submitted to the server. If the textbox value is not empty we are returning true that will go ahead and submit the form to the server.

Introduction to Visual Studio

Before you proceed with following course, you must have following installed in your system

1. IIS - Install from your Control Panel - Windows component
2. .NET Framework - Download it from <http://msdn.microsoft.com/en-us/netframework/aa569263>.
3. Apart from this you will also need to have the FREE version of Visual Studio (Visual Web Developer Express) and SQL Server express database (to interact with the database). Download it from

How to create and run the first ASP.NET application using Notepad

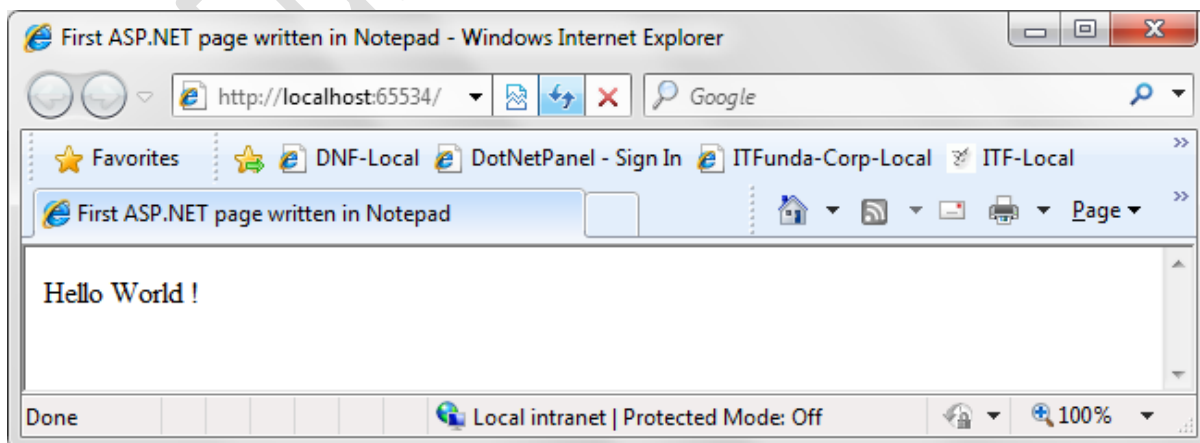
All codes in .NET Framework can be written using Notepad, here we will see how to write a sample asp.net web page in notepad. Open notepad and write following code and save this file as default.aspx in "Demo" folder.

```
<%@ Page Language="C#" %>
<script language="C#" runat="Server">
    void Page_Load(object sender, EventArgs e)
    {
        lblMessage.Text = "Hello World !";
    }
</script>

<html>
<head>
<title>First ASP.NET page written in Notepad</title>
</head>
<body>
<asp:Label ID="lblMessage" runat="Server" />
</body>

</html>
```

Now create a virtual directory in your IIS and point to the Demo folder and browse it by providing your localhost address in your browser, you should see "Hello Wordl !" something like this



Introduction of Visual Studio

Writing code in Notepad or any normal text editor is difficult and time consuming, Visual studio helps us to overcome these problems and on top of this, it also gives much more benefits.

Microsoft Visual Studio is an Integrated Development Environment (IDE) that is used to develop console, GUI applications, windows forms, web application, web sites, and web services in any language that is supported by .NET Framework.

