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# Introduction:

What is JavaScript?

* JavaScript was designed to add interactivity to HTML pages
* JavaScript is a scripting language and code execute on browser.
* A scripting language is a lightweight programming language
* JavaScript is usually embedded directly into HTML pages
* JavaScript is an interpreted language (means that scripts execute without preliminary compilation)
* which helps to create or modifies the web page in attractive layout

JavaScript is used in millions of Web pages to improve the design, validate forms, detect browsers, create cookies, and much more.

JavaScript is the most popular scripting language on the internet, and works in all major browsers, such as Internet Explorer, Firefox, and Opera.

## The Real Name is ECMAScript

JavaScript's official name is "ECMAScript". The standard is developed and maintained by the [ECMA organisation](http://www.ecma-international.org/publications/index.html).

The language was invented by Brendan Eich at Netscape (with Navigator 2.0), and has appeared in all Netscape and Microsoft browsers since 1996.

Basic Syntax:

We can type <script> in body tag or inside head tag. we can also use it twice.

Syntax

<script language="javascript">

</script>

**Var**

This is a keyword that indicated the statement is performing an assignment to a variable

**String**

A string is any grouping of character that is surrounded by either double quotation(") marks or single quotationmarks(') usually double quotationmarks are used to denote strings.

If you want to include double quotes in the string, use single quotation marks

**Eg:**

' A string contains " double quote" '

**Numbers**

Any numbers value JavaScript treats all numbers the same. They are just numbers whether they are integers or floating point numbers

20 (integer)

21.6 (floating point numbers)

# OBJECTS IN JAVA SCRIPT

## document.write() :It is an output function, which displays the message (prompt) in browsers.

<script>

document.write("welcome Javascript")

</script>

**Note**: We can use HTML tag inside the prompt.

for eg. document.write("welcome <b>Javascript</b>")

## Variable

It is a name which store value data in computer memory for later use. Variable names are case sensitive. They must begin with a letter or underscore character.

a="This is case sensitive language"

document.write(a)

alert(a)

Comment:

Single Line Comment //

Multiple line Comment /\* ……………… \*/

## 5) <noscript>

The <noscript> tag was created for those browser that can't or won't process

javascript. It is used to display markup that is an alternative to executing a script

Eg:1

<html>

<head>

<title>New Page 1</title>

<script language="javascript">

document.write("wel come to javascript")

</script> </head>

<body>

<noscript>

Hello user ! Wel come to my web page.

//This line can not be seen on the browser

</noscript>

</body>

</html>

JAVASCRIPT OPERATOR:

**1. Arithmetic operator**

* addition (+)
* Subtraction (-)
* division (/)
* modulus ( % ) remainder.
* increment ( ++)
* decrement (--)

Example:

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=10

b=2

e=10

f=2

c=a%b //ans:c=0

d=b%a//ans:d=2

f=e+f//ans:12

g=e-f//ans:-2

h=a\*b

document.write(c+"<br>")

document.write(d+"<br>")

document.write(f+"<br>")

document.write(g+"<br>")

document.write(h)

</script>

<body></body></html>

Example II Arithmetic Operator

## (++, --): Use it to increase or decrease the numeric variable by 1.

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=10

a++//Ans:11

a--//Ans:10

++a//Ans:11

--a//Ans:10

document.write(a)

</script>

<body>

</body>

</html>

## 2. Assignment Operator(+=, -=,\*=,/=,%=)

eg.

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=10 //ans:10

a+=10 //ans:20

a+=20 //ans:40

a/=2 //ans:20

a\*=3 //ans:60

a-=5 //ans:55

a%=4 //ans:3

document.write(a)

</script>

<body>

</body>

</html>

Example II

In this given example = is use to send value from one variable to another variable.

<script>

var a;

var b=10;

a=b;

document.write(a)

</script>

3. Comparison Operator (= =, = = = , >, <, !=, >=, <=) : It is specially use in control structure.

= = : It checks the value are same or not if same it display true and if not then false.

= = = : It checks the value and data type. First it checks value and then it check data type.

4. Logical Operators

Logical operators are used to determine the logic between variables or values.

&& and Two or more condition must be true for true result.

|| or One condition must be true for true result.

! not If both condition is not true the it display true result.

x = 6

y = 3

The table below explains the logical operators:

|  |  |  |  |
| --- | --- | --- | --- |
| **Operator** | **Description** | **Example** | **Result** |
| && | and | (x < 10 && y > 1) | True |
| || | or | (x == 5 || y == 5) | False |
| ! | not | !(x == y) | True |

Example:

<script language="JavaScript">

a=10

b=20

c=30

d=a>b/a<c

e=a<b&&a<c

f=a>b&&a<c

g=!(a>b/a<c)

h=!(a<b&&a<c)

document.write(d +"<br>")

document.write(e +"<br>")

document.write(f +"<br>")

document.write(g +"<br>")

document.write(h +"<br>")

</script>

5. String Operator or Concatenation Operator(+)

Used it to join string with variables, variable with variable

eg.

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a="Microsoft"

b="computer"

c=a+b

//variable with variable

d=c+"<b>Pvt.Ltd.</b>"//Variable with string

document.write(d)

</script>

<body></body></html>

6. Conditional (Ternary) Operator

variable name=(condition)?truevalue:falsevalue

Example:

<script>

exp=10;

res=(exp>=10)?"permanent":"temporary"

document.write(res)

</script>

## Escape sequence (\n,\t)

\n=line break

\t=tab key

Note: It can be used within <pre>tag.

for eg.

