Introduction to Java Scripts

JavaScript Origins

JavaScript was invented by Netscape and Sun Microsystems in 1995. JavaScript and Java both are different.

What is JavaScript

- JavaScript is a scripting programming language.

- JavaScript is object-based programming language.

- JavaScript is an interpreted language   .

- JavaScript is accessible to the beginner.

Uses of JavaScript

- Use it to include sight and sound components with Javascript. Can show, conceal, change, resize pictures, and make picture rollovers. You can make scrolling content over the status bar.

- Make pages progressively based on the client's decisions, the date, or other outer information. It also can create pages that are redone to the client.

- Interact with the client it can do some preparing of structures and can approve client information when the client submits the form.

How to Write JavaScript

Javascript code is regularly implanted in the HTML, to be deciphered and run by the customer's program. Here are a few tips to recollect when composing Javascript charges

- Javascript code is case sensitive
- White space in the middle of words and tabs are overlooked
- Line breaks are overlooked aside from inside an statement
- Javascript statements end with a semi- colon ;

SCRIPT Tag

The <script> label alarms a program that Javascript code takes after. It is ordinarily inserted in the HTML

```
<SCRIPT language = "JavaScript">
    JavaScript code

</SCRIPT>
```
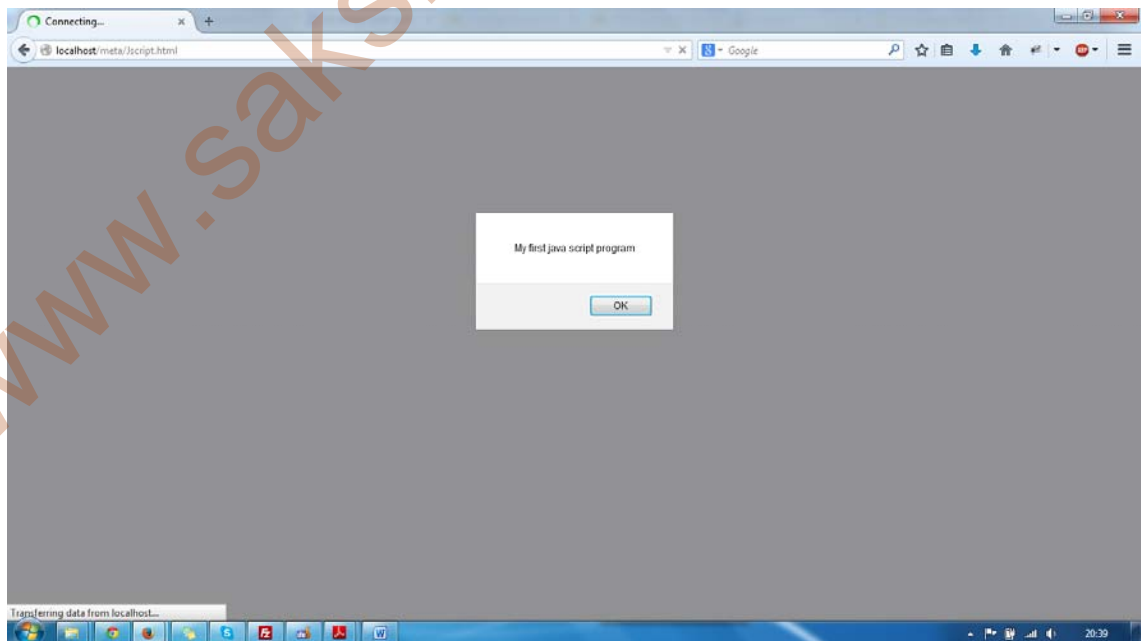
SCRIPT Example

- Create index.html page
- Write the below example code

```
<SCRIPT language = "JavaScript">

    alert("My first java script program");

</SCRIPT>
```

- Save that html file
- Open that file with browser
- The output of the html file is

