Manual Prepared by Prof.Sulalah Mirkar	Lab Manual	Academic Year- 2021-22
Year:-	Subject:- Web Programming	Semester:-

	Experiment # 5	
		Date of Conduction:- / /2022
Class:-B.Tech IT/MBA.Tech IT/B.Tech (CS)		Division:-

Aim:

A. java script basic
B. Operators
C. array

Prerequisites:-

-    OOPS concept and HTMLS basic tags

Theory:-

✓ JavaScript is the world's most popular programming language.
✓ JavaScript is the programming language of the Web.
✓ JavaScript is easy to learn.
✓ This tutorial will teach you JavaScript from basic to advanced.

✓ Browsers have limited functionality
    o   Text, images, tables, frames
✓ JavaScript allows for interactivity
✓ Browser/page manipulation
    o   Reacting to user actions
✓ A type of programming language
    o   Easy to learn
    o   Developed by Netscape
✓ Now a standard exists –

JavaScript Allows Interactivity
● Improve appearance
    ● Especially graphics
    ● Visual feedback
● Site navigation
● Perform calculations
● Validation of input
● Other technologies

How Does It Work?

- Embedded within HTML page
  - View source
- Executes on client
  - Fast, no connection needed once loaded
- Simple programming statements combined with HTML tags
- Interpreted (not compiled)

No special tools required

What is Java?

- Totally different
- A full programming language
- Much harder!
- A compiled language
- Independent of the web
- Sometimes used together

JavaScript DataTypes

- javaScript allows you to work with three primitive data types:
- Numbers eg. 123, 120.50 etc.
- Strings of text e.g. "This text string" etc.
- Boolean e.g. true or false.
- In java script Variables are declared with the var keyword as follows:

Example 1.

```
<html>
<head><title>My Page</title></head>
<body>
<script language="JavaScript">
document.write('This is my first →JavaScript Page');
</script>
</body></html>
```

Example 2:-HTML Written inside java script

```
<html>

<head><title>My Page</title></head>

<body>
<script language="JavaScript">
document.write('<h1>This is my first →JavaScript Page</h1>');
</script>
```

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```
</body>
</html>
```

Example 3:- Data Types and variables

```
<html>
<head>
  <title>Data Types and Variables</title>
</head>
<body>
  <script type="text/javascript">
    var x, y;
    x= 1024;
    y=x;  x = "foobar";
    document.write("<p>x = " + y + "</p>");  // x=1024
    document.write("<p>x = " + x + "</p>"); // x=foobar
  </script>
</body>
</html>
```

```
</body>
</html>
```

Variable scope

- JavaScript variable will have only two scopes.

- Global Variables: A global variable has global scope which means it is defined everywhere in your JavaScript code

- Local Variables: A local variable will be visible only within a function where it is defined. Function parameters are always local to that function.

Example:- A function with local and global scope

```
<script type="text/javascript">
var myVar = "global"; // Declare a global variable
 function checkscope( )
 {
var myVar 1= "local"; // Declare a local variable
 document.write(myVar);
}
 </script>
```

/****output*******/

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Local

What is Inner HTML?

The inner HTML property sets or returns the HTML content (inner HTML) of an element.

Syntax

Return the innerHTML property:

HTMLElementObject.innerHTML

Set the innerHTML property:

HTMLElementObject.innerHTML = *text*

operators.

- JavaScript language supports following type of operators.
- Arithmetic Operators
- Comparisons Operators
- Logical (or Relational) Operators
- Assignment Operators
- Conditional (or ternary) Operators

Example:-To add the variable values and display using the inner HTML.

```
<html>
<body>

<h1>JavaScript Variables</h1>
<p>In this example, x, y, and z are variables.</p>
<p id="demo"></p>
<script>
var x = 5;
var y = 6;
var z = x + y;
document.getElementById("demo").innerHTML =
"The value of z is: " + z;
</script>

</body>
</html>
```

JavaScript Arithmetic Operators

Arithmetic operators perform arithmetic on numbers (literals or variables).

Operator	Description
+	Addition
-	Subtraction
*	Multiplication
**	Exponentiation (ES2016)
/	Division
%	Modulus (Remainder)
++	Increment
--	Decrement

Example:- arithmetic operation takes two numbers (or expressions) and produces a new number

```
<html>
<body>

<h2>JavaScript Arithmetic</h2>
<p id="demo"></p>

<script>
let a = 3;
let x = (100 + 50) * a;   // A typical arithmetic operation takes two numbers (or expressions) and produces a new number. 450

document.getElementById("demo").innerHTML = x;
</script>

</body>
</html>
```

If else

- JavaScript supports conditional statements.
- It used to perform different actions.

- JavaScript supports following forms of if..else statement:
- if statement
- if...else statement
- if...else if... statement.

Example: To verify the candidate eligibility for the e-voting.