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

document.write("<pre>")

a=prompt("Enter your name","")

b=prompt("Enter your fathers name","")

c=prompt("Enter your date of birth","")

d=prompt("Your Language","")

e=prompt("Marital Status","")

f=prompt("Gender","")

g=prompt("Contact No","")

document.write("Name\t\t:"+"<b>"+a+"</b>")

document.write("\nFather's Name\t\t:"+b)

document.write("\nDate of Birth\t\t:"+c)

document.write("\nLanguage\t\t:"+d)

document.write("\nMarital Status\t\t:"+e)

document.write("\nGender\t\t:"+f)

document.write("\nPhoneNo\t:"+g)

document.write("</pre>")

</script>

<body></body></html>

## PROJECT ONE

<SCRIPT>

a=prompt("Enter you first number:","")

b=prompt("Enter you second number","")

c=a+b

d=a-b

e=a\*b

f=a%b

document.write("<pre>")

document.write("<font color=red><u><b>The first number is</font></u></b>"+a+"</font>")

document.write("<font color=red><u><b>& the second number is</font></u></b>"+b+"<br>")

document.write("The sum of first number and second number is\t\t\t:" +c+"<br>")

document.write("<b>The difference of first number and second number is\t\t:</b>" +d+"<br>")

document.write("<b>The product of first number and second number is\t\t:</b>" +e+"<br>")

document.write("<b>The modulus(remainder) of first number and second number is\t:</b>" +f+"<br>")

document.write("</pre>")

</SCRIPT></BODY></HTML>

## QUESTION

Find out the given age is eligible or non-eligible for vote.

Find out the greater number between two numbers.

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=parseInt(prompt("Enter a first value",""))

b=parseInt(prompt("Enter a second value",""))

c=a>b? a:b

document.write("The first number is"+a+"<br>")

document.write("The second number is"+b+"<br>")

document.write("<hr color=red width=200 align=left>")

document.write("greater number is:"+c)

</script>

<body></body></html>

## Conversion Function

**Types:**

1. **Eval( )**

The eval( ) function is used to convert a string expression to a numberic value.

**Eg:1**

<html>

<head>

<title> test page</title>

<script language="javascript">

document.write("12.2\*100")

</script>

</head></html>

**Eg:2**

<html>

<head>

<title> test page</title>

<script language="javascript">

document.write(eval("12.2\*100"))

</script>

</head></html>

1. **ParseInt( )**

The ParseInt( ) function is used to convert a string value into an integer.

**Eg:1**

<html><head>

<title> test page</title>

<script language="javascript">

document.write("1234xyz")

</script>

</head></html>

**Eg:2**

<html>

<head>

<title> test page</title>

<script language="javascript">

document.write(parseInt("1234xyz"))

</script></head></html>

1. **ParseFloat( )**

The parseFloat ( ) function is similar to the parseInt ( ) function.

**Eg:1**

<html>

<head>

<title> test page</title>

<script language="javascript">

document.write("123.455xyz")

</script>

</head></html>

**Eg:2**

<html>

<head>

<title> test page</title>

<script language="javascript">

document.write(parseFloat("123.455xyz"))

</script>

</head></html>

**evaluation**

<script language="javascript">

var a;

var b;

var c;

a=prompt("enter the 1st no","number")

b=prompt("enter the 2nd no","number")

c=eval(a)+eval(b)

d=a-b

e=a\*b

f=a/b

alert("your sum is:"+c)

alert("your sub is:"+d)

alert("your mul is:"+e)

alert("your div is:"+f)

</script>

## Conditional Statement:

1. If else condition
2. Switch statement

## If else statement:-

It checks the conditional and reads the true statement, when the given condition is true otherwise jump to next condition or statement.

Syntax:

if(condition)

{

true statement

}

else

{

false statement

}

Example I

<script>

exp=10;

if(exp>=10)

{

document.write("You are permanent")

}

else

{

document.write("you are temporary")

}

</script>

Example II

<script language="JavaScript">

a=parseInt(prompt("Enter first number","a"))

b=parseInt(prompt("Enter second number","b"))

if(a>b)

{

greater=a

}

else

{

greater=b

}

document.write("The greatest number is" + greater)

</script>

**Example 3**

<html>

<head>

<title>New Page 1</title>

</head>

<body>

<script>

var sex;

sex=prompt("enter your Gender?\n\t\t male \t female ")

if(sex= ="male")

{

alert("Hello Mr.");

}

else if(sex= ="female")

{

alert("Hello Mam.");

}

else

{

alert("Invalid Input");

}

</script> </body></html>

**FINDING OUT TH GREATEST NO. AMONG THREE NUMBERS.**

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=parseInt(prompt("first no","20"))

b=parseInt(prompt("second no",""))

c=parseInt(prompt("Third no",""))

if(a>b&&a>c)

{g=a}

else if(b>a&&b>c)

{g=b}

else

{g=c}

document.write("The greatest number is"+g)

</script>

<body></body></html>

## Finding out the result "Pass" or "Fail"

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

document.write("<pre>")

eng=parseInt(prompt("English Marks","20"))

math=parseInt(prompt("Math marks","32"))

if(eng>32&&math>32)

{r="pass"}

else

{r="fail"}

document.write("Result:\t"+r)

document.write("</pre>")

</script>

<body></body></html>

**Example of ParseInt**

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=prompt("number","")

b=prompt("number","")

c=a+b

document.write(c)

</script>

<body>

Type parseInt before prompt

</body>

</html>

**SWITCH CASE**

It also checks the condition but only equality condition and reads its statement when true. Break is use to terminate the statement when the condition is true.

**Syntax:**

switch(variable)

{

case 1:

statements

break

case 2:

statements

break

default:

statement

}

Example 1

<script>

day=2;

switch(day)

{

case 1:

document.write("Sunday")

break;

case 2:

document.write("Monday")

break;

case 3:

document.write("Tuesday")

break;

default:

document.write("It is holiday")

}

</script>

Example II

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=parseInt(prompt("Enter a number","80"))

switch(a)

{

case 1:

document.bgColor="Red"

break

case 2:

document.bgColor="blue"

default:

document.bgColor="green"

}

</script>

<body></body></html>

**Example III**

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

n=prompt("Enter any character A-Z", "A")

switch (n)

{

case 'A':

Color="aqua"

break

case 'B':

Color="blue"

break

case 'C':

Color="cyan"

break

case 'D':

Color="dark green"

break

default:

alert("I have not any color")

Color="black"

}

document.bgColor=(Color)

</script>

<body></body></html>

# Loop:

Loop means repeatition of statements. There are various types of loop in language program but in Java Script there are three types of loop in Java Script.

