**JavaScript**

JavaScript is *an object-based scripting language* that is lightweight and cross-platform.JavaScript is not compiled but translated. The JavaScript Translator (embedded in browser) is responsible to translate the JavaScript code.

**Where JavaScript is used**

JavaScript is used to create interactive websites. It is mainly used for:

* Client-side validation
* Dynamic drop-down menus
* Displaying data and time
* Displaying popup windows and dialog boxes (like alert dialog box, confirm dialog box and prompt dialog box)
* Displaying clocks etc.

**Example**

<html>

<body>

<h2>Welcome to JavaScript</h2>

<script>

document.write("Hello JavaScript by JavaScript");

</script>

</body>

</html>

* The script tag specifies that we are using JavaScript.
* The text/javascript is the content type that provides information to the browser about the data.
* The document.write() function is used to display dynamic content through JavaScript. We will learn about document object in detail later.

**3 Places to put JavaScript code**

1. Between the body tag of html
2. Between the head tag of html
3. In .js file (external javaScript)

**External JavaScript file**

message.js

function msg(){

alert("Hello Javatpoint");

}

**index.html**

<html>

<head>

<script type="text/javascript" src="message.js"></script>

</head>

<body>

<p>Welcome to JavaScript</p>

<form>

<input type="button" value="click" onclick="msg()"/>

</form>

</body>

</html>

Types of JavaScript Comments

There are two types of comments in JavaScript.

* Single-line Comment: // It is single line comment
* 2Multi-line Comment:/\* your code here  \*/

Example of JavaScript variable

<html>

<body>

<script>

var x = 10;

var y = 20;

var z=x+y;

document.write(z);

</script>

</body>

</html>

JavaScript local variable

<html>

<body>

<script>

function abc(){

var x=10;//local variable

}

abc();

</script>

</body></html>

**JavaScript global variable**

<html>

<body>

<script>

var data=200;//gloabal variable

function a(){

document.writeln(data);

}

function b(){

document.writeln(data);

}

a();//calling JavaScript function

b();

</script>

</body>

</html>

**JavaScript primitive data types**

|  |  |
| --- | --- |
| **Data Type** | **Description** |
| String | represents sequence of characters e.g. "hello" |
| Number | represents numeric values e.g. 100 |
| Boolean | represents boolean value either false or true |
| Undefined | represents undefined value |
| Null | represents null i.e. no value at all |

## JavaScript non-primitive data types

|  |  |
| --- | --- |
| **Data Type** | **Description** |
| Object | represents instance through which we can access members |
| Array | represents group of similar values |
| RegExp | represents regular expression |

JavaScript Operators

## JavaScript Arithmetic Operators

Arithmetic operators are used to perform arithmetic operations on the operands. The following operators are known as JavaScript arithmetic operators.

|  |  |  |
| --- | --- | --- |
| **Operator** | **Description** | **Example** |
| + | Addition | 10+20 = 30 |
| - | Subtraction | 20-10 = 10 |
| \* | Multiplication | 10\*20 = 200 |
| / | Division | 20/10 = 2 |
| % | Modulus (Remainder) | 20%10 = 0 |
| ++ | Increment | var a=10; a++; Now a = 11 |
| -- | Decrement | var a=10; a--; Now a = 9 |

## JavaScript Comparison Operators

The JavaScript comparison operator compares the two operands. The comparison operators are as follows:

|  |  |  |
| --- | --- | --- |
| **Operator** | **Description** | **Example** |
| == | Is equal to | 10==20 = false |
| === | Identical (equal and of same type) | 10==20 = false |
| != | Not equal to | 10!=20 = true |
| !== | Not Identical | 20!==20 = false |
| > | Greater than | 20>10 = true |
| >= | Greater than or equal to | 20>=10 = true |
| < | Less than | 20<10 = false |
| <= | Less than or equal to | 20<=10 = false |

