

Client Side Scripting using JavaScript

Introduction

- ◉ Scripts are program codes written inside HTML page.
- ◉ Types of Scripting methods are
 - Client Side Scripting
 - Server Side Scripting
- ◉ JavaScript is well known Client Side Scripting language.
- ◉ JavaScript was developed by ***Brenden Eich in 1995***

<SCRIPT>

- <SCRIPT> tag is used to include scripting code inside HTML page
- **Language** Attribute – To Specify the Scripting Language.
- Eg:-

<SCRIPT Language="JavaScript">

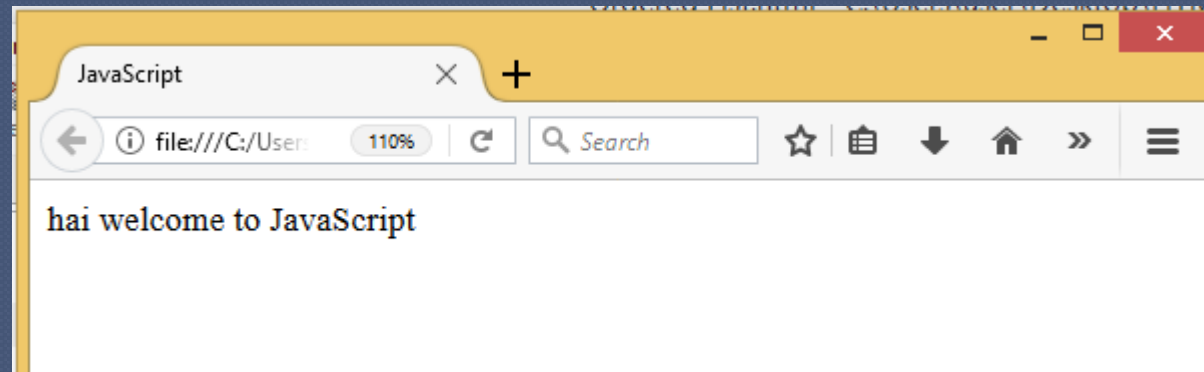
</SCRIPT>

A web Page JavaScript

- Source Code

```
<HTML>
  <HEAD>
    <TITLE>JavaScript</TITLE>
  </HEAD>
  <BODY>
    <SCRIPT Language="JavaScript">
      document.write("hai ");
      document.write("welcome to JavaScript");
    </SCRIPT>
  </BODY>
</HTML>
```

- Output



JavaScript Notes

- ◉ JavaScript is case sensitive language
- ◉ **JavaScript engine** is a virtual machine for executing JavaScript code
- ◉ HTML file Without javaScript is always rendered faster than that with javaScript code
- ◉ `document.write()` is javaScript command to include a text in document(body) section

JavaScript *function*

CPP function	JavaScript function
<i>Syntax</i> return_type function_name(Arg_list) { function body; }	<i>Syntax</i> function function_name() { function body; }
<i>Eg:</i> int sum() { int a=10,b=20,s; s=a+b; return s; }	<i>Eg:</i> function print() { document.write("hai "); document.write("welcome to"); document.write("JavaScript"); }

Data types in JavaScript

Data type	Eg:	Description
Number	10 , -1001, 3.14, -1.6	All numbers
String	“school”, ”100”, “js@123” “true”	Anything inside “ “
Boolean		true or false value

Variable in javaScript

- JavaScript variables created using keyword **var**
- Eg 1:-
 - `var x="javaScript";`
- Eg 2:-
 - `var a, b;`
 - `a=3.14;`
 - `b=true;`

Operators in javaScript

Arithmetic Operators

Operator	Description	Example
+	Addition	x= a+b
-	Subtraction	x= a-b
*	Multiplication	x= a*b
/	Division	x= a/b
%	Modulus	x=y%2
++	Increment	x= ++y
--	Decrement	x=--y

Operators in javaScript

Assignment Operators

Operator	Description	Example	Meaning
=	Assignment	a=b	
+=	Add and Assignment	a+=b	a=a+b
-=	Subtraction and Assignment	a-=b	a=a-b
=	Multiplication and Assignment	a=b	a=a*b
/=	Division and Assignment	a/=b	a=a/b
%=	Modulus and Assignment	y%=2	a=a%b

Operators in javaScript

Relational Operators

Operator	Description	Example
==	Equal to	a==b
!=	Not equal to	a!=b
<	Less than	a	Greater than	A>b
<=	Less than or Equal to	A<=b
>=	Greater than or Equal to	Y>=2

Operators in javaScript

Logical Operators		
Operator	Description	Example
&&	AND	x= a && b
 	OR	x= a b
!	NOT	x= !a

Operators in javaScript

● String addition operator (+)

- `var x="java";`
- `var y="Script";`
- `var z=x+y; // z returns javaScript`

Control structures in JavaScript

- **If statement**

- **Syntax**

- If (condition)
 - {
 - statements;
 - }
- else
 - {
 - statements;
 - }

Control structures in javaScript

- ◉ **switch statement**

- ◉ **Syntax**

```
switch(expression)
{
    case 1 : statements;
            break;
    case 2 : statements;
            break;
    .
    .
    .
    default: statements;
}
```

Control structures in javaScript

- **for loop**

- **Syntax**

```
for(initialisation ; condition ; update_statement)
{
    statements;
}
```

Control structures in JavaScript

- **while loop**

- **Syntax**

```
while(condition)
{
    statements;
}
```

Built-in functions in JavaScript

- ***alert()*** : Display a message on screen in message dialogue box.
- ***isNaN()*** : Check whether the given value is number or not.
- ***toUpperCase()*** : Change given string to upper case form
- ***toLowerCase()*** : Change given string to lower case form
- ***charAt()*** : Returns character at a particular position.
- ***Length property***: Returns total number of characters in the given string.

JavaScript Events

Event	Description
<i>onClick</i>	Occurs when user clicks on an object
<i>onMouseEnter</i>	Occurs when mouse pointer is moved onto an object
<i>onMouseLeave</i>	Occurs when mouse pointer is moved out of an object
<i>OnKeyDown</i>	Occurs when user pressing a key on the keyboard
<i>OnKeyUp</i>	Occurs when user releases a key on the keyboard

Ways to add scripts to a web page

- ◉ **Inside <BODY>**

- ◉ ***Disadvantages***

scripts in the body section will create,

- confusion for web designer.
- reduce the readability of the entire document.

- ◉ JavaScript code can be added just before </BODY>

- ◉ **Advantage** : Contents of web page like text , image etc will displayed faster.

- ◉ **Disadvantage** The Script that has to be executed while loading the page may not work.

Ways to add scripts to a web page

- **Inside <HEAD>**

- ***Advantages***

- Writing scripts in the head section will reduce confusion for web designer.
- function call made in the body section , will be executed faster as the function definition is already loaded in the memory .

Ways to add scripts to a web page

- **External JavaScript file**
- Scripts are placed in a separate file and saved with extension *.js*
- ***Advantages***
 - Same Script can be used across multiple HTML documents.
 - Separates HTML and Script , which makes both easier to read and maintain.
 - It can speed up page loading.

Thank You !!!

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