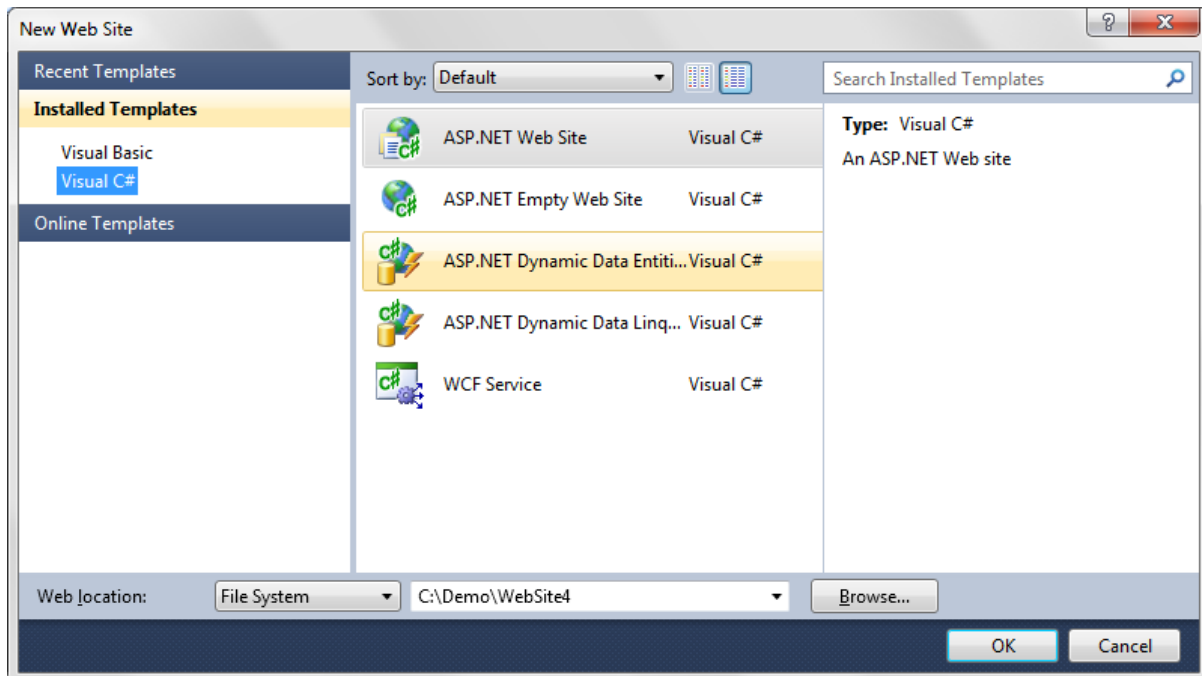
Visual Studio consists of

- i. Code editor supported by code refactoring and Intellisense
- ii. Design editor
 - a. Web
 - b. Class
 - c. GUI
 - d. Database Schema
- iii. Integrated debugger
- iv. Integrated compiler
- v. Source controls

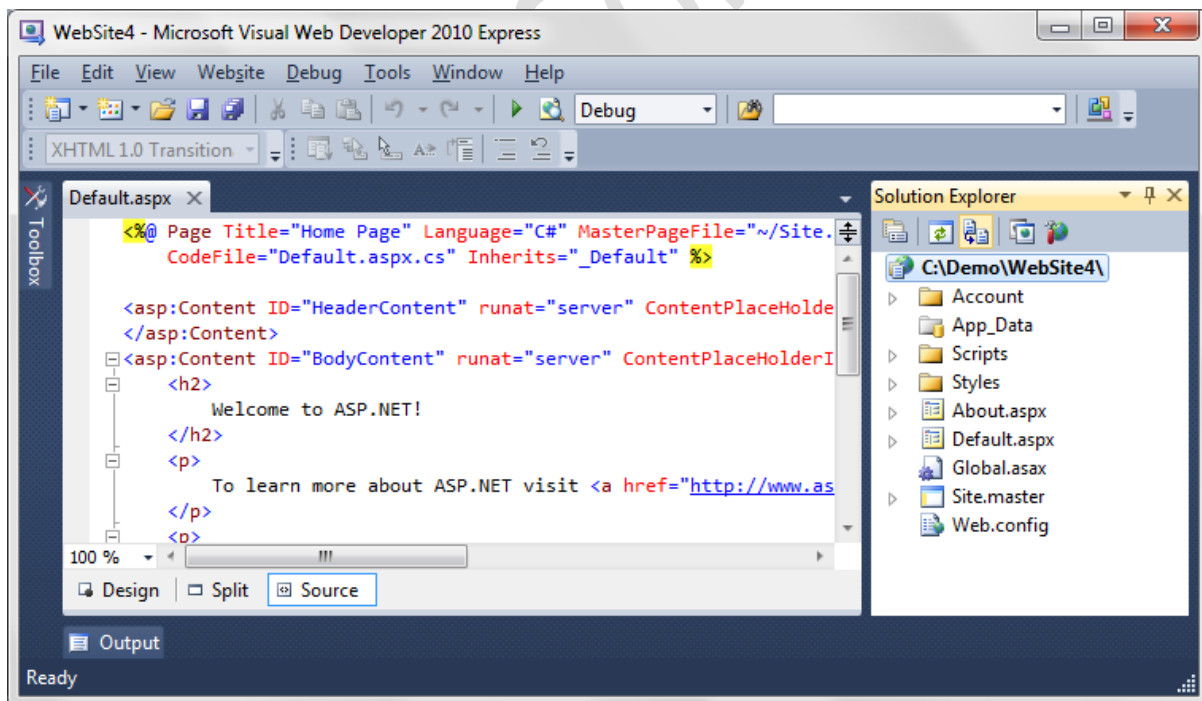
Apart from above, it supports many other features. It also accepts plug-in that helps to extend its support and features.