## JavaScript Bitwise Operators

The bitwise operators perform bitwise operations on operands. The bitwise operators are as follows:

|  |  |  |
| --- | --- | --- |
| **Operator** | **Description** | **Example** |
| & | Bitwise AND | (10==20 & 20==33) = false |
| | | Bitwise OR | (10==20 | 20==33) = false |
| ^ | Bitwise XOR | (10==20 ^ 20==33) = false |
| ~ | Bitwise NOT | (~10) = -10 |
| << | Bitwise Left Shift | (10<<2) = 40 |
| >> | Bitwise Right Shift | (10>>2) = 2 |
| >>> | Bitwise Right Shift with Zero | (10>>>2) = 2 |

## JavaScript Logical Operators

The following operators are known as JavaScript logical operators.

|  |  |  |
| --- | --- | --- |
| **Operator** | **Description** | **Example** |
| && | Logical AND | (10==20 && 20==33) = false |
| || | Logical OR | (10==20 || 20==33) = false |
| ! | Logical Not | !(10==20) = true |

## JavaScript Assignment Operators

The following operators are known as JavaScript assignment operators.

|  |  |  |
| --- | --- | --- |
| **Operator** | **Description** | **Example** |
| = | Assign | 10+10 = 20 |
| += | Add and assign | var a=10; a+=20; Now a = 30 |
| -= | Subtract and assign | var a=20; a-=10; Now a = 10 |
| \*= | Multiply and assign | var a=10; a\*=20; Now a = 200 |
| /= | Divide and assign | var a=10; a/=2; Now a = 5 |
| %= | Modulus and assign | var a=10; a%=2; Now a = 0 |

There are three forms of if statement in JavaScript.

If Statement

If else statement

if else if statement

JavaScript If-else

<html>

<body>

<script>

var a=20;

if(a>10){

document.write("value of a is greater than 10");

}

</script>

</body>

</html>

JavaScript If else if

<script>

var a=20;

if(a==10){

document.write("a is equal to 10");

}

else if(a==15){

document.write("a is equal to 15");

}

else if(a==20){

document.write("a is equal to 20");

}

else{

document.write("a is not equal to 10, 15 or 20");

}

</script>

JavaScript Switch

<!DOCTYPE html>

<html>

<body>

<script>

var grade='B';

var result;

switch(grade){

case 'A':

result="A Grade";

break;

case 'B':

result="B Grade";

break;

case 'C':

result="C Grade";

break;

default:

result="No Grade";

}

document.write(result);

</script>

</body>

</html>

JavaScript Loops

There are four types of loops in JavaScript.

for loop

while loop

do-while loop

for-in loop

\

1)For Loop

<!DOCTYPE html>

<html>

<body>

<script>

Var i;

for (i=1; i<=5; i++)

{

document.write(i + "<br/>")

}

</script>

</body>

</html>

2)While Loop

<!DOCTYPE html>

<html>

<body>

<script>

var i=11;

while (i<=15)

{

document.write(i + "<br/>");

i++;

}

</script>

</body>

</html>

3)do-while loop

<!DOCTYPE html>

<html>

<body>

<script>

var i=21;

do{

document.write(i + "<br/>");

i++;

}while (i<=25);

</script>

</body>

</html>

JavaScript Functions

<html>

<body>

<script>

function msg(){

alert("hello! this is message");

}

</script>

<input type="button" onclick="msg()" value="call function"/>

</body>

</html>

JavaScript Function Arguments

<html>

<body>

<script>

function getcube(number){

alert(number\*number\*number);

}

</script>

<form>

<input type="button" value="click" onclick="getcube(4)"/>

</form>

</body>

</html>

Function with Return Value

<html>

<body>

<script>

function getInfo(){

return "hello javatpoint! How r u?";

}

</script>

<script>

document.write(getInfo());

</script>

</body>

</html>

**JavaScript Array**

JavaScript array is an object that represents a collection of similar type of elements.