1. for.........loop
2. do............while
3. while.........loop

**for.....loop:**

The venerable for loop repeatedly cycles through a block of statements until a test condition is false. Typically, the number of times a loop is repeated depends on a counter. The Javascript for syntax incorporates he counter and its increments.

The initialization is executed first, and once only. Commonly, this statement is used to initialize a counter variable. Then the condition is applied and if it succeeds then the statements are executed.

syntax:-

for(variable define; condition; increment/decrement)

{

statements

}

Example I

<script>

for(a=1; a<=10; a++)// You can type a+=1 instead of a++

{

document.write(a+"<br>")

}

</script>

**For loop in heading tag.**

<script>

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

{

document.write("<h"+i+">"+"this is header"+i+"</h"+i+">"+"<br>")

}

</script>

**Question:**

1. Display the order from 10,9...1.

2. Display the order like 1 3 5 9

3. Display the order like 5 10 15 20 to 50.

## Do...While Loop:-

Another loop, a **do…… while** statement executes a block of statements repeatedly until a condition becomes false. Due to its structure, this loop necessarily executes the statement at least once.

**Syntax**

type variable

do

{

Statements;

increment/decrement;

}

while(condition);

Example I Displaying series 1 to 10

a=0

do

{

document.write(a+"<br>")

a++

}

while(a>=10)

</script>

**EG OF SUM OF SERIES 1 to 10**

s=0

a=1

do

{

document.write(a+"<br>")

s+=a

a++

}

while(a<=10)

document.write("sum"+s)

</script>

QUESTION

Displaying the series 10 to 1.

## WHILE LOOP

In similar fashion as the do…. While statement, the while statement executes its statement block as long as the condition is true. The main difference between while and do….while, aside from the fact that only while is supported in all JavaScript versions, is that a while loop may not execute the statements even once if the condition is initially false.

**syntax:**

while(<condition>)

{

code to be executed or statement

increment/decrement

}

Example I

<script>

i=1;

while(i<=10)

{

document.write("the number is "+i+"<br>")

i++

}

</script>

**Example II**

<script>

a=parseInt(prompt("Enter a number to create multiplication table",""))

b=1

while(b<=10)

{

c=a\*b

document.write(a+"X"+b+"="+c+"<br>")

b++

}

</script>

**Example III**

**Drop DownList Menu using while loop**

<script>

document.write("<select>")

i=1

while(i<=10)

{

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

i++

}

document.write("</select>")

</script>

**Break statement in loop**

Example: In this given example when the value equal to 5 the break statement terminate the loop.

<script>

i=1;

while(i<=10)

{

document.write("the number is "+i+"<br>")

i++

if(i==5)

{

break;

}

}

</script>

for in loop: this loop is working with array.

Syntax:

for(variable in arrayname)

{

}

<script>

student=new Array()

student[0]="Ram"

student[1]="Shyam"

student[2]="Hari"

for (i in student)

{

document.write("The student are"+student[i]+"<br>")

}

</script>

**FUNCTION**

It stores two or more statements in computer memory and whenever we want, we can call it. Two types of function. Specially javascript function call with html event.

1. Built in function like alert( )
2. User define function
   1. Function with argument: function call with argument
   2. function without argument: function call without argument

**Syntax:-**

function function name ()

{

statements

}

function calling

Example I: Function without argument

<script>

function test() //test is a function name

{

add=10+20; // add is a variable name

document.write(add);

}

test(); //function call

</script>

Example II: Function without argument

<script>

function test(var1,var2) //var1, var2 is a function argument

{

add=var1\*var2; // add is a variable name

document.write(add);

}

test(5,7); //function call

</script>

Eg.1

// Simple function having without any parameter argument.

<script>

function lndraw()

{

for (a=1; a<=80; a++)

{

document.write("@")

}

}

document.write("<h1>This is function</h1>")

lndraw()//function calling

document.write("<h1>This is function</h1>")

lndraw()// function calling

</script>

**FUNCTION HAVEING SINGLE PARAMETER**

<script>

function lndraw(ls)

{

//ls line draw

for(a=1; a<=80; a++)

{

document.write(ls)

}

document.write("<br>")

}

document.write("<h1>JAVA WORLD</H1>")

lndraw('\*')

document.write("Web page designing<br>")

p=prompt("Enter any character","+")

lndraw(p)

</script>

JavaScript Popup Boxes

1. Alert
2. Prompt Box
3. Confirm Box

## Alert()

It is also an output function which displays the prompt message in a message box having 'OK' button.

Example

<script>

alert("Java script is case sensitive")

</script>

## Confirm()

It is used to display a message having OK and CANCEL button where ok is true and cancel is false.

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

r=confirm("Here is a quiz do you want to play?")

if(r==true)

{

q1=parseInt(prompt("How many district in Nepal?","10"))

if(q1==75)

{

alert("You are Right")

}

else

{

alert("You are wrong")

}

}

else

{

alert("You have not knowledge")

}

</script>

<body></body></html>

## prompt()

It is an output function, which take/input data from the user.

for eg.

a=prompt("Enter you name","Pawan&Suren")

document.write(a)

## Question:1

Name : Suren

Address : Lagan

Age : 17

<BODY>1st method.