Creating new website

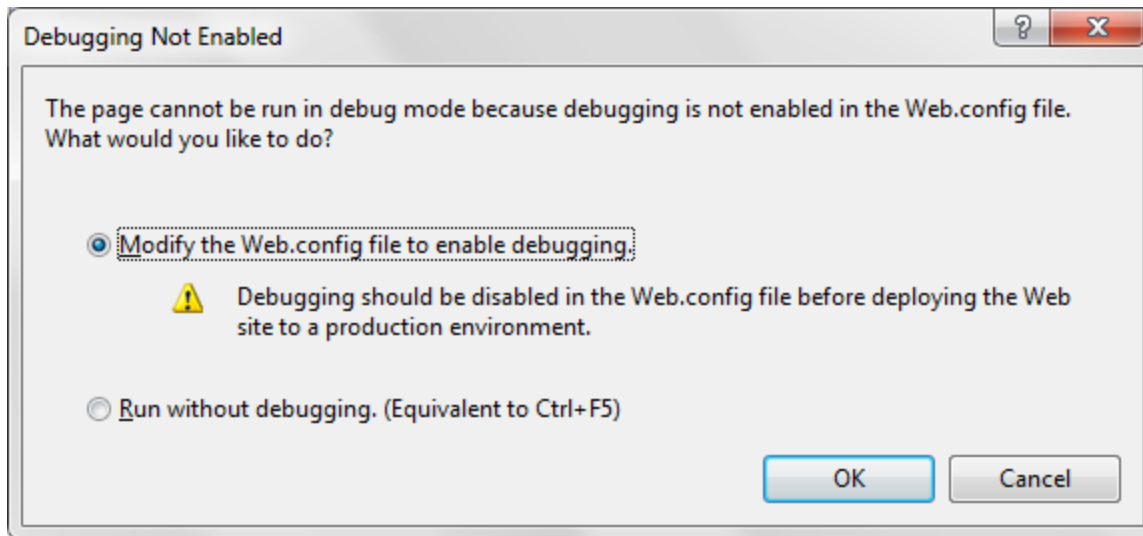
To create a new website in Visual Studio, go to File > New Web Site ... and select “ASP.NET Web Site” from the Template box. Provide the path and name of the website you want to create and click OK. You have option to create this website either on FTP or HTTP (provided you have proper permission to do that).