There are 3 ways to construct array in JavaScript

By array literal

By creating instance of Array directly (using new keyword)

By using an Array constructor (using new keyword)

**1) JavaScript array literal**

The syntax of creating array using array literal is given below:

var arrayname=[value1,value2.....valueN];

<html>

<body>

<script>

var emp=["Sonoo","Vimal","Ratan"];

for (i=0;i<emp.length;i++){

document.write(emp[i] + "<br/>");

}

</script>

</body>

</html>

**2) JavaScript Array directly (new keyword)**

var arrayname=new Array();

Here, new keyword is used to create instance of array.

<html>

<body>

<script>

var i;

var emp = new Array();

emp[0] = "Arun";

emp[1] = "Varun";

emp[2] = "John";

for (i=0;i<emp.length;i++){

document.write(emp[i] + "<br>");

}

</script>

</body>

</html>

**3) JavaScript array constructor (new keyword)**

<html>

<body>

<script>

var emp=new Array("Jai","Vijay","Smith");

for (i=0;i<emp.length;i++){

document.write(emp[i] + "<br>");

}

</script>

</body>

</html>

**JavaScript String**

There are 2 ways to create string in JavaScript

By string literal

By string object (using new keyword)

1) By string literal

var stringname="string value";

<!DOCTYPE html>

<html>

<body>

<script>

var str="This is string literal";

document.write(str);

</script>

</body>

</html>

2) By string object (using new keyword)

var stringname=new String("string literal");

Here, new keyword is used to create instance of string.

<!DOCTYPE html>

<html>

<body>

<script>

var stringname=new String("hello javascript string");

document.write(stringname);

</script>

</body>

</html>

**JavaScript String Methods**

<!DOCTYPE html>

<html>

<body>

<script>

var str="javascript";

document.write(str.charAt(2));

var s1="javascript ";

var s2="concat example";

var s3=s1+s2;

document.write(s3);

var s1="javascript from javatpoint indexof";

var n=s1.indexOf("from");

document.write(n);

var s1="javascript from javatpoint indexof";

var n=s1.lastIndexOf("java");

document.write(n);

var s1="JavaScript toLowerCase Example";

var s2=s1.toLowerCase();

document.write(s2);

var s1="JavaScript toUpperCase Example";

var s2=s1.toUpperCase();

document.write(s2);

var s1="abcdefgh";

var s2=s1.slice(2,5);

document.write(s2);

var s1=" javascript trim ";

var s2=s1.trim();

document.write(s2);

</script>

</body>

</html>

**JavaScript Date Example**

<html>

<body>

Current Date and Time: <span id="txt"></span>

<script>

var today=new Date();

document.getElementById('txt').innerHTML=today;

</script>

</body>

</html>

Eg:

<script>

var date=new Date();

var day=date.getDate();

var month=date.getMonth()+1;

var year=date.getFullYear();

document.write("<br>Date is: "+day+"/"+month+"/"+year);

</script>

Eg:

<html>

<body>

Current Time: <span id="txt"></span>

<script>

var today=new Date();

var h=today.getHours();

var m=today.getMinutes();

var s=today.getSeconds();

document.getElementById('txt').innerHTML=h+":"+m+":"+s;

</script>

</body>

</html>

**JavaScript Digital Clock Example**

Current Time: <span id="txt"></span>

<html>

<body>

Current Time: <span id="txt"></span>

<script>

window.onload=function(){getTime();}

function getTime(){

var today=new Date();

var h=today.getHours();

var m=today.getMinutes();

var s=today.getSeconds();

// add a zero in front of numbers<10

m=checkTime(m);

s=checkTime(s);

document.getElementById('txt').innerHTML=h+":"+m+":"+s;

setTimeout(function(){getTime()},1000);

}

//setInterval("getTime()",1000);//another way

function checkTime(i){

if (i<10){

i="0" + i;

}

return i;

}

</script>

</body>

</html>

**JavaScript Math Object**

Eg:

<!DOCTYPE html>

<html>

<body>

Square Root of 17 is: <span id="p1"></span>

<script>

document.getElementById('p1').innerHTML=Math.sqrt(17);

