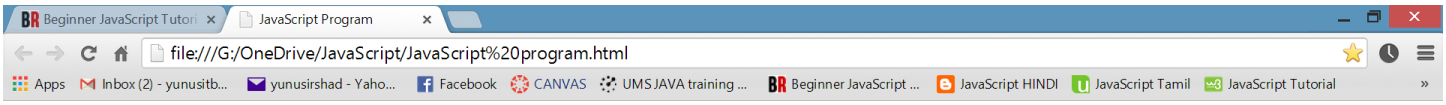
JavaScript Programming

JAVASCRIPT:

JavaScript is a scripting language used to make webpages interactive.

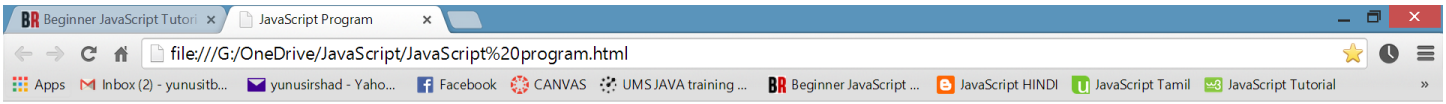
```
<html><head>
        <title>JavaScript Program</title>
<head><body>
<script>
        document.write("Hello World");                  // prints the hello world on the screen
</script>
</body></html>
```

- **Comments are declared as same as JAVA "//" and for multiple comments "/* */"**



VARIABLES:

```
<script>
        var apple = 26;                 // declaring an integer variable
        document.write(apple);

        var apple = "  This is a String";               // declaring a character variable
        document.write(apple);

        var apple = " Yunus said, \"I love you\"";
                                        // use escape character if you have to specify string in quotations
        document.write(apple);

        var banana = apple;             // if you don't use quotations in string it will take as a variable
        document.write(banana);
</script>
```

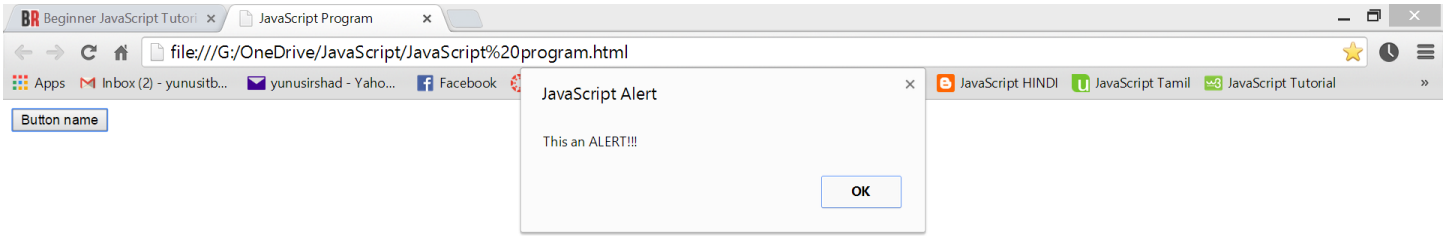


USING VARIABLES WITH STRING:

```
<script>
        var name = "yunus";
        var age = "23";
        document.write("My name is "+name+" and my age is "+age);       // same as java
</script>
```

FUNCTIONS:

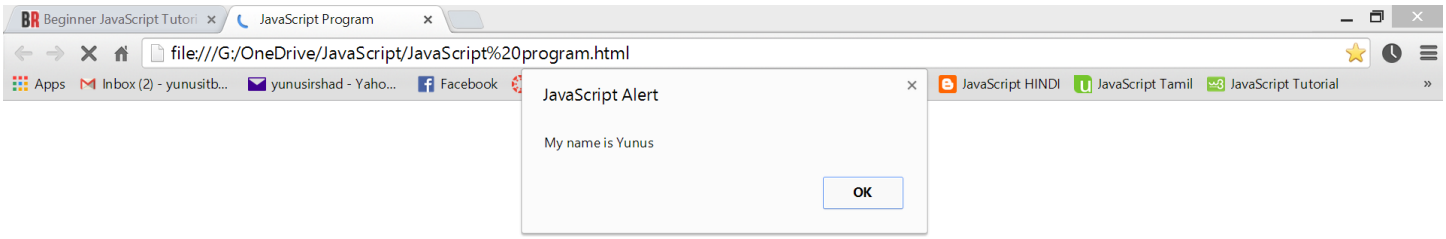
```
<script>
        function funky()                // function name is created
        {
                alert("This an ALERT!!!");              // an alert message is shown
        }
                        // you can use this funky(); which calls the function
</script>
<form>
        <input type="button" value="Button name" onclick="funky()">     // on click calls the function
</form>
```



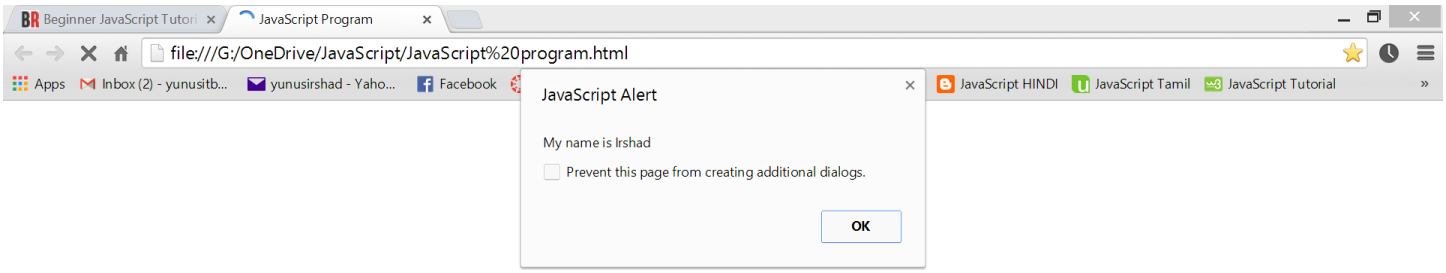
USING PARAMETERS WITH FUNCTIONS:

```
<script>
        function funky(name)            // parameter is assigned
        {
                alert("My name is "+name);
```

```
    }
    funky("Yunus");              // function has a parameter
    funky("Irshad");             // another function created if you want to display two windows or alerts
</script>
```