Executing Javascript

There are three ways to add JavaScript commands to your Web Pages.
• Embedding code
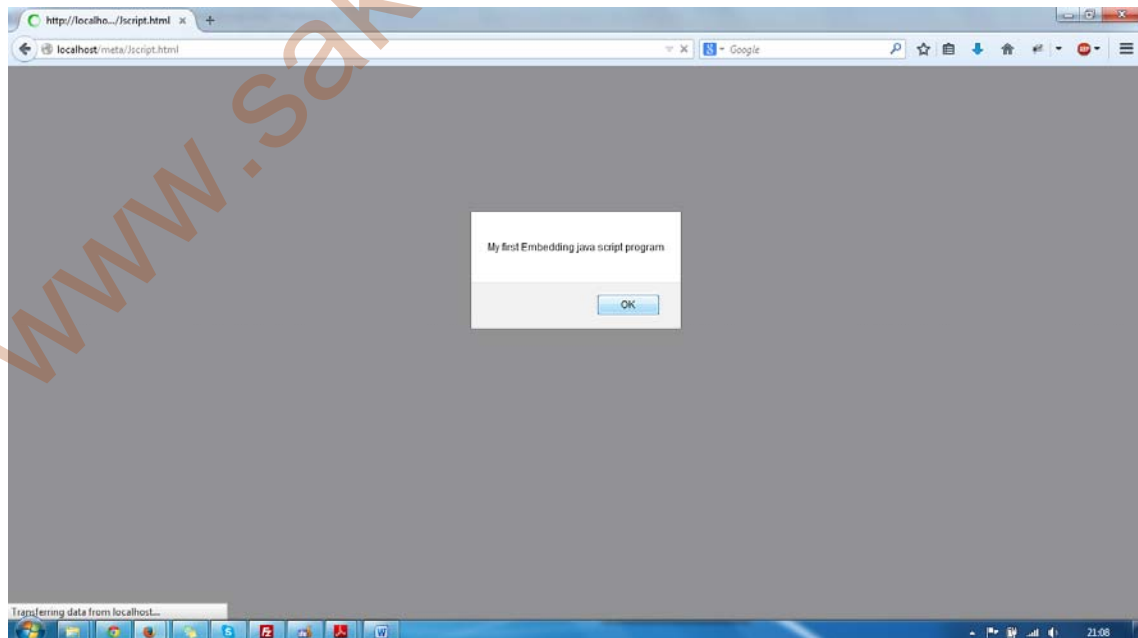• Inline code
• External file

Embedding code

You can insert Javascript in a HTML archive as articulations and capacities inside a <script> tag, by detailing a document as the Javascript source, by defining a Javascript interpretation as the estimation of a HTML property or as occasion handlers inside certain other HTML labels.

Embedding Example

- Create index.html page
- Write the below example code

  <SCRIPT language = "JavaScript">

    alert ("My first Embedding java script program");

  </SCRIPT>

- Save that html file
- Open that file with browser
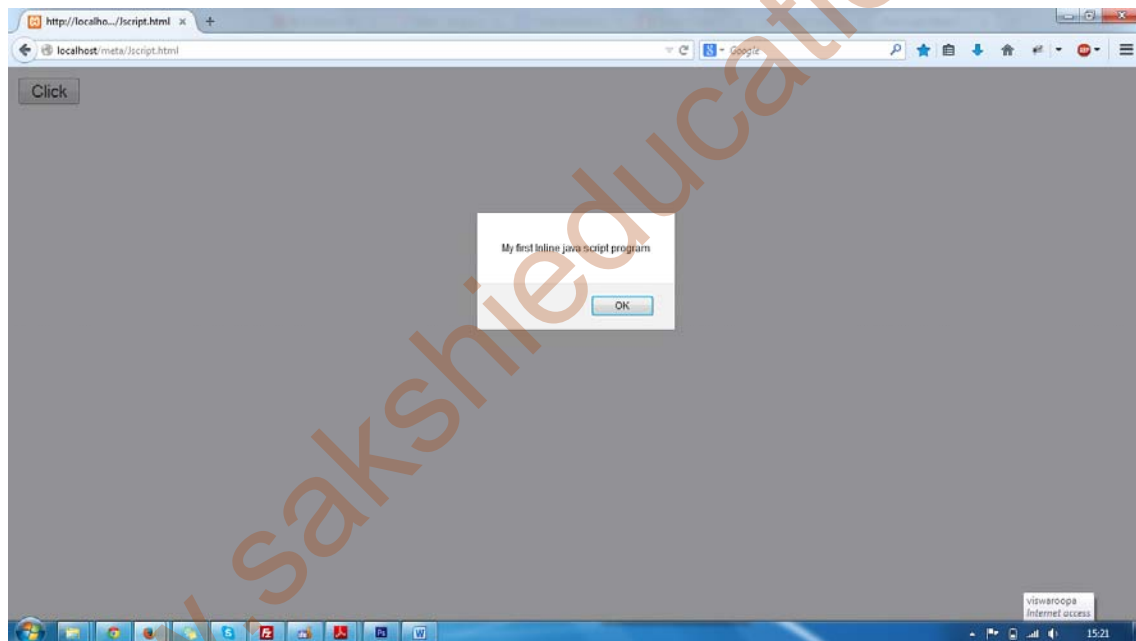- The output of the html file is

Inline code

You can insert Javascript in a HTML archive as articulations and capacities inside any tag, by detailing an event i.e. onclick and ondblclick.