<SCRIPT language=JavaScript>

a=prompt("Enter you name", "Anything","Hari")

b=prompt("Enter your address","Kathmandu")

c=parseInt(prompt("Enter your age","12"))

document.write("<table border='1' bordercolor='red' width='600'>")

document.write("<tr><td>Name</td>")

document.write("<td>"+a+"</td></tr>")

document.write("<tr><td>Address</td>")

document.write("<td>"+b+"</td></tr>")

document.write("<tr><td>Age</td>")

document.write("<td>"+c+"</td></tr>")

document.write("</table>")

document.write("<hr width=800 height=20 color=red>")

</SCRIPT>

</BODY></HTML>

## 2nd METHOD

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

a=prompt("Enter you name", "Anything","Hari")

b=prompt("Enter your address","Kathmandu")

c=parseInt(prompt("Enter your age","12"))

document.write("<table border='1' bordercolor='red' width='600'>")

document.write("<tr><td>")

document.write("Name:")

document.write("</td><td>")

document.write(a)

document.write("</td></tr>")

document.write("<tr><td>")

document.write("Address:")

document.write("</td><td>")

document.write(b)

document.write("</td></tr>")

document.write("<tr><td>")

document.write("Age:")

document.write("</td><td>")

document.write(c)

document.write("</td></tr>")

document.write("</table>")

document.write("<hr width=800 height=20 color=red>")

</script> </html>

Object in JavaScript

We can create object in two method.

1. Direct create an object

Syntax:

var objectName=new Object()

1. Create an object with function

Example:

<script>

microsoft=new Object()

microsoft.Location="Bagbazar"

microsoft.Color="Blue"

microsoft.Ages="2008"

microsoft.Story="Computer, Language"

document.write(microsoft.Location+"<br>")

document.write(microsoft.Color+"<br>")

document.write(microsoft.Ages+"<br>")

document.write(microsoft.Story+"<br>")

</script>

Objects:

* Date object

Syntax:

var d=new Date();

method:

1. getDate()
2. getHours()
3. getMinutes()
4. getMonth()
5. getSecond()
6. getYear()

* String Object: It is use

1. length: to check length of string.
2. match: to find string.
3. replace: to replace string.
4. UpperCase: to convert in uppercase
5. charAt: to display character position.
6. toLowerCase: to change small letter.
7. typeof: to find out data type string, number.
8. indexOf: to display position.
9. substring: to take character by giving two parameter value.

Example:

<script>

txt="Microsoft educational institute, bagbazar";

document.write(txt.length+"<br>");

document.write(txt.match("Microsoft")+"<br>")

document.write(txt.replace("educational","Computer")+"<br>")

document.write(txt.toUpperCase()+"<br>")

document.write(txt.charAt(10)+"<br>") //10 means the position.

document.write(txt.toLowerCase()+"<br>")

document.write(typeof(txt)+"<br>")

</script>

* Array Object
* Math Object

1. random : it use between 0 to 1.
2. round : for round value. eg. 8.4 change into 8.
3. max: to find maximum value.
4. min: to find minimum value.
5. ceil: to show upper value after decimal eg. 8.5 into 9.
6. floor: to show lower value after decimal eg. 8.5 into 8.
7. sqrt: square root.

Example:

<script>

document.write("the random value"+Math.random()+"<br>")

document.write("the round value="+Math.round(8.4)+"<br>")

document.write("The Max Value="+Math.max(12, 15.5, 14)+"<br>")

document.write("The Min Value="+Math.min(12, 15.5, 14)+"<br>")

document.write("The ceil Value="+Math.ceil(15.5)+"<br>")

document.write("The floor Value="+Math.floor(15.5)+"<br>")

document.write("The sqare root Value="+Math.sqrt(49)+"<br>")

</script>

**ARRAYS**

It is a part of memory, which stores two or more values in a single name. These values are stored in indexed locations within the array. Javascript does not have an explicit array data type. However, you can use the predefined Array object and its methods to work with arrays in your applications. The Array object has methods for manipulating arrays in various ways, such as joining, reversing, and sorting them. It has a property for determining the array length and other properties for use with regular expressions.

An array is an ordered set of values that you refer to with a name and an index. For example, you could have an array called emp that contains employees names indexed by their employee number. So emp[1] would be employee number one, emp[2] employee number two, and so on.

Syntax:

method I: varaibleName=new Array() // ( )unlimited data store

method II: variableName=new Array( 5) // (5) only 5 data can store

method III: variableName=new Array("sun","mon") //pre store values

variableName[0]="value1"

variableName[1]="Value2"

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

employee=new Array()

employee[0]="Ram"

employee[1]="Laxman"

employee[2]="Pratipal"

employee[3]="Pritesh"

employee[4]="Shiva"

document.write(employee[0]+"<br>")

document.write(employee[1]+"<br>")

document.write(employee[2]+"<br>")

document.write(employee[3]+"<br>")

document.write(employee[4]+"<br>")

</script>

<body></body></html>

Example II: array using for …in loop.

<script>

student=new Array()

student[0]="Ram"

student[1]="Shyam"

student[2]="Hari"

for (i in student)

{

document.write("The student are"+student[i]+"<br>")

}

</script>

Example III

<script language="JavaScript">

days=new Array("Sun","Mon","Tue","Wed","Thurs","Fri","Sat")

document.write(days[0]+"<br>")

document.write(days[1]+"<br>")

document.write(days[2]+"<br>")

document.write(days[3]+"<br>")

document.write(days[4]+"<br>")

document.write(days[5]+"<br>")

document.write(days[6]+"<br>")

</script>

**ARRAY USING FOR LOOP**

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

abc=new Array()

abc[0]="Ram"

abc[1]="Shyam"

abc[2]="Harry"

abc[3]="Gita"

for(a=0; a<4; a++)

{

document.write(abc[a]+"<br>")

}

</script>

<body></body></html>

Example:

<script>

days=new Array()

for(i=0; i<=6; i++)

{

j=prompt("enter days")

days[i]=j;

}

for(i in days)