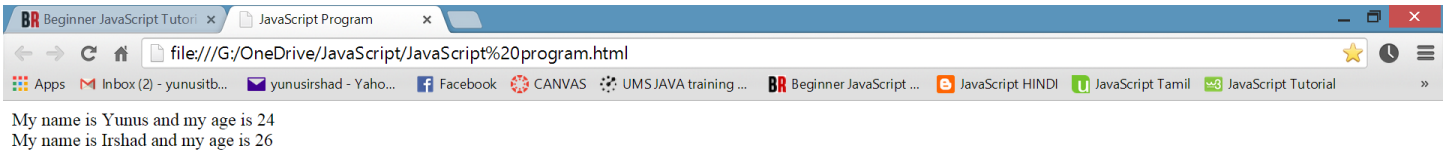


If you click OK…



FUNCTIONS WITH MULTIPLE PARAMETERS:

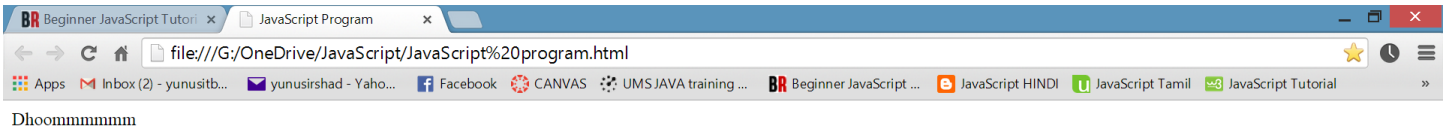
```
<script>
    function funky(name,age)          // multi parameter assigned
    {
        document.write("My name is "+name+" and my age is "+age+"<br>");      // breaks the line
    }
    funky("Yunus",24);                // multi parameter function is called
    funky("Irshad",26);
</script>
```



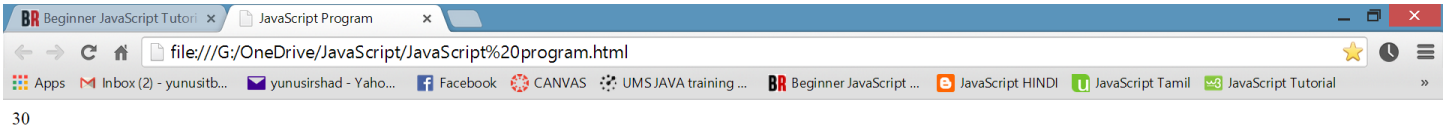
RETURN:

```
<script>
    function funky()
    {
        return "Dhoommmmmm";          //returning the value
```

```
    }
    document.write(funky());            // calling the function
</script>
```



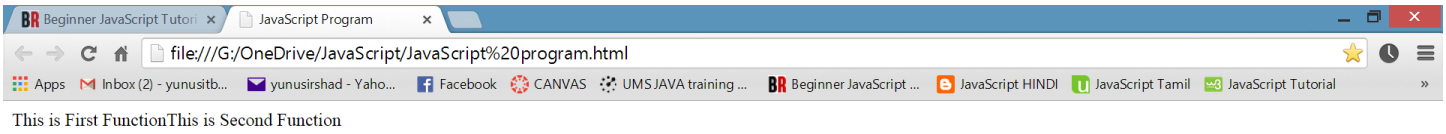

```
<script>
    function funky(a,b)
    {
        var c = a+b;
        return c;               // if you don't add return it displays "UNDEFINED"
    }
    document.write(funky(10,20));
</script>
```



CALLING A FUNCTION FROM ANOTHER FUNCTION:

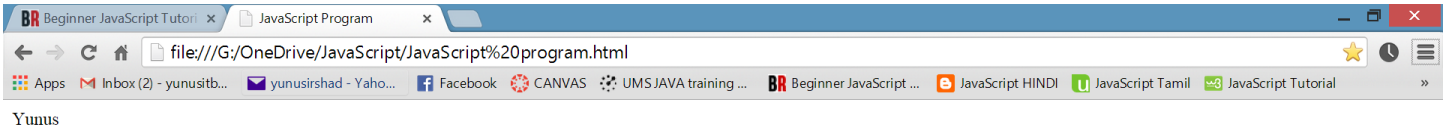
```
<script>
    function first()            // first function declared
    {
        document.write("This is First Function");
    }
    function second()           // second function declared
    {
        document.write("This is Second Function");
    }
    function start()            // calling other functions
    {
        first();
        second();
```

```
    }
    start();                    // don't forget to call the function
</script>
```

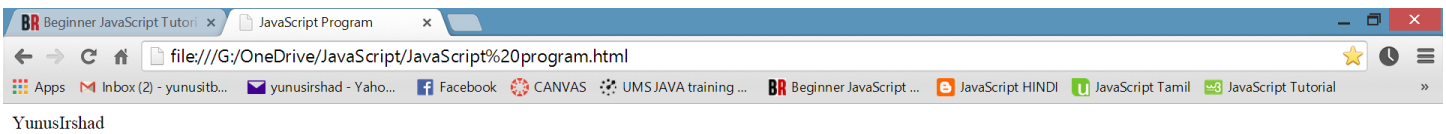


GLOBAL/LOCAL VARIABLES:

```
<script>
    var name= "Yunus";          //this is global variable which is declared outside function.
    function funky()
    {
        document.write(name);
    }
    funky();
</script>
```

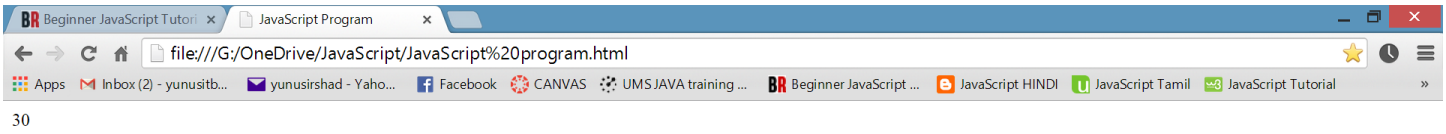



```
<script>
    function funky()
    {
        var name2 = "Irshad";       //this is local variable which is declared inside function.
        document.write(name);
        document.write(name2);
    }
    funky();
    document.write(name2);          // name2 variable is not declared globally so it will not print
</script>
```