</script>

</body>

</hml>

Eg;

<!DOCTYPE html>

<html>

<body>

3 to the power of 4 is: <span id="p3"></span>

<script>

document.getElementById('p3').innerHTML=Math.pow(3,4);

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

Floor of 4.6 is: <span id="p4"></span>

<script>

document.getElementById('p4').innerHTML=Math.floor(4.6);

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

Ceil of 4.6 is: <span id="p5"></span>

<script>

document.getElementById('p5').innerHTML=Math.ceil(4.6);

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

Round of 4.3 is: <span id="p6"></span><br>

Round of 4.7 is: <span id="p7"></span>

<script>

document.getElementById('p6').innerHTML=Math.round(4.3);

document.getElementById('p7').innerHTML=Math.round(4.7);

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

Absolute value of -4 is: <span id="p8"></span>

<script>

document.getElementById('p8').innerHTML=Math.abs(-4);

</script>

</body>

</html>

<!DOCTYPE html>

<html>

<script type="text/javascript">

function msg(){

alert("Hello Alert Box");

}

function msg1(){

var v= confirm("Are u sure?");

if(v==true){

alert("ok");

}

else{

alert("cancel");

}

}

function msg2(){

var v= prompt("Who are you?");

alert("I am "+v);

}

function msg3(){

open("http://www.javatpoint.com");

}

</script>

<input type="button" value="click" onclick="msg()"/>

<input type="button" value="delete record" onclick="msg1()"/>

<input type="button" value="click" onclick="msg2()"/>

<input type="button" value="javatpoint" onclick="msg3()"/>

</body>

</html>

<!DOCTYPE html>

<html>

<script type="text/javascript">

function msg(){

setTimeout(

function(){

alert("Welcome to Javatpoint after 2 seconds")

},2000);

}

</script>

<input type="button" value="click" onclick="msg()"/> </html>

-----------

<html>

<head>

<script>

function goBack() {

window.history.back()

}

</script>

</head>

<body>

<input type="button" value="Back" onclick="goBack()">

</body>

</html>

<html>

<head>

<script>

function goForward() {

window.history.forward()

}

</script>

</head>

<body>

<input type="button" value="Forward" onclick="goForward()">

</body>

</html>

history.go(2);//for next 2nd page

history.go(-2);//for previous 2nd page

<html>

<body>

<h2>JavaScript Navigator Object</h2>

<script>

document.writeln("<br/>navigator.appCodeName: "+navigator.appCodeName);

document.writeln("<br/>navigator.appName: "+navigator.appName);

document.writeln("<br/>navigator.appVersion: "+navigator.appVersion);

document.writeln("<br/>navigator.cookieEnabled: "+navigator.cookieEnabled);

document.writeln("<br/>navigator.language: "+navigator.language);

document.writeln("<br/>navigator.userAgent: "+navigator.userAgent);

document.writeln("<br/>navigator.platform: "+navigator.platform);

document.writeln("<br/>navigator.onLine: "+navigator.onLine);

</script>

</body>

</html>

<html>

<body>

<script>

document.writeln("<br/>screen.width: "+screen.width);

document.writeln("<br/>screen.height: "+screen.height);

document.writeln("<br/>screen.availWidth: "+screen.availWidth);

document.writeln("<br/>screen.availHeight: "+screen.availHeight);

document.writeln("<br/>screen.colorDepth: "+screen.colorDepth);

document.writeln("<br/>screen.pixelDepth: "+screen.pixelDepth);

</script>

</body>

</html>

# Document Object Model

<script type="text/javascript">

function printvalue(){

var name=document.form1.123.value;

alert("Welcome: "+name);

}

</script>

<form name="form1">

Enter Name:<input type="text" name="123"/>

<input type="button" onclick="printvalue()" value="print name"/>

</form>

**Javascript - document.getElementById() method**

<script type="text/javascript">

function getcube(){

var number=document.getElementById("number").value;

alert(number\*number\*number);