```
<script type="text/javascript">
var age = parseInt(age);
 age  =20;
 if( age > 18 )
{ document.write("<b>Qualifies for driving</b>");
  }
else {document.write("<b> not Qualifies for driving</b>");
  }
</script>
```

JavaScript Assignment Operator

Assignment operators assign values to JavaScript variables.

Operator	Example	Same As
=	x = y	x = y
+=	x += y	x = x + y
-=	x -= y	x = x - y
*=	x *= y	x = x * y
/=	x /= y	x = x / y
%=	x %= y	x = x % y
<<=	x <<= y	x = x << y
>>=	x >>= y	x = x >> y
>>>=	x >>>= y	x = x >>> y
&=	x &= y	x = x & y
^=	x ^= y	x = x ^ y
|=	x |= y	x = x | y
**=	x **= y	x = x ** y

Example: To add a number using assignment operator

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```
<html>
<body>


<h2>JavaScript Assignments</h2>
<h3>The += Operator</h3>

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

<script>
let x = 10;
x += 5;
document.getElementById("demo").innerHTML = x;    //output =15
</script>

</body>
</html>
```

Creating an Array

Using an array literal is the easiest way to create a JavaScript Array.

Syntax:
const array_name = [item1, item2, ...];

Method 1:-
Example:- Java script Array

```
<html>
<body>
<h2>JavaScript Arrays</h2>

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

<script>
const cars = ["Saab", "Volvo", "BMW"];    // Saab,Volvo,BMW
document.getElementById("demo").innerHTML = cars;
</script>
</body>
</html>
```

Another way to create an array

Method 2:-
```
const cars = [];
cars[0]= "Saab";
cars[1]= "Volvo";
cars[2]= "BMW";
```

Method 3:-
```
const cars = new Array("Saab", "Volvo", "BMW");
```

Changing an Array Element

- Method 1

```
const cars = ["Saab", "Volvo", "BMW"];
cars[0] = "Opel";
```

- Method 2

```
const cars = ["Saab", "Volvo", "BMW"];
document.getElementById("demo").innerHTML = cars;
```

arrays store a sequence of items, accessible via an index
since JavaScript is loosely typed, elements do not have to be the same type

to create an array, allocate space using new (or can assign directly)

- ✓   items = new Array(10);   // allocates space for 10 items
- ✓   items = new Array();   // if no size given, will adjust dynamically
- ✓   items = [0,0,0,0,0,0,0,0,0,0]; // can assign size & values []

to access an array element, use [] (as in C++/Java)

- ✓   for (i = 0; i < 10; i++) {
- ✓   items[i] = 0;   // stores 0 at each index

}

the length property stores the number of items in the array

- ✓   for (i = 0; i < items.length; i++) {
- ✓   document.write(items[i] + "<br>");   // displays elements

Instructions to Students:-

1. Write html code in Note Pad & save with .html extension.

2. Execute using Web Browser.
3. Copy and Paste code as well as output (snapshot of output) in Part B

PART-B

1. Find out the number ,whether it is palindrome or not.
2. Reverse the digit of the given number.
3. Write a Program in java to find the person is eligible to vote in below constraint.
   - ✓ if above > 18 then can vote
   - ✓ If 18<above >=25 and Female then call them young Participants.
   - ✓ If 18<above >=25 and Male then call them Youth Participants.
   - ✓ If 25<above >=40 then call them Mature Participants.
   - ✓ If 60<above then call them Senior citizen Participants
4. Find out the factorial of the number.
5. WAP to Find whether a given Number is divisible by 3 using an Array [1,2,3,4,5,6,7,8,9,20].
6. Write a Code using Java script as to print following details on HTML pages

   - ✓ Name
   - ✓ College Name
   - ✓ College Site
   - ✓ Address
7. WAP to find average of marks of n subjects entered by user using "for loop" with java script.

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Code:-

[Note: - Execute program from 1-2 and paste executed html code]

Input and Output:-

[Note: - Paste Output of Code from 1-2 [use print scrn button]]

observation and Learning:-

[Note: - Write your observation and learning]

Conclusion:-

[Note: - Write conclusion in your own word]

Questions:-

1. What is meaning of inner html?
2. What is the meaning of DOM?
3. Why Javascript is need to use on HTML web page?