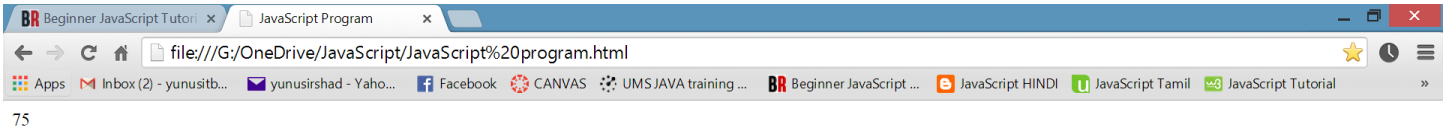


ARITHMETIC—ASSIGNMENT OPERATORS:

```
<script>
        var apples = 10+20;                    // + is an addition operator
        document.write(apples);
// we have more math operators such as - (subtract), *(multiply), / (divide), %( remainder or modulus)
</script>
```



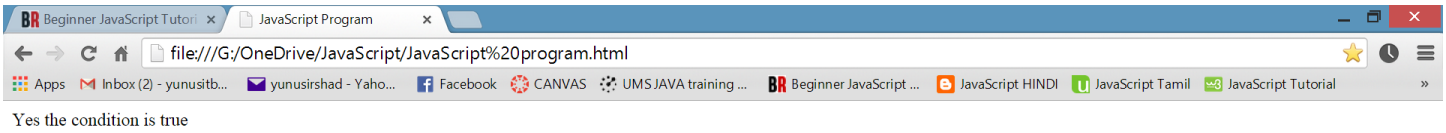

```
<script>
        var apples = 25;
        apples += 50;
// = is the assignment operator and it can be assigned to addition, multiply, subtract, divide.
        document.write(apples);
</script>
```



IF & IF-ELSE STATEMENT:

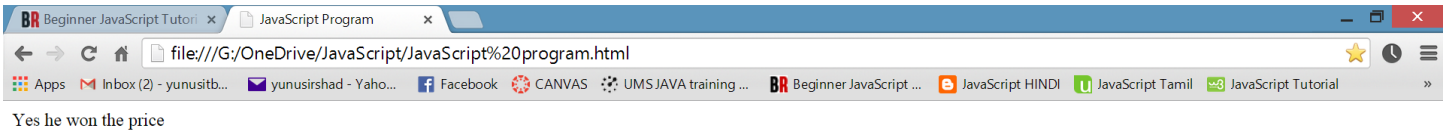
```
<script>
        var apples = 25;
        if(apples == 25)
// checks the statement you can use <=(less than equal to), >=(greater than equal to), !=(not equal)
        {
                document.write("Yes the condition is true");
                                                // prints only if the condition satisfy the statement
        } else
        {
                document.write("No the condition is false");
                                                // prints only if the condition doesn't satisfy the statement
        }
```

```
</script>
```



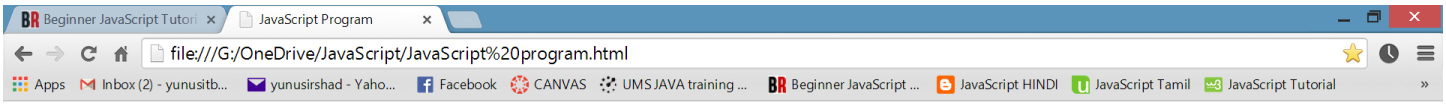
NESTED STATEMENT:

```
<script>
        var firstname = "yunus";
        var lastname = "irshad";
        if(firstname=="yunus")
        {
                if(lastname=="irshad")                    // nested if statement
                {
                        document.write("Yes he won the price");
                }
        }
</script>
```



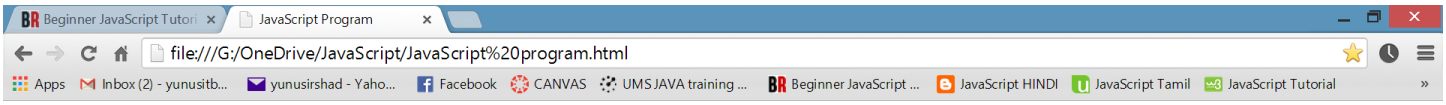
AND OR OPERATORS USED IN STATEMENTS:

```
<script>
        var firstname = "yunus";
        var lastname = "irshad";
        // by this AND-OR operator eliminates the nested statements
        if((firstname=="yunus") && (lastname=="irshad"))
                                        // AND "&&"operator in which both conditions must be true
        {                               // OR "||"operator in which any one condition must be true
                document.write("Yes he won the prices");
        }
</script>
```



SWITCH:

```
<script>
        var name="yunus";
        switch(name)            // checks the statement
        {
                case "yunus": document.write("Yes he is "+name);
                                break;
                case "irshad": document.write("Yes he is "+name);
                                break;
                default: document.write("INVALID NAME");  // this is a default statement if doesn't matches
        }
</script>
```



FOR LOOP:

```
<script>
        for(x=0; x<10; x++)                     // in for loop you don't need to initialize the variable
        {
                document.write(x+"<br>");               // break line must in quotes
        }
</script>
```

