**TASK-----7(A)**

<html>

<head>

<title>Document Object Example</title>

<script>

function displayDocumentProperties() {

// Accessing document properties

const title = document.title;

const url = document.URL;

const lastModified = document.lastModified;

// Displaying properties

document.getElementById("docTitle").textContent = title;

document.getElementById("docURL").textContent = url;

document.getElementById("docLastModified").textContent = lastModified;

}

function modifyDocumentTitle() {

const newTitle = prompt("Enter a new document title:", document.title);

if (newTitle) {

document.title = newTitle;

alert("Document title updated!");

displayDocumentProperties(); // Refresh displayed properties

}

}

</script>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

line-height: 1.6;

}

table {

width: 60%;

margin: 20px auto;

border-collapse: collapse;

}

table, th, td {

border: 1px solid #333;

}

th, td {

padding: 10px;

text-align: left;

}

button {

display: block;

margin: 20px auto;

padding: 10px 20px;

font-size: 16px;

}

</style>

</head>

<body onload="displayDocumentProperties()">

<header>

<h1 style="text-align: center;">Document Object Example</h1>

</header>

<main>

<button onclick="modifyDocumentTitle()">Change Document Title</button>

<table>

<thead>

<tr>

<th>Property</th>

<th>Value</th>

</tr>

</thead>

<tbody>

<tr>

<td>Document Title</td>

<td id="docTitle">-</td>

</tr>

<tr>

<td>Document URL</td>

<td id="docURL">-</td>

</tr>

<tr>

<td>Last Modified</td>

<td id="docLastModified">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 Document Object Example. All rights reserved.</p>

</footer>

</body>

</html>

**TASK-----7(B)**

<html>

<head>

<title>Window Object Example</title>

<script>

function displayWindowProperties() {

// Accessing window properties

const width = window.innerWidth;

const height = window.innerHeight;

const locationHref = window.location.href;

// Displaying properties

document.getElementById("windowWidth").textContent = width + "px";

document.getElementById("windowHeight").textContent = height + "px";

document.getElementById("windowLocation").textContent = locationHref;

}

function openNewWindow() {

window.open("https://www.example.com", "\_blank", "width=600,height=400");

}

function reloadPage() {

if (confirm("Do you want to reload the page?")) {

window.location.reload();

}

}

function navigateToURL() {

const url = prompt("Enter a URL to navigate to:", "https://www.example.com");

if (url) {

window.location.href = url;

}

}

</script>

<style>

body {

font-family: Arial, sans-serif;

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width: 60%;

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text-align: left;

}

button {

display: block;

margin: 20px auto;

padding: 10px 20px;

font-size: 16px;

}

</style>

</head>

<body onload="displayWindowProperties()">

<header>

<h1 style="text-align: center;">Window Object Example</h1>

</header>

<main>

<button onclick="openNewWindow()">Open New Window</button>

<button onclick="reloadPage()">Reload Page</button>

<button onclick="navigateToURL()">Navigate to URL</button>

<table>

<thead>

<tr>

<th>Property</th>

<th>Value</th>

</tr>

</thead>

<tbody>

<tr>

<td>Window Width</td>

<td id="windowWidth">-</td>

</tr>

<tr>

<td>Window Height</td>

<td id="windowHeight">-</td>

</tr>

<tr>

<td>Current URL</td>

<td id="windowLocation">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 Window Object Example. All rights reserved.</p>

</footer>

</body>

</html>

**TASK-----7(C)**

<html>

<head>

<title>Array Object Example</title>

<script>

function demonstrateArrayMethods() {

// Creating an array

const fruits = ["Apple", "Banana", "Cherry"];

// Accessing array properties

const length = fruits.length;

// Using array methods

fruits.push("Date"); // Add element to the end

const removedFruit = fruits.pop(); // Remove the last element

fruits.unshift("Elderberry"); // Add element to the beginning

const shiftedFruit = fruits.shift(); // Remove the first element

// Joining elements into a string

const fruitString = fruits.join(", ");

