**Assignment:4**

1. **What is JavaScript?**

* JavaScript is a popular programming language used for creating interactive and dynamic web pages and web applications.
* It runs on the client side and can also be used on the server side.

1. **What is the use of isNaN function?**

* Use of NaN function in JavaScript to check whether the value is Not a Number .
* It returns true if the value is NaN and false otherwise,helping to handle numeric operations and input validations

1. **What is negative Infinity?**

* Negative Infinity is a special numeric value in JavaScript that represents a value that is lower than any other number.
* It is used to indicate mathematical operations that result in an overflow or division by zero.
* For Example:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Document</title>

</head>

<body>

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

<script>

let n = (-Number.MAX\_VALUE) \* 2

document.getElementById("demo").innerHTML = n;

</script>

</body>

</html>

1. **Which company developed JavaScript?**

* JavaScript was developed by Netscape Communications Corporation, primarily Brendan Eich, in the mid-1990s.
* It was initially created for use in the Netscape Navigator web browser.

1. **What are undeclared and undefined variables?**

* Undeclared variables are not formally declared using var, let, or const, while undefined variables are declared but have not been assigned a value.
* Example of undefine variable: Var top;

Console.log(top);

* Example of undeclared variable:Console.log(top);

1. **Write the code for adding new elements dynamically?**

* Code:

<! DOCTYPE html>

<html>

<head>

<meta Charest=”UTF-8”>

<meta Http-equiv=”X-UA-Compatible” content=”IE=edge”>

<meta name=”viewport” content=”width-device-width, initial-scale=1.0”>

<title>Adding New Elements</title>

</head>

<script type="text/JavaScript">

function addNode() { var newP = document.createElement("p");

var textNode = document.createTextNode(" This is a new text node");

newP.appendChild (textNode); document.getElementById("firstP").appendChild (newP); }

</script>

</head>

<body> <p id="firstP">firstP<p> </body>

</html>

1. **What is the difference between ViewState and SessionState?**

| **ViewState** | **SessionState** |
| --- | --- |
| ViewState is client-side state management for a specific web page, storing data in a hidden field. | SessionState is server-side state management for user-specific data shared across multiple web pages within a session. |
| Stored on the client as a hidden field | Stored on the server associated with a session identifier |
| Specific to a web page | Shared across multiple pages within a session |
| Can increase web page size | Does not directly impact web page size |
| Temporary, lost on navigation | Persistent, can be maintained for a session |

1. **What is === operator?**

* The === operator in JavaScript is a strict equality operator that compares both the value and the type of the operands.
* For example:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<title>Document</title>

</head>

<body>

<script>

var a = 5;

document.write("Ans = ", a === "5");

document.write("Ans = ", a === 5);

</script>

</body>

</html>

1. **How can the style/class of an element be changed?**

* The style or class of an element in JavaScript can be changed using the style property or by modifying the className property.
* Example using style property:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<title>Document</title>

</head>

<body>

<p id="demo">

Lorem ipsum dolor sit amet consectetur adipisicing elit. Incidunt voluptasperferendis, nam quod eius non, maiores, totam velit cumque ad dolor maxime aperiam pariatur et accusamus atque at ipsum libero.

</p>

<script>

const element = document.getElementById("demo");

element.style.color = "red";

element.style.fontSize = "18px";

</script>

</body>

</html>

* Example using className property:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<title>Document</title>

</head>

<body>

<p id="demo">

Lorem ipsum dolor sit amet consectetur adipisicing elit. Incidunt voluptas perferendis, nam quod eius non, maiores, totam velit cumque ad dolor maxime aperiam pariatur et accusamus atque at ipsum libero.