}

</script>

<form>

Enter No:<input type="text" id="number" name="number"/><br/>

<input type="button" value="cube" onclick="getcube()"/>

</form>

Javascript - document.getElementsByName() method

<script type="text/javascript">

function totalelements()

{

var allgenders=document.getElementsByName("gender");

alert("Total Genders:"+allgenders.length);

}

</script>

<form>

Male:<input type="radio" name="gender" value="male">

Female:<input type="radio" name="gender" value="female">

<input type="button" onclick="totalelements()" value="Total Genders">

</form>

Javascript - document.getElementsByTagName() method

<script type="text/javascript">

function countpara(){

var totalpara=document.getElementsByTagName("p");

alert("total p tags are: "+totalpara.length);

}

</script>

<p>This is a pragraph</p>

<p>Here we are going to count total number of paragraphs by getElementByTagName() method.</p>

<p>Let's see the simple example</p>

<button onclick="countpara()">count paragraph</button>

Javascript – innerHTML

<html>

<body>

<script type="text/javascript" >

function showcommentform() {

var data="Name:<br><input type='text' name='name'><br>Comment:<br><textarea rows='5' cols='50'></textarea><br><input type='submit' value='comment'>";

document.getElementById('mylocation').innerHTML=data;

}

</script>

<form name="myForm">

<input type="button" value="comment" onclick="showcommentform()">

<div id="mylocation"></div>

</form>

</body>

</html>

Javascript – innerText

<script type="text/javascript">

function totalelements()

{

var allgenders=document.getElementsByName("gender");

alert("Total Genders:"+allgenders.length);

}

</script>

<form>

Male:<input type="radio" name="gender" value="male">

Female:<input type="radio" name="gender" value="female">

<input type="button" onclick="totalelements()" value="Total Genders">

</form>

JavaScript Form Validation

<script>

function validateform(){

var name=document.myform.name.value;

var password=document.myform.password.value;

if (name==null || name==""){

alert("Name can't be blank");

return false;

}else if(password.length<6){

alert("Password must be at least 6 characters long.");

return false;

}

}

</script>

<body>

<form name="myform" method="post" action="abc.jsp" onsubmit="return validateform()" >

Name: <input type="text" name="name"><br/>

Password: <input type="password" name="password"><br/>

<input type="submit" value="register">

</form>

<script>

function validateform(){

var name=document.myform.name.value;

var password=document.myform.password.value;

if (name==null || name==""){

alert("Name can't be blank");

return false;

}else if(password.length<6){

alert("Password must be at least 6 characters long.");

return false;

}

}

</script>

<body>

<form name="myform" method="post" action="abc.jsp" onsubmit="return validateform()" >

Name: <input type="text" name="name"><br/>

Password: <input type="password" name="password"><br/>

<input type="submit" value="register">

Eg:

<!DOCTYPE html>

<html>

<head>

<script type="text/javascript">

function matchpass(){

var firstpassword=document.f1.password.value;

var secondpassword=document.f1.password2.value;

if(firstpassword==secondpassword){

return true;

}

else{

alert("password must be same!");

return false;

}

}

</script>

</head>

<body>

<form name="f1" action="http://www.javatpoint.com/javascriptpages/valid.jsp" onsubmit="return matchpass()">

Password:<input type="password" name="password" /><br/>

Re-enter Password:<input type="password" name="password2"/><br/>

<input type="submit">

</form>

</body>

</html>

**JavaScript Number Validation**

<!DOCTYPE html>

<html>

<head>

<script>

function validate(){

var num=document.myform.num.value;

if (isNaN(num)){

document.getElementById("numloc").innerHTML="Enter Numeric value only";

return false;

}else{

return true;

}

}

</script>

</head>

<body>

<form name="myform" action="http://www.javatpoint.com/javascriptpages/valid.jsp" onsubmit="return validate()" >

Number: <input type="text" name="num"><span id="numloc"></span><br/>

<input type="submit" value="submit">

</form>

</body>

</html>

JavaScript email validation

<html>

<body>

<script>

function validateemail()