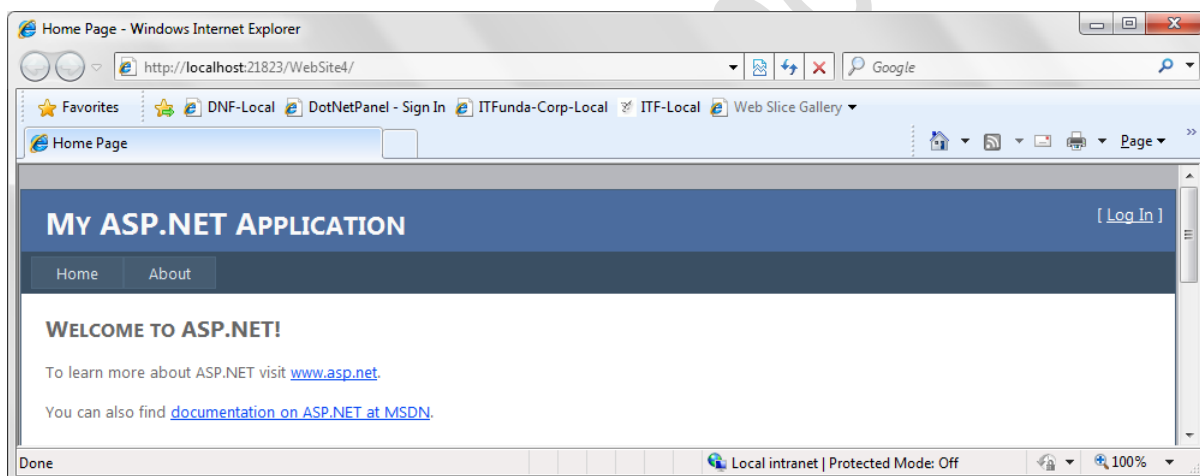
Clicking OK button should create a website with some pre-defined files & folders as displayed in the picture below.



You can click on Start Debugging (Green Play Button or Debug > Start Debugging) and you should see a dialogue box something like below



This asks whether to modify the web.config file (we will know about it later on) to enable debugging. Click OK. You should see the result in your browser something like below picture.



These are some default pages that are by default added when you create a website. You are not bound to keep these pages in your website. You can completely delete all the files and add new file by right clicking the Project from Solution Explorer and clicking on Add New Item ...

What is solution?

A project can be created within a solution or as an independent project. A solution is the collection of many projects (it can be an independent projects or interlinked projects)

Adding Projects to the solution

A new or existing projects can be added into the solution by either right clicking the solution or going to File > Add menu. This project can be a Web Site, Class Library, Web Service or any other types of projects.

Understanding different templates available in Visual Studio

Project template

- ASP.NET Web Site - used to create a normal ASP.NET Web Form based website that will have some folders and files by default to proceed further.
- ASP.NET Empty Web Site - used to create a website that will not have any files other than web.config (configuration) file.
- ASP.NET Dynamic Data Entities Web Site - used to create a website based on Dynamic Data (A different methodologies to create a website) with entities.
- ASP.NET Dynamic Data Linq to SQL Web Site - used to create a website based on Dynamic Data with Linq to SQL.
- WCF Service - used to create a WCF web services

Files template

- Web Form - to add a normal form based asp.net web page
- Master Page - to add a master page (will learn later on in this course)
- Web User Control - to add a user control (will learn later on in this course)
- ADO.NET Entity Data Model - used to add a ADO.NET Entity Framework classes
- Browser File - used to add a file for browser definition
- Class - to add a new class file
- Generic Handler - to add a generic handler
- HTML Page - to add a html page
- jScript file - to add a JavaScript file
- LINQ to SQL Classes - to add LINQ to SQL model class
- Resource File - to add a resource file used primarily for localization purpose
- Silverlight 1.0 JScript Page - to add a page used to display as Spalsh screen for Silverlight application
- Silverlight Application - to add a Silverlight application in the project
- Site Map - to add a site map file for the website
- Skin File - to add a skin file used in creating Themes for the website
- SQL Server Database - to add a new database in the website
- Style Sheet - to add a css file (to add css classes)
- Text File - to add a text file
- WCF Service - to add a WCF Service
- Web Configuration File - to add a web.config file
- Web Service - to add a traditional web service
- XML File - to add a xml file

Thank you for reading!

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