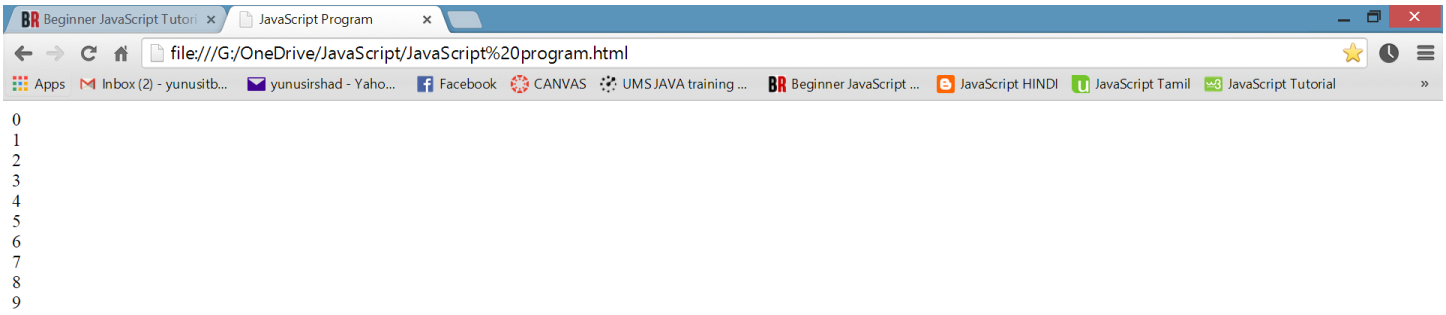
WHILE LOOP:

```
<script>
        var x=0;
        while(x<10)
        {
                document.write(x+"<br>");
```

```
        x++;
    }
</script>
```

DO-WHILE LOOP:

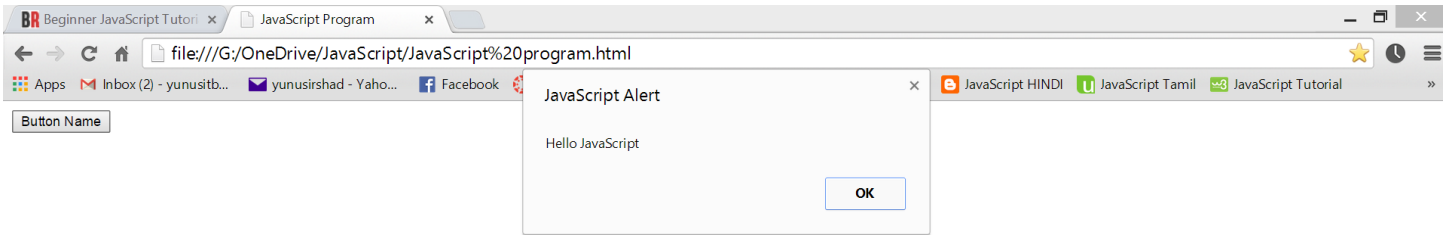
```
<script>
    var x=0;
    do
    {
        document.write(x+"<br>");          // break line must in quotes
        x++;
    }while(x<10);
</script>
```

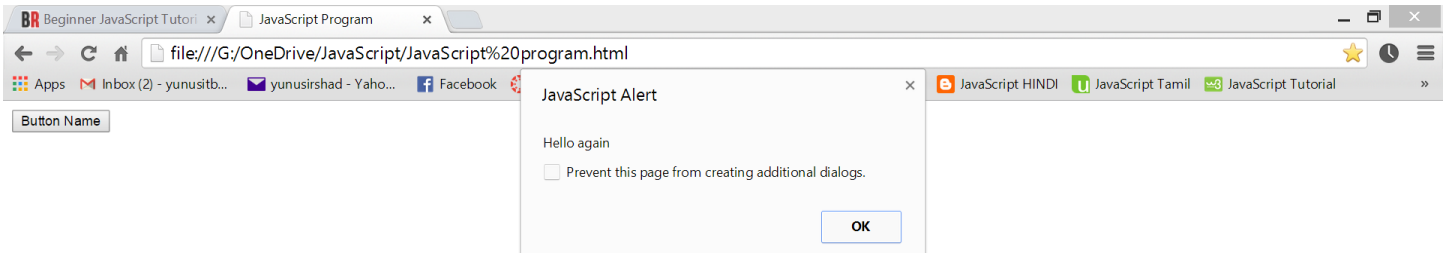


EVENT HANDLER:

- Event handlers are built in keywords…

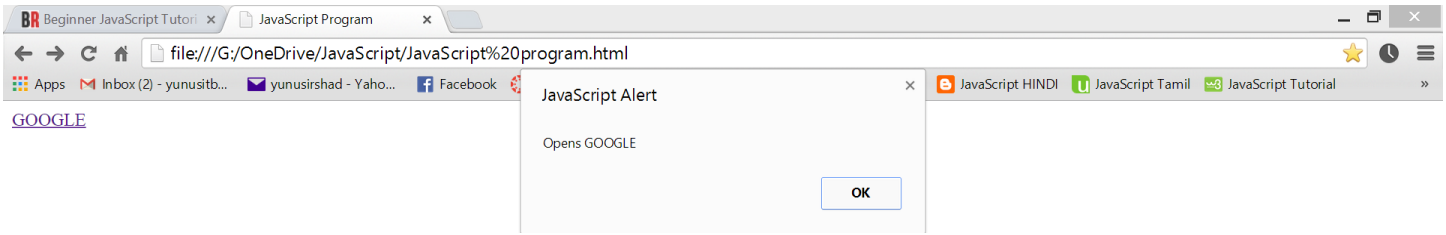
```
<form>
    <input type="button" value="Button Name" onclick="alert('Hello JavaScript');alert('Hello again')">
                                                        // Runs the javascript code here
    //alert() is a javascript and must end with semicolon, you can add as many javascripts after semicolon, contents in alert() displays in box
</form>
```



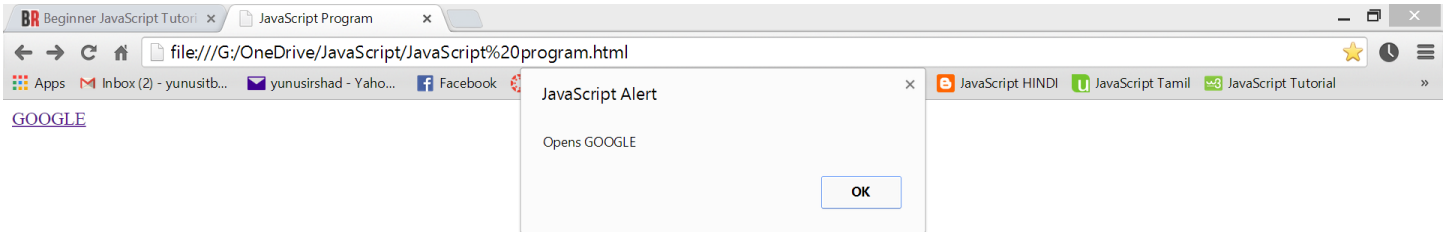


ONMOUSEOVER – ONMOUSEOUT:

```
<body>
<a href="http://www.google.com"      onmouseover="alert('Opens GOOGLE');">GOOGLE</a>
</body>                                    // if you take mouse over the hyperlink it displays the JavaScript
```