{

var x=document.myform.email.value;

var atposition=x.indexOf("@");

var dotposition=x.lastIndexOf(".");

if (atposition<1 || dotposition<atposition+2 || dotposition+2>=x.length){

alert("Please enter a valid e-mail address \n atpostion:"+atposition+"\n dotposition:"+dotposition);

return false;

}

}

</script>

<body>

<form name="myform" method="post" action="http://www.javatpoint.com/javascriptpages/valid.jsp" onsubmit="return validateemail();">

Email: <input type="text" name="email"><br/>

<input type="submit" value="register">

</form>

</body>

</html>

**validation with image**

<html>

<body>

<script type="text/javascript">

function validate(){

var name=document.f1.name.value;

var passwordlength=document.f1.password.value.length;

var status=false;

if(name==""){

document.getElementById("namelocation").innerHTML=

" <img src='http://www.javatpoint.com/javascriptpages/images/unchecked.gif'/> Please enter your name";

status=false;

}else{

document.getElementById("namelocation").innerHTML=" <img src='http://www.javatpoint.com/javascriptpages/images/checked.gif'/>";

status=true;

}

if(passwordlength<6){

document.getElementById("passwordlocation").innerHTML=

" <img src='http://www.javatpoint.com/javascriptpages/images/unchecked.gif'/> Password must be greater than 6";

status=false;

}else{

document.getElementById("passwordlocation").innerHTML=" <img src='http://www.javatpoint.com/javascriptpages/images/checked.gif'/>";

}

return status;

}

</script>

<form name="f1" action="http://www.javatpoint.com/javascriptpages/valid.jsp" onsubmit="return validate()">

<table>

<tr><td>Name:</td><td><input type="text" name="name"/>

<span id="namelocation" style="color:red"></span></td></tr>

<tr><td>Password:</td><td><input type="password" name="password"/>

<span id="passwordlocation" style="color:red"></span></td></tr>

<tr><td colspan="2"><input type="submit" value="register"/> </td></tr>

</table>

</form>

</body>

</html>

Javascript name,number,phone number validation

<!DOCTYPE html>

<html >

<head>

<meta charset="utf-8">

<meta http-equiv="content-type" content="text/html; charset=utf-8" />

<title>JavaScript form validation - checking all letters</title>

<script>

function allnumeric(inputtxt)

{

var numbers = /^[0-9]+$/;

if(inputtxt.value.match(numbers))

{

alert('Your Registration number has accepted....');

document.form1.text1.focus();

return true;

}

else

{

alert('Please input numeric characters only');

document.form1.text1.focus();

return false;

}

}

function allLetter(inputtxt)

{

var letters = /^[A-Za-z]+$/;

if(inputtxt.value.match(letters))

{

alert('Your name have accepted : you can try another');

return true;

}

else

{

alert('Please input alphabet characters only');

return false;

}

}

function phonenumber(inputtxt)

{

var phoneno = /^\d{10}$/;

if(inputtxt.value.match(phoneno))

{

return true;

}

else

{

alert("Not a valid Phone Number");

return false;