// Sorting the array

const sortedFruits = [...fruits].sort(); // Use spread to avoid modifying original

// Displaying results

document.getElementById("arrayLength").textContent = length;

document.getElementById("currentArray").textContent = fruits.join(", ");

document.getElementById("removedFruit").textContent = removedFruit;

document.getElementById("shiftedFruit").textContent = shiftedFruit;

document.getElementById("joinedArray").textContent = fruitString;

document.getElementById("sortedArray").textContent = sortedFruits.join(", ");

}

</script>

<style>

body {

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table {

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font-size: 16px;

}

</style>

</head>

<body>

<header>

<h1 style="text-align: center;">Array Object Example</h1>

</header>

<main>

<button onclick="demonstrateArrayMethods()">Run Array Methods</button>

<table>

<thead>

<tr>

<th>Operation</th>

<th>Result</th>

</tr>

</thead>

<tbody>

<tr>

<td>Initial Length</td>

<td id="arrayLength">-</td>

</tr>

<tr>

<td>Current Array</td>

<td id="currentArray">-</td>

</tr>

<tr>

<td>Removed Last Element</td>

<td id="removedFruit">-</td>

</tr>

<tr>

<td>Removed First Element</td>

<td id="shiftedFruit">-</td>

</tr>

<tr>

<td>Joined Array</td>

<td id="joinedArray">-</td>

</tr>

<tr>

<td>Sorted Array</td>

<td id="sortedArray">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 Array Object Example. All rights reserved.</p>

</footer>

</body>

</html>

**TASK-----7(D)**

<html>

<head>

<title>Math Object Example</title>

<script>

function demonstrateMathMethods() {

// Using Math object properties and methods

const pi = Math.PI;

const euler = Math.E;

const squareRoot = Math.sqrt(64);

const power = Math.pow(2, 8);

const random = Math.random();

const rounded = Math.round(4.7);

const maxNumber = Math.max(3, 1, 7, 9, 2);

const minNumber = Math.min(3, 1, 7, 9, 2);

// Displaying results

document.getElementById("mathPI").textContent = pi;

document.getElementById("mathE").textContent = euler;

document.getElementById("mathSqrt").textContent = squareRoot;

document.getElementById("mathPow").textContent = power;

document.getElementById("mathRandom").textContent = random.toFixed(5);

document.getElementById("mathRound").textContent = rounded;

document.getElementById("mathMax").textContent = maxNumber;

document.getElementById("mathMin").textContent = minNumber;

}

</script>

<style>

body {

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button {

display: block;

margin: 20px auto;

padding: 10px 20px;

font-size: 16px;

}

</style>

</head>

<body>

<header>

<h1 style="text-align: center;">Math Object Example</h1>

</header>

<main>

<button onclick="demonstrateMathMethods()">Run Math Methods</button>

<table>

<thead>

<tr>

<th>Operation</th>

<th>Result</th>

</tr>

</thead>

<tbody>

<tr>

<td>Math.PI</td>

<td id="mathPI">-</td>

</tr>

<tr>

<td>Math.E</td>

<td id="mathE">-</td>

</tr>

<tr>

<td>Math.sqrt(64)</td>

<td id="mathSqrt">-</td>

</tr>

<tr>

<td>Math.pow(2, 8)</td>

<td id="mathPow">-</td>

</tr>

<tr>

<td>Math.random()</td>

<td id="mathRandom">-</td>

</tr>

<tr>

<td>Math.round(4.7)</td>

<td id="mathRound">-</td>

</tr>

<tr>

<td>Math.max(3, 1, 7, 9, 2)</td>

<td id="mathMax">-</td>

</tr>

<tr>

<td>Math.min(3, 1, 7, 9, 2)</td>

<td id="mathMin">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 Math Object Example. All rights reserved.</p>

</footer>

</body>

</html>

**TASK-----7(E)**

<html>

<head>

<title>String Object Example</title>

<script>

function demonstrateStringMethods() {

// Creating a string

const text = "Hello, JavaScript World!";