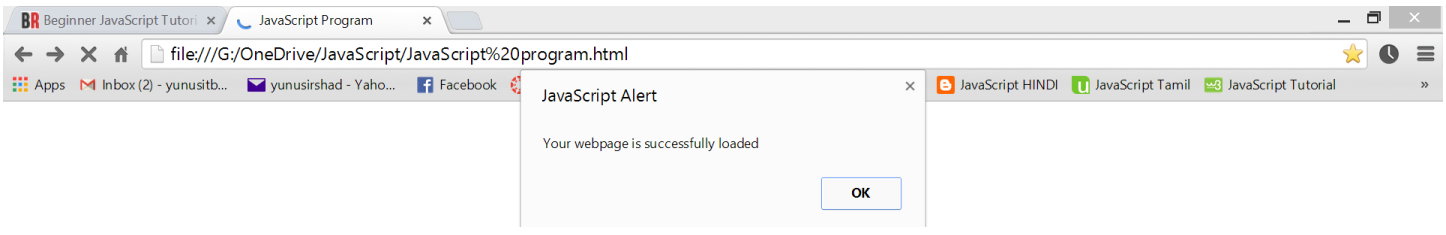



```
<body>
<a href="http://www.google.com"      onmouseout="alert('Opens GOOGLE');">GOOGLE</a>
</body>                  // if you take mouse in and while coming out of the hyperlink it displays the JavaScript
```



ONLOAD – ONUNLOAD:

```
<body  onload="alert('Your webpage is successfully loaded');">
</body>                                    // displays a JavaScript when the page is loaded…
```

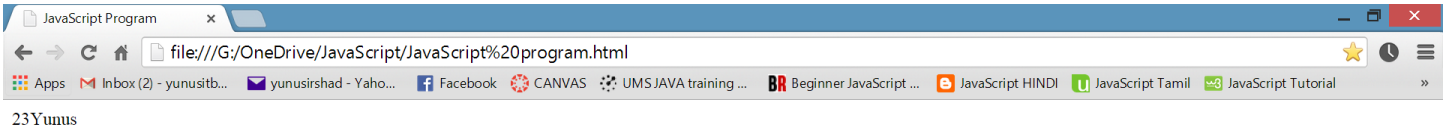



```
<body onunload="alert('Goodbye');">
</body>                                  // displays a good bye message when you exit the web page or browser
```

CREATING OBJECTS:

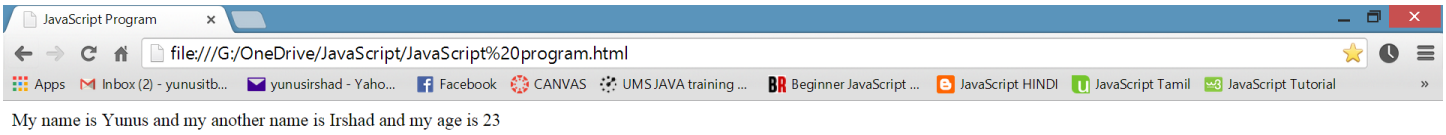
- Objects have two ----- properties associated to variables and methods.

```
<head><script>
        function person(name,age)
        {
                this.name = name;                    // this is a constructor for function
                this.age = age;
        }
        var object = new person("Yunus",23);              // object is been created
</script><head>
<body><script>
        document.write(object.age);                  // object with his property
        document.write(object.name);
</script></body>
```



OBJECT INITIALIZERS:

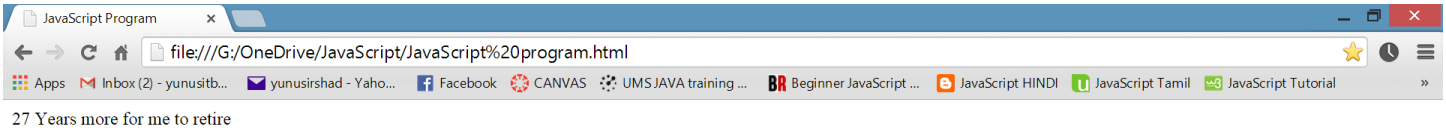
```
<script>
        var object1 = {name:"Yunus", age:23};                  // object initialization
        var object2 = {name:"Irshad", age:25};
</script><head>
<body><script>
        document.write("My name is "+object1.name+" and my another name is "+object2.name+" and my age is "+object1.age);
</script>
```



ADDING METHODS TO OBJECTS:

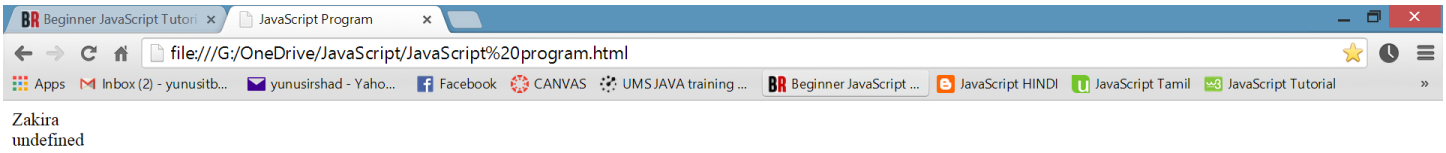
```
<script>
```

```
function people(name,age)
{
    this.name = name;
    this.age = age;
    this.retire = yearsleft;          // retire takes place with yearsleft method in constructor function
}

function yearsleft()
{
    var numberofyears = 50-this.age;          //takes the age of the constructor
    return numberofyears;
}

var object1 = new people("Yunus",23);
</script><head>
<body><script>
    document.write(object1.retire()+" Years more for me to retire")      //object takes the retire() method
</script>
```