Inline Example

- Create index.html page
- Write the below example code

`<button onclick= "alert ('My first Inline java script program')">Click</button>`

- Save that html file
- Open that file with browser
- The output of the html file is

External File

You can utilize the SRC characteristic of the <script> tag to call Javascript code from an outside content record. This is helpful in the event that you have a great deal of code or you need to run it from a few pages, in light of the fact that any number of pages can call the same outside Javascript document. The content document itself contains no HTML labels. It is called by the following tag:

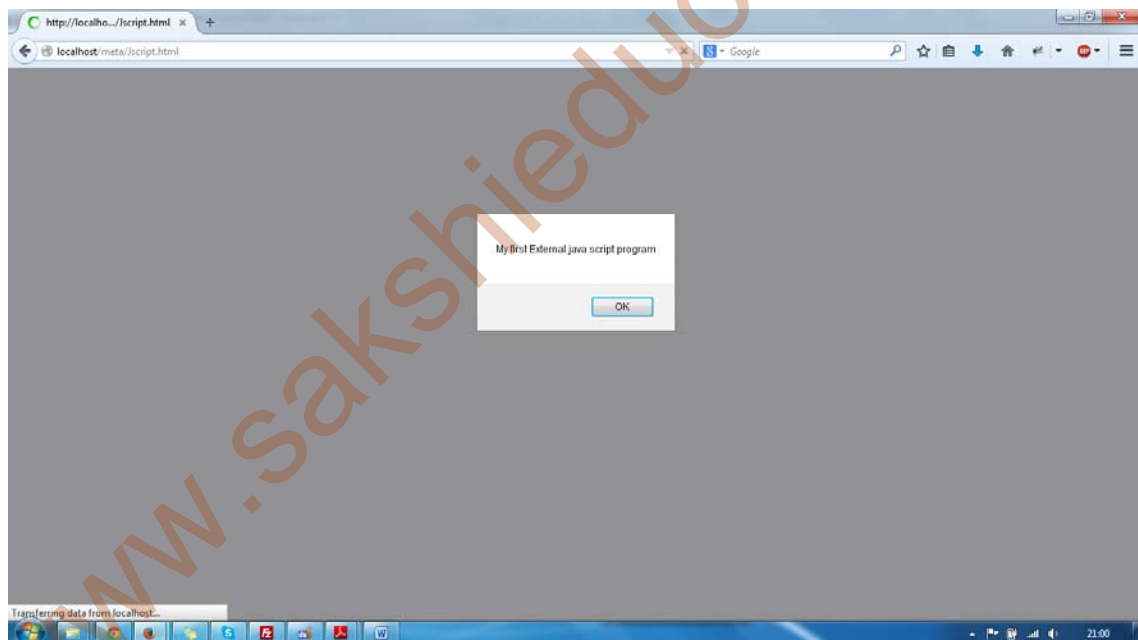<SCRIPT SRC="script.js" language = "JavaScript"></SCRIPT>

Or

<SCRIPT SRC="script.js" language = "JavaScript" />

External Example

- Create index.html page
- Write the below example code
  <SCRIPT SRC="script.js" language = "JavaScript"></SCRIPT>
- Save that html file
- Inside the script.js file is

alert("My first External java script program");

- Open that file with browser
- The output of the html file is

Objects in Java Script

Javascript programming deals with objects. Objects are a method for sorting out the variables. The diverse screen components, for example: Web pages, forms, text boxes, pictures, and buttons are dealt with as objects

Methods and Properties

Every object has its own properties and methods.

- Methods are the activities that the object can perform or that can be performed on the object.

    Examples: confirm, alert, write, open, and close

- Properties define the characteristics of an object.