// Accessing string properties and using methods

const length = text.length;

const upperCase = text.toUpperCase();

const lowerCase = text.toLowerCase();

const indexOfJS = text.indexOf("JavaScript");

const substring = text.substring(7, 17);

const replaced = text.replace("JavaScript", "HTML");

const splitText = text.split(" ");

// Displaying results

document.getElementById("stringOriginal").textContent = text;

document.getElementById("stringLength").textContent = length;

document.getElementById("stringUpperCase").textContent = upperCase;

document.getElementById("stringLowerCase").textContent = lowerCase;

document.getElementById("stringIndexOf").textContent = indexOfJS;

document.getElementById("stringSubstring").textContent = substring;

document.getElementById("stringReplaced").textContent = replaced;

document.getElementById("stringSplit").textContent = splitText.join(", ");

}

</script>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

line-height: 1.6;

}

table {

width: 80%;

margin: 20px auto;

border-collapse: collapse;

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table, th, td {

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}

th, td {

padding: 10px;

text-align: left;

}

button {

display: block;

margin: 20px auto;

padding: 10px 20px;

font-size: 16px;

}

</style>

</head>

<body>

<header>

<h1 style="text-align: center;">String Object Example</h1>

</header>

<main>

<button onclick="demonstrateStringMethods()">Run String Methods</button>

<table>

<thead>

<tr>

<th>Operation</th>

<th>Result</th>

</tr>

</thead>

<tbody>

<tr>

<td>Original String</td>

<td id="stringOriginal">-</td>

</tr>

<tr>

<td>Length</td>

<td id="stringLength">-</td>

</tr>

<tr>

<td>Uppercase</td>

<td id="stringUpperCase">-</td>

</tr>

<tr>

<td>Lowercase</td>

<td id="stringLowerCase">-</td>

</tr>

<tr>

<td>Index of "JavaScript"</td>

<td id="stringIndexOf">-</td>

</tr>

<tr>

<td>Substring (7, 17)</td>

<td id="stringSubstring">-</td>

</tr>

<tr>

<td>Replaced "JavaScript" with "HTML"</td>

<td id="stringReplaced">-</td>

</tr>

<tr>

<td>Split by space</td>

<td id="stringSplit">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 String Object Example. All rights reserved.</p>

</footer>

</body>

</html>

**TASK-----7(F)**

<html>

<head>

<title>Regex Object Example</title>

<script>

function demonstrateRegexMethods() {

// Creating a string and regex patterns

const text = "The quick brown fox jumps over the lazy dog.";

const regex = /quick/;

const globalRegex = /o/g;

// Using regex methods

const testResult = regex.test(text); // Test for match

const matchResult = text.match(globalRegex); // Get all matches

const replacedText = text.replace(/fox/, "cat"); // Replace word

const searchResult = text.search(/lazy/); // Find index of match

// Displaying results

document.getElementById("regexOriginal").textContent = text;

document.getElementById("regexTest").textContent = testResult;

document.getElementById("regexMatch").textContent = matchResult.join(", ");

document.getElementById("regexReplace").textContent = replacedText;

document.getElementById("regexSearch").textContent = searchResult;

}

</script>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

line-height: 1.6;

}

table {

width: 80%;

margin: 20px auto;

border-collapse: collapse;

}

table, th, td {

border: 1px solid #333;

}

th, td {

padding: 10px;

text-align: left;

}

button {

display: block;

margin: 20px auto;

padding: 10px 20px;

font-size: 16px;

}

</style>

</head>

<body>

<header>

<h1 style="text-align: center;">Regex Object Example</h1>

</header>

<main>

<button onclick="demonstrateRegexMethods()">Run Regex Methods</button>

<table>

<thead>

<tr>

<th>Operation</th>

<th>Result</th>

</tr>

</thead>

<tbody>

<tr>

<td>Original String</td>

<td id="regexOriginal">-</td>

</tr>

<tr>

<td>Test if "quick" exists</td>

<td id="regexTest">-</td>

</tr>

<tr>

<td>Match all "o" characters</td>

<td id="regexMatch">-</td>

</tr>

<tr>

<td>Replace "fox" with "cat"</td>

<td id="regexReplace">-</td>

</tr>

<tr>

<td>Index of "lazy"</td>

<td id="regexSearch">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 Regex Object Example. All rights reserved.</p>