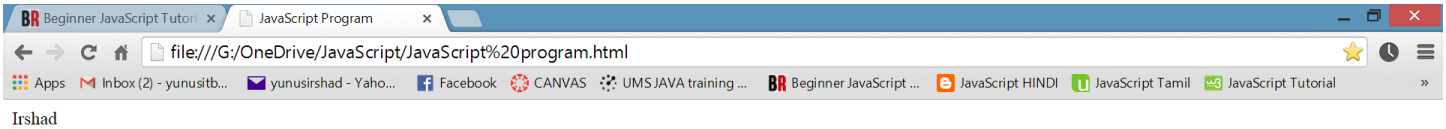
ARRAYS:

```
<script>                          //arrays are declared to list long datas like names, phone numbers.
    var names = new Array("Yunus","Irshad","Zakira","Banu");
    document.write(names[2]+"<br>");                    // the array must start with "0" as index
    document.write(names[4]);       // if the index is out of array length then it displays "UNDEFINED"
</script>
```



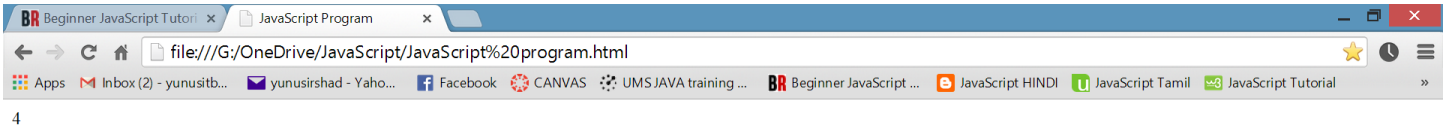
ANOTHER WAY OF CREATING ARRAYS:

```
<script>
	var names = new Array(3);
	names[0] = "Yunus";
	names[1] = "Irshad";
	names[2] = "Zakira";
	document.write(names[1]);
</script>
```



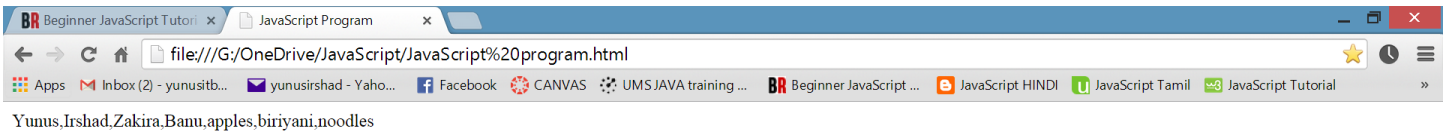
ARRAY PROPERTIES AND METHODS:

```
<script>
	var names = new Array("Yunus","Irshad","Zakira","Banu");
	document.write(names.length);		// length is the property for an array
</script>
```



CONCAT():

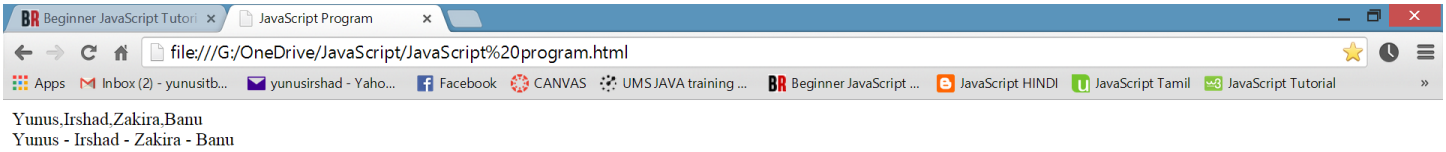
```
<script>		// For methods in array you need two arrays
	var names = new Array("Yunus","Irshad","Zakira","Banu");
	var food = new Array("apples","biriyani","noodles");
	var concat = names.concat(food);		// two arrays add together
	document.write(concat+"<br>");
</script>
```



JOIN();

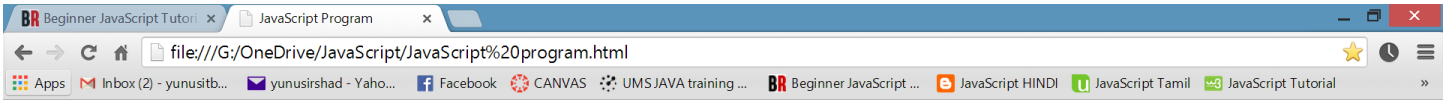
```
<script>
	var names = new Array("Yunus","Irshad","Zakira","Banu");
```

```
var strings = names.join();                    // converts the array into strings
document.write(strings+"<br>");
var strings = names.join(" - ");               // it gets seperated by "-" hyphen
document.write(strings);
</script>
```



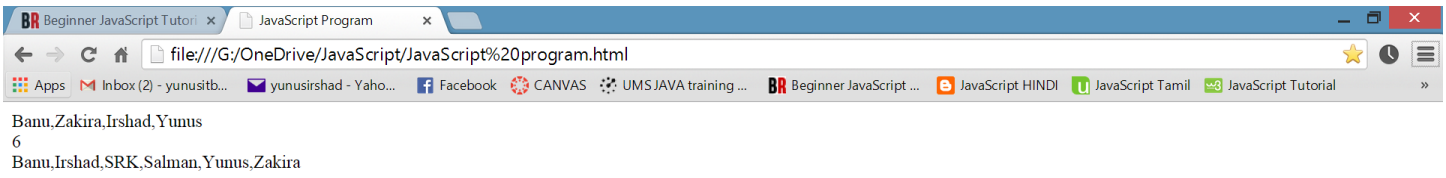
POP();

```
<script>
    var names = new Array("Yunus","Irshad","Zakira","Banu");
    var strings = names.pop();          // pop() method removes the last item from the array
    document.write(strings+"<br>");
</script>
```



REVERSE() – PUSH() – SORT();