{

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

}

</script>

Example: Array sorting

<script>

str=new Array()

str[0]="Apple"

str[1]="Gun"

str[2]="Ball"

str[3]="Banana"

document.write(str.sort()+"<br>")

</script>

Array reverse:

<script>

str=new Array()

str[0]="Apple"

str[1]="Gun"

str[2]="Ball"

str[3]="Banana"

document.write(str.reverse()+"<br>")

</script>

Window object: it is automatically generate at the time of javascript runtime.

window.open()

window.close( )

window.status ( )

window.location () :

Example I window.open

<script>

function window\_open()

{

window.open()

}

</script>

<form>

<input type="button" name="openwindow" value="new Window" onclick="window\_open()">

</form>

Example II: Picture open

<script>

function window\_open()

{

window.open("10.jpg","\_parent")

}

</script>

<form>

<input type="button" name="openwindow" value="Photo" onclick="window\_open()">

</form>

window.close:

<script>

function window\_open()

{

window.open("10.jpg","\_blank")

}

function window\_close()

{

window.close();

}

</script>

<form>

<input type="button" name="openwindow" value="Photo" onclick="window\_open()">

<input type="button" name="closewindow" value="close" onclick="window\_close()">

</form>

window.location: it is specially suppory in internet explorer.

<html>

<head>

<title>window location </title>

<script>

function show\_url()

{

alert(window.location())

}

function changeurl()

{

window.location("http://www.facebook.com")

}

</script>

</head>

<form>

<input type="button" name="showurl" value="URL Check" onclick="show\_url()">

<input type="button" name="facebook" value="facebook" onclick="changeurl()">

</form>

onclick

example:

<html>

<head>

<title>Java</title>

<script>

function kkk(){

document.bgColor="pink"

}

function pic(){

document.body.background="10.jpg"

}

</script>

</head>

<body>

Change background color into:

<input type="button" name="aa" value="color" onClick="kkk()">

<input type="button" name="aa" value="Picture" onClick="pic()">

</body></html>

Location object properties and method.

properties:

1. href:
2. port
3. host
4. protocol

method:

1. reload : reload and refresh and open same page.
2. replace(url): redirect page to change url.

**location.href**

Example I: to link file

<html>

<head>

<title>window location </title>

<script>

function link()

{

location.href="while.html"

}

</script>

</head>

<form>

<input type="button" name="while" value="while" onclick="link()">

</form>

reload and replace method

Example:

<html>

<head>

<title>window location </title>

<script>

function reload()

{

location.location.reload()

}

function replace()

{

window.location.replace("http://www.facebook.com")

}

</script>

</head>

<form>

<input type="button" name="reload" value="reload" onclick="reload()">

<input type="button" name="redirect" value="redirect" onclick="replace()">

</form>

**Timing object:** If we want to display message by specifying time.

1. setTimeout()
2. ClearTimeout()
3. setInterval()
4. ClearInterval()

**Status Display and Timesout:**

The window object provides two properties that c an be used to display status information in browser's status bar.

The **defaultstatus** property specifies a permanent default status message.The message displayed using the defaultstatus peroperty are permanently displayed in the status bar.

The **setTimeout()** method identifies and expression to be evaluated after a specified number of milliseconds; it is this expression that performs the timeout processing. For example:

timelag=setTimeout("doprocess()",5000)

The **clearTimeout()** method is used to cancel timeout before it occurs and prevent the timeout processing from being performed.

cleartimeout(timelag)

**In** the given example the user is asked a questing and given three radio buttons from which to select his answer. If the user selects the right answer within 5 seconds the radio button's On click event handler clears the timeout and congratulates the user. If he clicks the wrong answer the status bar displays the relevant message. When 5 seconds have elapsed and the user has not yet clicked the right answer the timeout processing is done the the message' Your times finished...... is displayed

**setTimeout()**

**Syntax**:

setTimeout("Function\_name",Time(Miliseconds))  
**Example:**

<script>

function time\_check()

{

alert("We are checking settimeout")

}

time=setTimeout(time\_check,3000)

//1000 milliseconds = 1 second and always in millseconds.

</script>

**setInterval()**

Used it to call specified in a certain period. It evaluates an expression or calls a function every time a specified number of milliseconds. It works like a loop. It is canceled by a call to clear Interval.

Syntax:

setTimeinterval("function\_name",time(milliseconds))

Example:

<script>

function time\_check()

{

alert("We are checking settimeout")

clearInterval(time)// to remove. time is a variable name.

}

time=setInterval(time\_check,3000)

//1000 milliseconds = 1 second and always in millseconds.

</script>

Example II :changing background color of body after 4 seconds.

<script>

index=0

function chbgcolor()

{

clist=new Array("blud","pink","yellow","orange","red","green","cyan","magenta","maroon","aqua","teal","purple","sky blue")

document.bgColor=clist[index]

index++

if(index>12)

{

index=0

}

}

setInterval('chbgcolor()',1000)

</script>

Example III : **Picture changing:**

<script>

index=0

function picture()

{

clist=new Array("blue.jpg", "winter.jpg","water.jpg")

document.body.background=clist[index]

index++

if(index>2)

{

index=0

}

}

setInterval('picture()',1000)

</script>

Example IV

<script>

c=0

function time\_count()

{

document.getElementById("text").value=c

c++

time=setTimeout("time\_count()",1000)

}

function count\_stop()

{

clearTimeout(time)

}

</script>

<input type=button value="start" onclick="time\_count()">

<input type="text" id="text">

<input type=button value="stop" onclick="count\_stop()">

**Local Time Display**

inner.HTML: this properties directly checks all html code

value: this properties check html text box value.

getElementById: it takes value from the form text.

Example

<script>

function time\_display()

{

d=new Date();

c=d.toLocaleTimeString();

document.getElementById("text").innerHTML=c; //text is a name it is similar to id name.