</p>

<script>

const element = document.getElementById("demo");

element.className = "newClass";

</script>

</body>

</html>

1. **How to read and write a file using JavaScript?**

* Reading and writing files in JavaScript can be achieved using the File API.
* For Example:

// Read a file

const fileReader = new FileReader();

fileReader.readAsText(file);

// Write to a file

const fileData = "Hello, World!";

const blob = new Blob([fileData], { type: "text/plain" });

saveAs(blob, "filename.txt");

1. **What are all the looping structures in JavaScript?**

* for loop: Executes a block of code for a specified number of times.
* while loop:Repeats a block of code while a specified condition is true.
* do…while loop:Executes a block of code once and then repeats it while a specified condition is true.
* for…in loop:Iterates over the properties of an object.
* for…of loop:Iterates over iterable objects, such as arrays or strings.
* forEach loop:Executes a provided function once for each element in an array.
* For example:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Document</title>

</head>

<body>

<script>

for (let i = 0; i <=5; i++) {

console.log(i+"Tops");

}

</script>

</body>

</html>

1. **How can you convert the string of any base to an integer in JavaScript?**

* In JavaScript, you can convert a string of any base to an integer using the parseInt function and specifying the base as the second argument. For example:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Document</title>

</head>

<body>

<script>const binaryString = "101010";

const decimalNumber = parseInt(binaryString, 2);

console.log(decimalNumber);</script>

</body>

</html>

1. **What is the function of the delete operator?**

* The delete operator in JavaScript is used to remove a property from an object or delete an element from an array.
* It frees up memory and allows reclamation of resources associated with the deleted property or element.

1. **What are all the types of Pop up boxes available in JavaScript?**

* JavaScript provides several types of popup boxes for different purposes:
* alert:Display a simple message box with an OK button

For Example:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Box</title>

</head>

<body>

<button onclick="a()">click</button>

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

<script>

function a() {

alert('hii')

}

</script>

</body>

</html>

* confirm:Shows a message box with OK and Cancel buttons, allowing the user to confirm or cancel an action.

For Example:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<title>Box</title>

</head>

<body>

<button onclick="a()">click</button>

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

<script>

function a() {

var txt;

if (confirm("press button!")) {

txt = "you press ok";

} else {

txt = "you press cancel";

}

document.getElementById("demo").innerHTML = txt;

}

</script>

</body>

</html>

* prompt:Displays a dialog box with a message and an input field, allowing the user to enter a value.

For Example:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<title>Box</title>

</head>

<body>

<button onclick="a()">click</button>

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

<script>

function a() {

var txt;

var person = prompt("please enter name:", "tops");

if (person == null || person == "") {

txt = "";

} else {

txt = "hiii" + person + "how are you?";

}

document.getElementById("demo").innerHTML = txt;

}

</script>

</body>

</html>

1. **What is the use of Void (0)?**

* The use of void(0) in JavaScript is often seen as a placeholder in anchor tags (<a>) to prevent the page from refreshing when clicked.
* It essentially prevents any action from occurring.
* For Example:

<!DOCTYPE html>

<html lang="”en”">

<head>

<meta charset="”UTF-8”" />

<meta http-equiv="”X-UA-Compatible”" content="”IE" ="edge”" />

<meta

name="”viewport”"

content="”width-device-width,"

initial-scale="1.0”"

/>

<title>JavaScript:void(0)</title>

</head>

<body>

<center>

<h1 style="color: green">Tops technology</h1>

<h3>JavaScript:void(0)</h3>

<a

href="javascript:void(0);"

ondblclick="alert('Welcome to Tops technology')"

>

Double click on me

</a>

</center>

</body>

</html>

1. **How can a page be forced to load another page in JavaScript?**

* To force a page to load another page in JavaScript, you can use various methods of the window object. Here are a few approaches:

1. Using window.location.href :

window.location.href = "https://www.example.com";

1. Using window.location.replace() :

window.location.replace("https://www.example.com");

1. Using window.open() :

window.open("https://www.example.com", "\_self");

1. **What are the disadvantages of using innerHTML in JavaScript?**

* Event handlers attached to any DOM element are preserved.
* Replacement is done everywhere.
* It is not possible to append innerHTML.
* Breaks the document.
* Used for Cross-site Scripting.

1. **Create password field with show hide functionalities.**

* Code:

<!DOCTYPE html>

<html>

<body>

<p>Click the radio button to toggle between password visibility:</p>

Password: <input type="password" value="FakePSW" id="myInput"><br><br>

<input type="checkbox" onclick="myFunction()">Show Password

<script>

function myFunction() {

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

if (x.type === "password") {

x.type = "text";

} else {

x.type = "password";

}

}

</script>

</body>

</html>