}

}

</script>

</head>

<body >

<h2>Enter your Name and Submit</h2>

<form name="form1" >

<input type='text' name='text1'/>

<input type="submit" name="submit" value="numeric" onclick="allnumeric

(document.form1.text1)" />

<input type="submit" name="submit" value="letter" onclick="allLetter

(document.form1.text1)" />

<input type="submit" name="submit" value="phonenumber" onclick="phonenumber

(document.form1.text1)" />

</form>

</body>

</html>

**DOM events for JavaScript**

|  |  |
| --- | --- |
| **Events** | **Description** |
| onclick | occurs when element is clicked. |
| ondblclick | occurs when element is double-clicked. |
| onfocus | occurs when an element gets focus such as button, input, textarea etc. |
| onblur | occurs when form looses the focus from an element. |
| onsubmit | occurs when form is submitted. |
| onmouseover | occurs when mouse is moved over an element. |
| onmouseout | occurs when mouse is moved out from an element (after moved over). |
| onmousedown | occurs when mouse button is pressed over an element. |
| onmouseup | occurs when mouse is released from an element (after mouse is pressed). |
| onload | occurs when document, object or frameset is loaded. |
| onunload | occurs when body or frameset is unloaded. |
| onscroll | occurs when document is scrolled. |
| onresized | occurs when document is resized. |
| onreset | occurs when form is reset. |
| onkeydown | occurs when key is being pressed. |
| onkeypress | occurs when user presses the key. |
| onkeyup | occurs when key is released. |

**Eg:**

<!DOCTYPE html>

<html>

<body>

<h1 onclick="this.innerHTML='Ooops!'">Click on this text!</h1>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

<h1 onclick="changeText(this)">Click on this text!</h1>

<script>

function changeText(id) {

id.innerHTML = "Ooops!";

}

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

<p>Click the button to display the date.</p>

<button onclick="displayDate()">The time is?</button>

<script>

function displayDate() {

document.getElementById("demo").innerHTML = Date();

}

</script>

<p id="demo"></p>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body onload="checkCookies()">

<p id="demo"></p>

<script>

function checkCookies() {

var text = "";

if (navigator.cookieEnabled == true) {

text = "Cookies are enabled.";

} else {

text = "Cookies are not enabled.";

}

document.getElementById("demo").innerHTML = text;

}

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<head>

<script>

function myFunction() {

var x = document.getElementById("fname");

x.value = x.value.toUpperCase();

}

</script>

</head>

<body>

Enter your name: <input type="text" id="fname" onchange="myFunction()">

<p>When you leave the input field, a function is triggered which transforms the input text to upper case.</p>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

<div onmouseover="mOver(this)" onmouseout="mOut(this)"

style="background-color:#D94A38;width:120px;height:20px;padding:40px;">

Mouse Over Me</div>

<script>

function mOver(obj) {

obj.innerHTML = "Thank You"

}

function mOut(obj) {

obj.innerHTML = "Mouse Over Me"

}

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

<div onmousedown="mDown(this)" onmouseup="mUp(this)"

style="background-color:#D94A38;width:90px;height:20px;padding:40px;">

Click Me</div>

<script>

function mDown(obj) {

obj.style.backgroundColor = "#1ec5e5";

obj.innerHTML = "Release Me";

}

function mUp(obj) {

obj.style.backgroundColor="#D94A38";

obj.innerHTML="Thank You";

}

</script>

</body>

</html>

**JavaScript Classes:** classes are the special type of functions. The JavaScript class contains various class members within a body including methods or constructor.

<script>

//Declaring class

class Employee

{

//Initializing an object

constructor(id,name)

{

this.id=id;

this.name=name;

}

//Declaring method

detail()

{

document.writeln(this.id+" "+this.name+"<br>")

}

}

//passing object to a variable

var e1=new Employee(101,"Martin Roy");

var e2=new Employee(102,"Duke William");

e1.detail(); //calling method

e2.detail();

</script>

**Constructor**

<!DOCTYPE html>

<html>

<body>

<script>

class Employee {

constructor() {

this.id=101;

this.name = "Martin Roy";

}

}

var emp = new Employee();

document.writeln(emp.id+" "+emp.name);

</script>

</body>

</html>

Eg:

<!DOCTYPE html>

<html>

<body>

<script>

class CompanyName

{

constructor()

{

this.company="Javatpoint";

}

}

class Employee extends CompanyName {

constructor(id,name) {

super();

this.id=id;

this.name=name;

}

}

var emp = new Employee(1,"John");

document.writeln(emp.id+" "+emp.name+" "+emp.company);

</script>

</body>

</html>

**static Method**

<!DOCTYPE html>

<html>

<body>

<script>

class Test

{

static display()

{

return "static method is invoked"

}

}

document.writeln(Test.display());

</script>

</body>

</html>