}

time=setInterval(time\_display,1000);

</script>

<h1 id="text"> </h1>

ClearInterval:

Example:

<script>

c=5;

function count\_down()

{

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

c--;

if(c<0)

{

clearInterval(time)

document.getElementById("text").innerHTML="click here"// when time is less than 1 this code execute

}

}

time=setInterval(count\_down,1000);

</script>

<h1 id="text"> </h1>

**getElementById:**

The getElementById() method returns the element that has the ID attribute with the specified value.

Returns *null* if no elements with the specified ID exists.

An ID should be unique within a page. However, if more than one element with the specified ID exists, the getElementById() method returns the first element in the source code.

**Example I:**

<html>

<body>

<p id="test">Click the button to test</p>

<button onclick="myFunction()">Try</button>

<script>

function myFunction() {

document.getElementById("test").innerHTML = "Hi! Welcome";

}

</script>

</body>

</html>

**Example II:**

<!DOCTYPE html>

<script type="text/javascript">

function notEmpty(){

var myTextField = document.getElementById('myText');

if(myTextField.value != "")

alert("You entered: " + myTextField.value)

else

alert("Type text?")

}

</script>

<input type='text' id='myText' />

<input type='button' onclick='notEmpty()' value='Check' />

**Example III**

<html>

<head>

<script type="text/javascript">

function test(){

var a=document.getElementById("mei");

alert("You are in Microsoft Educational Institute");

}

</script>

</head>

<body>

<h1 id="mei" onclick="test()"> Institute </h1>

</body>

Example IV

<html>

<head>

<title>getelement </title>

</head>

<body>

<form>

Your Name<input type="text" id="test">

<input type="button" value="show" onclick="document.getElementById('output').innerHTML=document.getElementById('test').value;">

<div id="output">

</div>

</form>

</body>

</html>

**Example 5:**

<html>

<head>

<title>getelement </title>

<script language="javascript" type="text/javascript">

function changecontent()

{

document.getElementById("highlight").style.backgroundColor="red";

document.getElementById("information").style.border="thin black solid";

document.getElementById("information").innerHTML=document.getElementById('think').value;

} // what we type in text box it changes.

</script>

</head>

<body>

<div id="information">

Microsoft Educational institute is one of the leading<span id='highlight'> computer and language</span> training institute in bagbazar.

</div>

<p>what do you think?

<input type="text" id="think">

<input type="button" id="change" onclick="changecontent()" value="change content">

</body>

</html>

Example 6: to check text filed blank or not

<html>

<title>getelement

</title>

</head>

<body>

<script type="text/javascript">

function test()

{

var text=document.getElementById("username").value;

if(text=="")

{

document.getElementById("userlabel").innerHTML="Text field should not be empty";

document.getElementById("userlabel").style.color="red";

}

else

{

document.getElementById("userlabel").innerHTML="ok";

document.getElementById("userlabel").style.color="green";

}

}

</script>

Name:

<input type="text" id="username" onblur="test()">

<label id="userlabel"></label>

</body>

</html>

Example VII

<html>

<head>

<title>window object</title>

<script>

function big()

{

var x=document.getElementById("p1");

x.style.fontSize="36pt";

x.style.color="red";

}

function small()

{

var x=document.getElementById("p1");

x.style.fontSize="12pt";

x.style.color="blue";

}

</script>

</head>

<body>

<p id="p1" style="color:blue" onmouseover="big();" onmouseout="small();">

Javascript for DHTML effects

</p>

</body>

</html>

Simple image slider:

<!DOCTYPE html>

<html>

<head>

<script type="text/javascript">

var image1=new Image()

image1.src="10.jpg"

var image2=new Image()

image2.src="15.jpg"

var image3=new Image()

image3.src="16.jpg"

</script>

</head>

<body>

add the first image here

<img src=10.jpg name="slide" width="400" height="400">

<script type="text/javascript">

<!--

var step=1

function slideit(){

document.images.slide.src=eval("image"+step+".src")

if(step<3)

step++

else

step=1

setTimeout("slideit()",2500)

}

slideit()

</script>

**History Object:** It store all website URLs. It is automatically generate.

**Properties:** length

**method**

forward: one step website forward

back: one step website backward

go: by specify website value

Example:

<script type="text/javascript">

document.write(history.length)

function forward\_button()

{

document.write(history.forward())

}

function back\_button()

{

document.write(history.back())

}

</script>

<input type="button" value="Forward" onclick="forward\_button()">

<input type="button" value="Back" onclick="back\_button()">

**Event Handling:**

1. onabort Event:
2. onblur event
3. onclick event
4. onerror event
5. onfocus event
6. onkeydown event
7. onchange event
8. onkeypress event
9. onkeyup event
10. onload event
11. onmousedownevent
12. onselect event
13. onsubmit event
14. onunload event
15. ondblclick event
16. onmousemove event
17. onmouseover event

onbort to display message when the image is fail to upload

example: the message only shows when the server doesn't display the image

<html>

<head>

<script type="text/javascript">

function image\_abort()

{

alert("error : image upload aboarted")

}

</script>

</head>

<body>

<img src="10.jpg" onabort="image\_abort()">

onblur: in this example we are change lower case into upper case

<html>

<head>

<script type="text/javascript">

function upper\_case()

{

var x=document.getElementById("txt").value;

document.getElementById("txt").value=x.toUpperCase();

}

</script>

</head>

<body>

Enter Name:

<input type="text" id="txt" onblur="upper\_case()">

onerror event: in this example if the image is not available the message display.

<html>

<head>

<script type="text/javascript">

function image\_error()

{

alert("the image is not avaiable")

}

</script>

</head>

<body>

<img src="11.jpg" onerror="image\_error()">

onfocus: it is use to focus the text box. in this example there are two text box so we have the x argument value in ().