    Examples: length, colour, name, height, width

Naming Objects

- Objects are organized in a hierarchy. To refer to an object use :

    objectName

- To refer to a property of an object use:

    objectName.propertyName

- To refer to a method of an object use:

    objectName.methodName()

Built-In Objects

A portion of the built-in language objects of Javascript offer more advanced operations, for example:

- Math – provides for math calculations
- Date – provides date and time information
- String – provides for string manipulation

Math Object

The Math object gives methods to numerous numerical calculations, including

Eg: abs(), log(), pow(), random(), round(), sqrt()
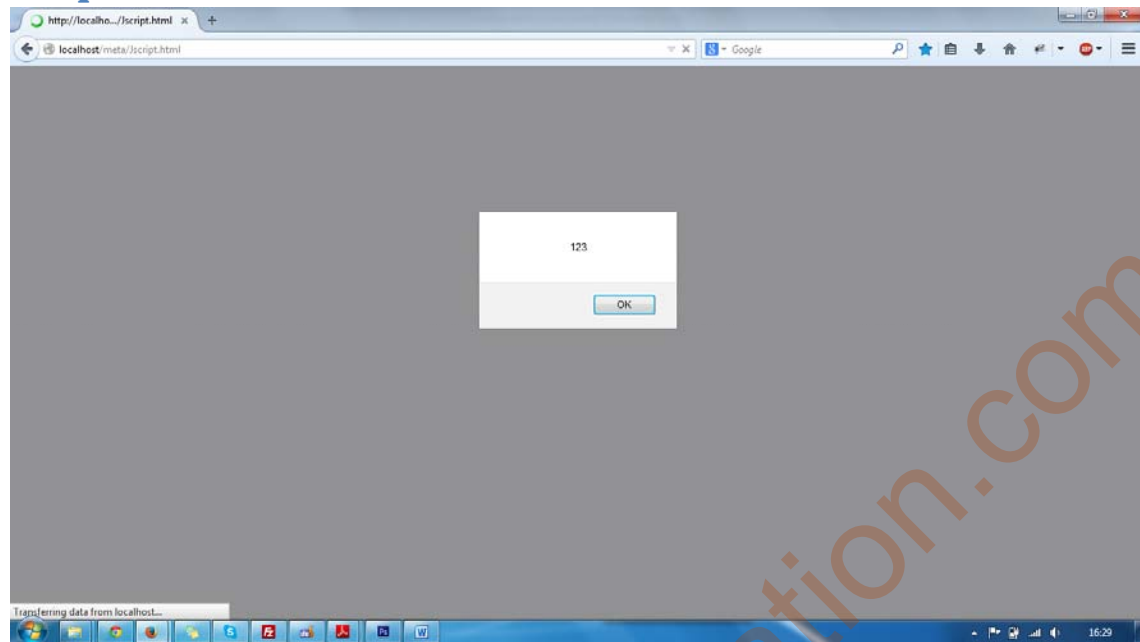
Syntax: math.method(#)

Example

```
<SCRIPT language = "JavaScript">

var num = 123.45

  roundNum = Math.round(num)

  alert(roundNum);

</SCRIPT>
```