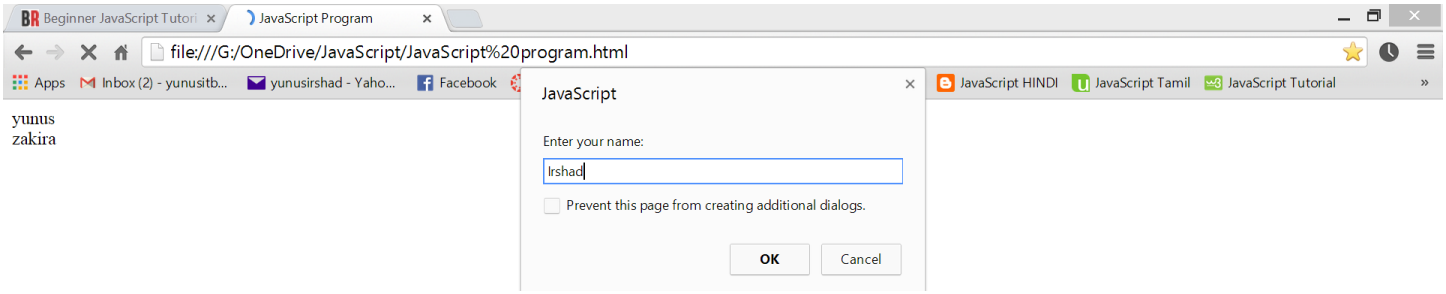
```
<script>
    var names = new Array("Yunus","Irshad","Zakira","Banu");
    document.write(names.reverse()+"<br>");                    // reverses the array items
    document.write(names.push("SRK","Salman")+"<br>");         // adds items into the array
    document.write(names.sort()+"<br>");                       // sorts the array items from A to Z
</script>
```



ADDING ARRAY ELEMENTS VIA LOOP USING PROMPT:

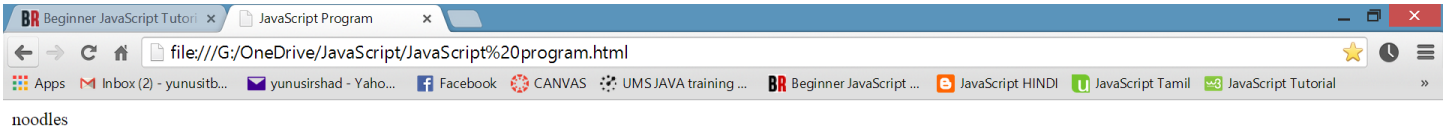
```
<script>
    var names = new Array(3);
    for(var i=0; i<names.length; i++)          // filling the array using for loop
```

```
{
        names[i] = prompt("Enter your name:"," ");
// prompting the user to enter the name , the second parameter can be left empty or it will display "Enter text here"
        document.write(names[i]+"<br>");          // displaying the array elements one by one
}
</script>
```



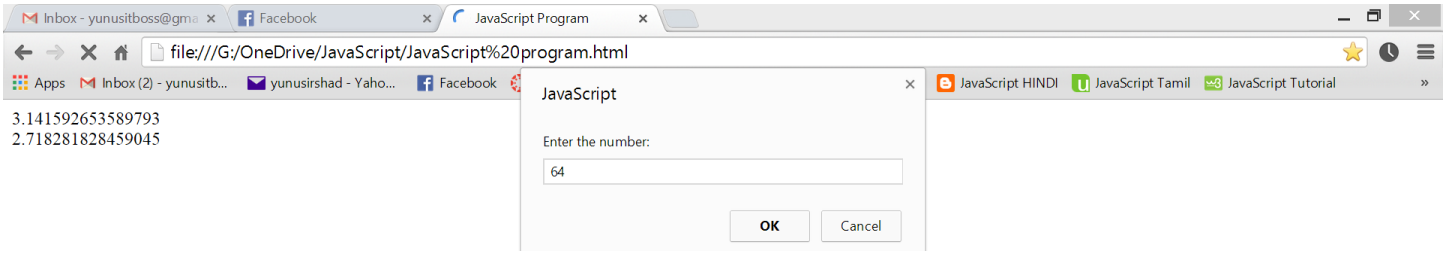
ASSOCIATIVE ARRAYS:

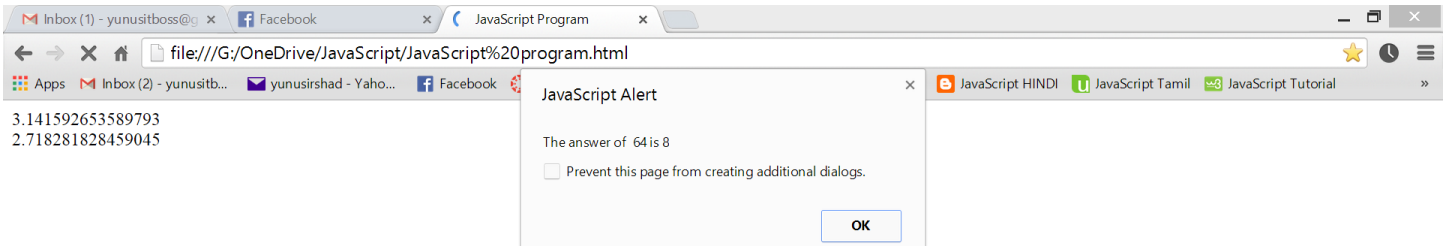
```
<script>
        var names = new Array();
        names["color"] = "blue";                    // instead of indexes we can use string
        names["food"] = "noodles";
        document.write(names["food"]);
</script>
```



MATH OBJECTS:

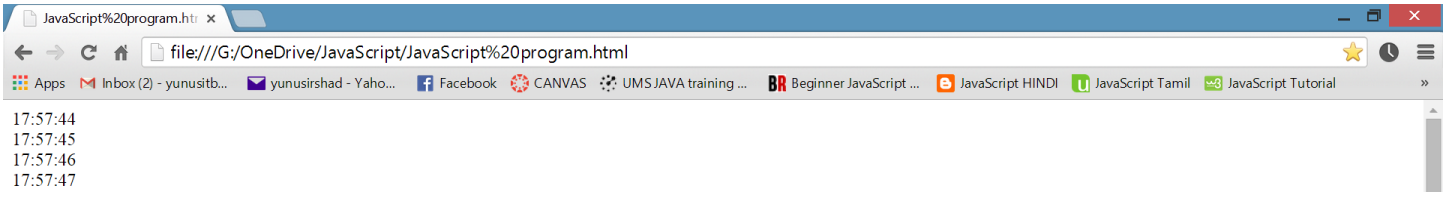
```
<script>
        document.write(Math.PI+"<br>");                 // Pi math object
        document.write(Math.E);                         // Euler's concept math object
        var a = prompt("Enter the number: "," ");
        var answer = Math.sqrt(a);                      // square root math object
        alert("The answer of "+a+" is "+answer);
</script>
```