<html>

<head>

<script type="text/javascript">

function color\_focus(x)

{

document.getElementById(x).style.background="blue"

}

</script>

</head>

<body>

First Name:<input type="text" id="text1" onfocus="color\_focus(id)">

Last Name:<input type="text" id="text2" onfocus="color\_focus(id)">

onkey event: this event help to change every single character . in this example it automatically change the small letter into capital letter .

<html>

<head>

<script type="text/javascript">

function key\_event(x)

{

var j=document.getElementById(x).value;

document.getElementById(x).value=j.toUpperCase();

}

</script>

</head>

<body>

First Name:<input type="text" id="text1" onkeyup="key\_event(this.id)">//this.id means currently text field.

onmousedown event: it is use when we click.

Example

<html>

<head>

<script type="text/javascript">

function key\_down(x,color) //typy x only for same color apply for all

{

x.style.background=color; //type color name for same color apply for all.

}

</script>

</head>

<body>

<div onmousedown="key\_down(this,'red')">Computer </div> //type this only for same color for all.

<div onmousedown="key\_down(this,'green')">Language </div>

<img src="10.jpg" onmousedown="alert('Do not Copy this picture')">

Onmouseover event:

Example I

<html>

<head>

</head>

<title></title>

<script language="JavaScript">

function a()

{

document.bgColor="red"

}

function b()

{

document.bgColor="blue"

}

</script>

<body bgcolor="green">

<img src="10.jpg" Onmouseover="a()" Onmouseout="b()">

</body>

</html>

Example II

<html>

<head>

</head>

<title></title>

<script language=”JavaScript”>

function a()

{

document.body.background=”1.jpg”

}

function b()

{

document.body.background=”2.jpg”

}

</script>

<body bgcolor=”green”>

<img src=c.jpg Onmouseover=”a()” Onmouseout=”b()”>

</body>

</html>

Example III

<html>

<head>

<title>New Page 1</title>

<script language="javascript">

var num=0

</script>

</head>

<body>

<p><a href="microsoft educational institute" onMouseOver='++num;alert("Thank you . You placed your mouse here"+num+"times!")')">Microsoft</a></p>

</body>

</html>

Example IV

<html>

<head>

<title>New Page 1</title>

</head>

<body>

<p onMouseOver=style.color="red" onMouseOut=style.color="blue" align='center'><font face='Impact' size=100>KRITAGYA MAHARJAN</font></p>

</body>

</html>

onsubmit:

<html>

<head>

<title>New Page 1</title>

</head>

<body>

<form onSubmit="alert('hell0 '+T1.value+T2.value+' Wel come to my web page')">

<p>First Name: <input type="text" name="T1" size="20"></p>

<p>Last Name: <input type="text" name="T2" size="20"></p>

<input type="submit" value="Submit" name="B1">

<input type="reset" value="Reset" name="B2"></p>

</form>

</body></html>

**Digital Clock:**

<HTML>

<HEAD>

<TITLE>JAVA SCRIPT CLOCK</TITLE>

<Script Language="JavaScript">

function showtime() {

var now=new Date();

var hours=now.getHours();

var minutes=now.getMinutes();

var seconds=now.getSeconds();

var timevalue=""

if(hours>12)

timevalue=hours-12;

else

timevalue+=hours

if(minutes<10)

timevalue+=":0"+minutes

else

timevalue+=":"+minutes

if(seconds<10)

timevalue+=":0"+seconds

else

timevalue+=":"+seconds

if(hours>=12)

timevalue+="P.M."

else

timevalue+="A.M."

document.myform.myclock.value=timevalue; window.status=timevalue;

setTimeout("showtime()",1000);

}

</script>

</head>

<body onLoad="showtime()">

<form name="myform">

<input type="text" name="myclock" size=12>

</form>

</body>

</html>

**PROJECTS:**

ONE:

<html>

<head>

<title>calculate</title>

<script language="javascript">

function check()

{

var b=document.forms[0];

if(b.r[1].checked)

b.t3.value="correct";

else

b.t3.value="incorect";

}

function check2()

{

var a=document.forms[0];

if(a.s[1].checked)

a.t2.value="correct";

else

a.t2.value="Incorrect";

}

</script>

</head>

<body>

<form>

What does ISP stand for? <br>

<input type="radio" name="r"> International Service Provider <br>

<input type="radio" name="r"> Internet Service Provider<br>

<input type="radio" name="r"> International sales provider<br>

<input type="radio" name="r"> none <br>

<input type=button value="submit" onclick="check();">

Answer: <input type=text name="t3" readonly>

<br>

What does www stand for? <br>

<input type="radio" name="s"> world wealth web <br>

<input type="radio" name="s"> world wide web<br>

<input type="radio" name="s"> world width west<br>

<input type="radio" name="s"> none <br>

<input type=button value="submit" onclick="check2();">

Answer: <input type=text name="t2" readonly>

<br>

</from>

</body>

</html>

Two:

<html>

<head>

<title>calculate</title>

<script language="javascript">

function check()

{

var b=document.forms[0];

if(b.r1.checked==true && b.r2.checked==true && b.r3.checked==false && b.r4.checked==false)

{

b.t1.value="correct";

}

else

{

b.t1.value="incorrect";

}

}

</script>

</head>

<body>

<form>

Internet Explorer is used <br>

<input type=checkbox name="r1"> To browse the Internet <br>

<input type=checkbox name="r2"> To browse the Internet <br>

<input type=checkbox name="r3"> To browse the Internet <br>

<input type=checkbox name="r4"> To browse the Internet <br>

<input type=button value="submit" onclick="check();">

<br><br><br>

Answer: <input type=text name="t1" readonly>

</from>

</body>

</html>

Three:

<script language="javascript">

function pasuser(form)

{

if (form.id.value=="microsoft") {

if (form.pass.value=="computer") {

location="while.html"

}

else

{

alert("Invalid Password")

}

}

else

{

alert("Invalid UserID")