</footer>

</body>

</html>

**TASK-----7(G)**

<html>

<head>

<title>Date Object Example</title>

<script>

function demonstrateDateMethods() {

// Create a new Date object

const currentDate = new Date();

// Accessing date properties and methods

const date = currentDate.getDate();

const month = currentDate.getMonth() + 1; // Months are zero-indexed

const year = currentDate.getFullYear();

const hours = currentDate.getHours();

const minutes = currentDate.getMinutes();

const seconds = currentDate.getSeconds();

const timeString = currentDate.toTimeString();

const dateString = currentDate.toDateString();

// Displaying results

document.getElementById("currentDate").textContent = `${date}/${month}/${year}`;

document.getElementById("currentTime").textContent = `${hours}:${minutes}:${seconds}`;

document.getElementById("timeString").textContent = timeString;

document.getElementById("dateString").textContent = dateString;

}

</script>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

line-height: 1.6;

}

table {

width: 80%;

margin: 20px auto;

border-collapse: collapse;

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th, td {

padding: 10px;

text-align: left;

}

button {

display: block;

margin: 20px auto;

padding: 10px 20px;

font-size: 16px;

}

</style>

</head>

<body>

<header>

<h1 style="text-align: center;">Date Object Example</h1>

</header>

<main>

<button onclick="demonstrateDateMethods()">Run Date Methods</button>

<table>

<thead>

<tr>

<th>Operation</th>

<th>Result</th>

</tr>

</thead>

<tbody>

<tr>

<td>Current Date</td>

<td id="currentDate">-</td>

</tr>

<tr>

<td>Current Time</td>

<td id="currentTime">-</td>

</tr>

<tr>

<td>Time String</td>

<td id="timeString">-</td>

</tr>

<tr>

<td>Date String</td>

<td id="dateString">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 Date Object Example. All rights reserved.</p>

</footer>

</body>

</html>

**TASK-----7(H)**

<html>

<head>

<title>User-Defined Object Example</title>

<script>

// Constructor for a User-Defined Object

function Person(name, age, gender) {

this.name = name;

this.age = age;

this.gender = gender;

// Method to display details

this.displayDetails = function() {

return `Name: ${this.name}, Age: ${this.age}, Gender: ${this.gender}`;

};

// Getter for Name

this.getName = function() {

return this.name;

};

// Setter for Name

this.setName = function(newName) {

this.name = newName;

};

}

function demonstrateUserDefinedObject() {

// Create a new Person object

const person = new Person("Alice", 30, "Female");

// Access and modify properties using methods

const originalDetails = person.displayDetails();

person.setName("Bob");

const updatedDetails = person.displayDetails();

// Display results

document.getElementById("originalDetails").textContent = originalDetails;

document.getElementById("updatedDetails").textContent = updatedDetails;

}

</script>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

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}

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display: block;

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padding: 10px 20px;

font-size: 16px;

}

</style>

</head>

<body>

<header>

<h1 style="text-align: center;">User-Defined Object Example</h1>

</header>

<main>

<button onclick="demonstrateUserDefinedObject()">Run User-Defined Object</button>

<table>

<thead>

<tr>

<th>Operation</th>

<th>Result</th>

</tr>

</thead>

<tbody>

<tr>

<td>Original Details</td>

<td id="originalDetails">-</td>

</tr>

<tr>

<td>Updated Details</td>

<td id="updatedDetails">-</td>

</tr>

</tbody>

</table>

</main>

<footer>

<p style="text-align: center;">&copy; 2024 User-Defined Object Example. All rights reserved.</p>

</footer>

</body>

</html>