DATE OBJECTS:

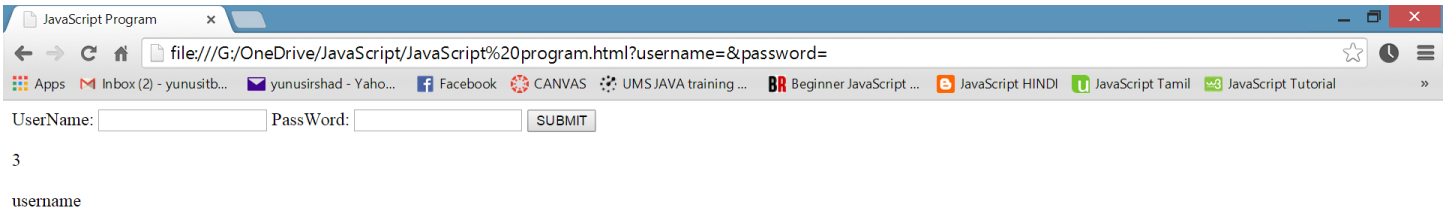
```
<script>
        function printTime()
        {
                var now = new Date();                          // Date object
                var hour = now.getHours();                     // get hours from the object
                var min = now.getMinutes();                    // get minutes from the object
                var sec = now.getSeconds();                    // get seconds from the object
                document.write(hour+":"+min+":"+sec+"<br>");
        }
        setInterval("printTime()",1000);        // flashes with an interval of 1000 milliseconds(1sec)
</script>
```



ACCESSING FORMS:

```
<form>                                  <!--basic form creation-->
        UserName: <input type="text" name="username">
        PassWord: <input type="password" name="password">
        <input type="submit" value="SUBMIT">
</form>
```

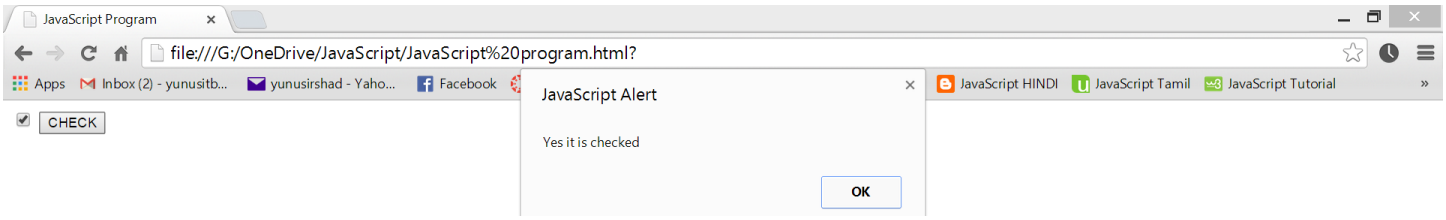
```
<script>
	var x = document.forms[0].length;
				// displays the length of elements in forms[0] it is the first form in the program
	document.write(x+"<br><br>");
				// it displays as 3 because form contains username, password and button
	var y = document.forms[0].elements[0].name;
				// it access the elements[0] in the array and display the declared name
	document.write(y);
</script>
```

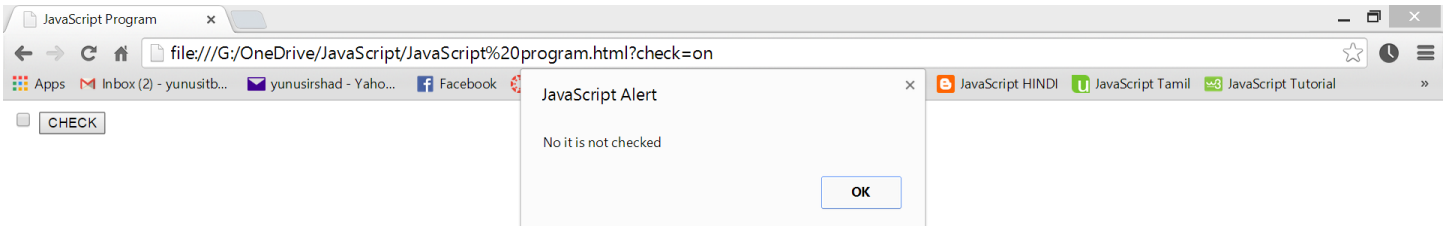


SIMPLE FORM VALIDATION:

```
<form name= "NewForm">			<!--form name is created-->
	<input type="checkbox" name="check">
	<input type="submit" value="CHECK" onclick="validator()">
				<!--javascript which validates the checkbox-->
</form>
<script>
	function validator()
	{
		if(document.NewForm.check.checked)
				// if statement for checking formname.elementname.checked or not
		{
			alert("Yes it is checked");
		}else
		{
			alert("No it is not checked");
		}
```

```
    }
</script>
```


JavaScript Program
file:///G:/OneDrive/JavaScript/JavaScript%20program.html?
Apps
Inbox (2) - yunusitb...
yunusirshad - Yaho...
Facebook
JavaScript HINDI
JavaScript Tamil
JavaScript Tutorial
CHECK
JavaScript Alert
Yes it is checked
OK


JavaScript Program
file:///G:/OneDrive/JavaScript/JavaScript%20program.html?check=on
Apps
Inbox (2) - yunusitb...
yunusirshad - Yaho...
Facebook
JavaScript HINDI
JavaScript Tamil
JavaScript Tutorial
CHECK
JavaScript Alert
No it is not checked
OK