}

}

</script>

<center>

<table border="0" bgcolor="sky blue">

<tr><td colspan="2"><center><b>Login</b></center></td></tr>

<tr><td><b>User:</b></td><td><form name="login">

<input name="id" type="text"></td></tr>

<tr><td><b>Password:</b></td><td>

<input name="pass" type="password"></td></tr>

<tr><td>&nbsp;</td><td><input type="button" value="Login"

onClick="pasuser(this.form)">

<input type="Reset"></form></td></tr></table>

**Four:**

<html>

<head>

<script>

function valid()

{

if(window.document.myform.tbs.value=="h"&&window.document.myform.tbp.value=="j")

{

alert("welcome");

}

/////////this line is to check the fields

else

{

if(document.myform.tbs.value=="h"&&document.myform.tbp.value!="j")

{

alert("wrong password");

}

else if(document.myform.tbs.value!="h"&&document.myform.tbp.value=="j")

{

alert("wrong name");

}

else

{

alert("wrong user name or password");

}

}

}

</script>

<title>Untitled Document</title>

</head>

<body>

<div style="background-color=#000EFA;width=200px;position=absolute;left=400px;bottom=400px;">

<form name="myform">

<table>

<tr><th>Name</th><th><input type="text" name="tbs" /></th></tr>

<tr><th>Password</th><th><input type="password" name="tbp" /></th></tr>

<tr><td></td><td><input type="button" name="btn1" value="check" onclick="valid()"/></td>

</tr>

</table>

</form>

</div>

</body>

</html>

**Set Time Project**

<html>

<head>

<title>Status Display and Timeouts</title>

<script language="Javascript">

<!--

function setTimer() {

timer=setTimeout("alert('your times finished because you cannot choose option within 5sec.')",5000)}

function clearTimer(){

clearTimeout(timer)

alert("Congratulations! You are amazing")}

//-->

</script>

</head>

<Body onMove="self.status='Dont move, I am giddy!'">

<script language="javascript">

<!--

self.defaultStatus="Hi, How are you"

setTimer()

//-->

</script>

<center>

<h2>Status Display and Timesouts<h2>

<form>

<input type="text" name=t1 size=30 value="What is five times thirteen?"><p>

<input type="radio" name=cl onclick="self.status='you are worong'; alert('Your maths is terrible!')">60<p>

<input type="radio" name=cl onclick="self.status='You are right'; clearTimer()">65<p>

<input type="radio" name=cl onclick="self.status='you are wrong'; alert('Your maths is terribel!')">70<p>

</form>

</center>

</body>

</html>

Game:

<script language="JavaScript">

cmt=Math.round(Math.random()\*10)

a=0

do

{

a++

c=parseInt(prompt("I am thinking a number between 1 to 5\n find the number","3"))

if(c>cmt)

alert("Your number is greater")

if(c<cmt)

alert("Your number is less")

}

while(c!=cmt)

alert("You are correct \n you have tried"+a+"times")

</script>

calendar project:

<HTML>

<HEAD>

<TITLE>CALENDAR</TITLE>

<script language="javascript">

function getMonthName(n)

{

var months=new Array("January", "February", "March", "April", "May", "June", "July", "August", "September", "October", "November", "December");

return(months[n-1]);

}

function viewCal()

{

var d, m, y, wd, calDate;

var f=document.forms[0];

d=1;

m=eval(f.m.value);

y=eval(f.y.value);

calDate=new Date(m + "/" + d + "/" +y);

document.write("<H1>"+getMonthName(m) + " " + y + "</h1>");

document.write("<table border=1 cellpadding=5>");

document.write("<tr><th>SUN<th>MON<th>Tue<th>WED<th>THU<th>FRI<th>SAT</tr><tr>");

for (wd=0; wd<=6; wd++)

{

if(wd<calDate.getDay())

{

document.write("<td></td>");

}

else

{

document.write("<td>"+ d + "</td>");

d++;

}

}

document.write("</tr><tr>");

var monthDays=new Array(31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31);

var n=monthDays[m-1];

if(m==2 && y%4==0)

{

n=29;

}

wd=0;

while(d<=n)

{

document.write("<td>" + d + "</td>");

d++;

wd++;

if(wd==7)

{

document.write("</tr><tr>");

wd=0;

}

}

document.write("</table>");

}

</script>

</head>

<body>

<form>

month: <select name="m">

<script language="JavaScript">

var i;

for(i=1; i<=12; i++)

{

document.write("<option value=" + i + ">" + getMonthName(i) + "</option>");

}

</script>

</select>

year: <select name="y">

<script language="javascript">

var i;

for(i=1980; i<=2020; i++)

{

document.write("<option value=" + i + ">" + i + "</option>");

}

</script>

</select>

<input type=button value="view calendar" onclick="viewCal();">

</form>

</body>

</html>

Game II

<html>

<head>

<title>game</title>

<script language="javascript">

//floor is use to convert the float no. into integer. Eg. 2.84 to 2.

function star()

{

var rnd1=Math.floor(Math.random()\*10);

var rnd2=Math.floor(Math.random()\*10);

var rnd3=Math.floor(Math.random()\*10);

window.document.myform.tbs[0].value=rnd1;

window.document.myform.tbs[1].value=rnd2;

window.document.myform.tbs[2].value=rnd3;

res=window.setTimeout("star()",10);

}

function sto()

{

window.clearTimeout(res);

}

</script>

<title>Untitled Document</title>

</head>

<body>

<form name="myform">

<table>

<tr><th>i<input type="text" name="tbs" /></th><th>i<input type="text" name="tbs" /></th><th>i<input type="text" name="tbs" /></th></tr>

<tr><td><input type="button" name="btn2" value="start" onclick="star()"/></td>

<td><input type="button" name="btn1" value="stop" onclick="sto()"/></td>

</tr>

</table>

</form>

</body>

</html>