Output

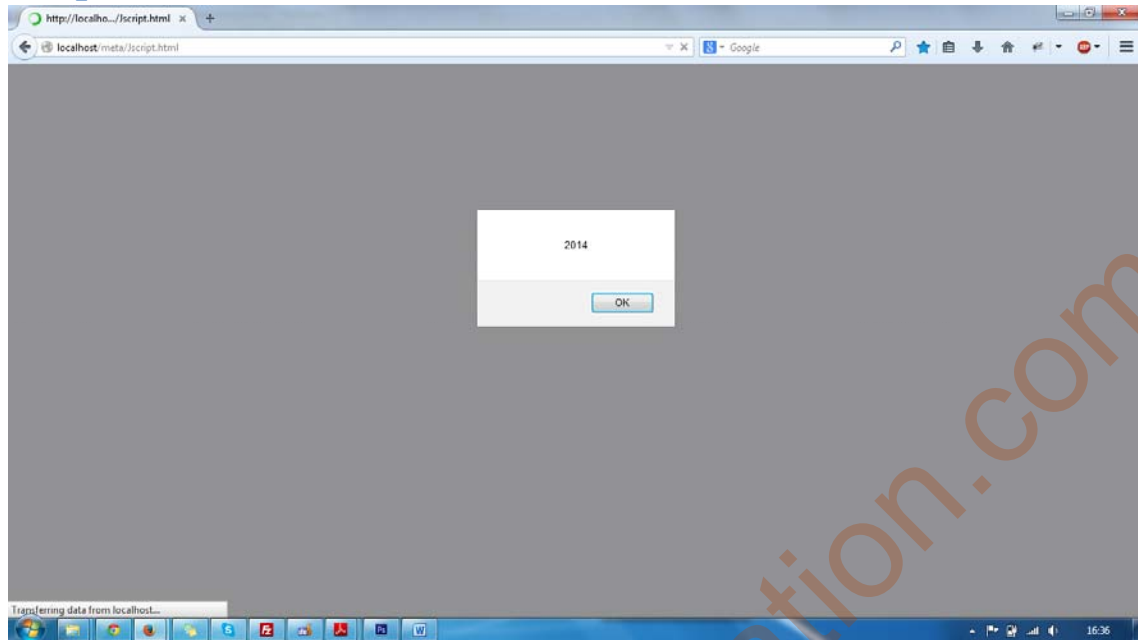

Date Object

The Date object provides the day, date, and time information.

Syntax: dateObject.method(#)

Example

```
<SCRIPT language="javascript">

   var year = new Date()

   presentYear = year.getFullYear()

   alert(presentYear);

</SCRIPT>
```

Output

String Object

The String object provides methods and properties for string manipulation and formatting

Syntax: stringName.method(#)

Example

```
<SCRIPT language="javascript">

  var theString = "Hello Sakshi"

  var printString = theString.bold()

  var numChars = theString.length

  alert("'"+printString+"' length is: "+numChars);

</SCRIPT>
```
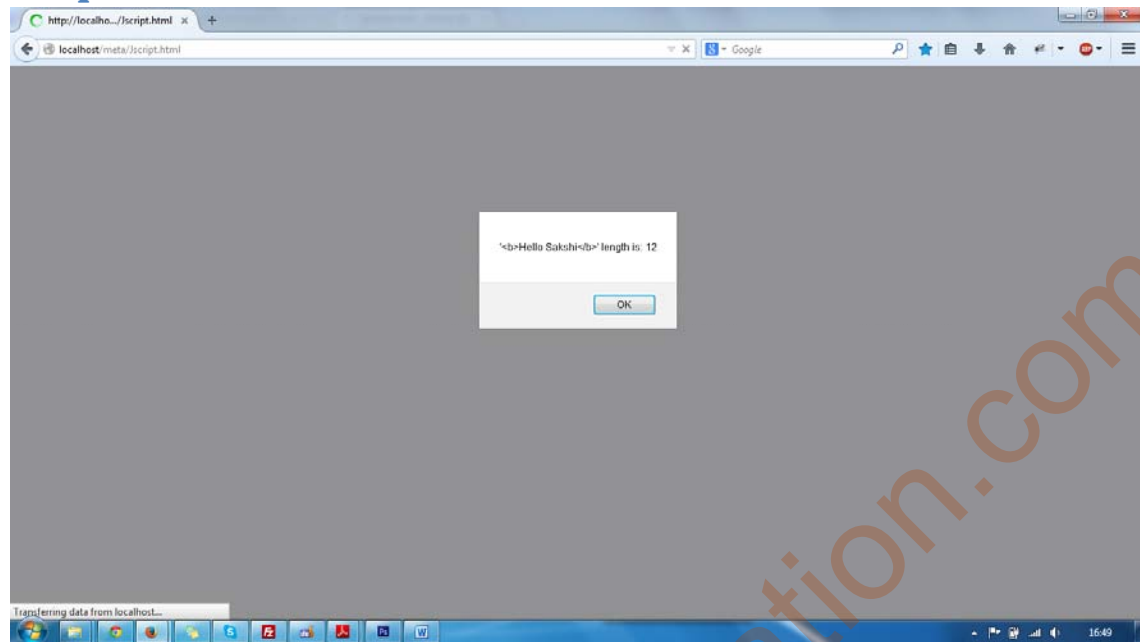
Output

Dynamic HTML with Java Script

DHTML stands for Dynamic HTML. It is not a new language, it is a combination of HTML, Java Script and CSS. DHTML is mainly for the dynamic web pages.

Example1

```
<html>

<body>

  <p onclick="this.style.fontSize='60px'">Click me to increase font size</p>

</body>

</html>
```

Output
Before click

Click me to increase font size

After click

Click me to increase font size

Example2

```
<html>
<body>
   <p onclick="this.style.color='green'">Click me to change color</p>
</body>
</html>
```

Output
Before click

After click