



1. Locating Mouse coordinates using JavaScript.

```
<!-- mouseCoordinates.html-->
<!DOCTYPE html>
<html>
<body>
<h2 onclick="showCoords(event)">Click this heading to get the
 x (horizontal) and y (vertical) coordinates of the mouse pointer when
it was clicked.</h2>
<strong>Tip:</strong> Try to click different places in the
heading.
<script>
function showCoords(event) {
   var x = event.clientX;
   var y = event.clientY;
   var coords = "X coords: " + x + ", Y coords: " + y;
   document.getElementById("demo").innerHTML = coords;
}
</script></body></html>
```

2. Create Dynamic Table content using Dynamic Document in Javascript.

```
<?xml version = "1.0" encoding = "utf-8"?>
<!DOCTYPE html PUBLIC "-//w3c//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<!-- dynamic.html -->
<html xmlns = "http://www.w3.org/1999/xhtml">
<head>
<title>Manipulating Tables</title>
<script type="text/javascript">
function addRow(tableId, c){
var tabEle = document.getElementById(tableId);

var newRow = tabEle.insertRow(tabEle.rows.length);
```

```
console.log(tabEle.rows.length);
var newCell;
for (var i = 0; i < c.length; i++) {</pre>
   console.log(newRow.cells.length);
newCell = newRow.insertCell(newRow.cells.length);
newCell.innerHTML = c[i];
}
return newRow;
}
</script>
</head>
<body>
First Name
Middle Name
Last Name
<hr>>
<form name="formName">
First Name: <input type="text" name="FirstName">
Middle Name: <input type="text" name="MiddleName">
Last Name: <input type="text" name="LastName">
<br />
<br />
<center><input type="button" value="Add Name"</pre>
onclick="addRow('tblPeople',
[this.form.FirstName.value,this.form.MiddleName.value,
this.form.LastName.value]
);"> </center>
<hr>>
</form>
</body>
</html>
```

3. Stacking Elements using Javascript.

```
<!DOCTYPE html>
<html>
<head>
<style>
#img1 {
position: absolute; left: 0px; top: 0px;z-index: -1
}
</style>
</head>
```

```
<body>
    <h1>This is a Heading</h1>
    <img id="img1" src="airplane1.jpg" width="300" height="300">
    <button type="button" onclick="myFunction()">Change stack
   order</button>
    Default z-index is 0. Z-index -1 has lower priority.
    <script>
    function myFunction() {
    document.getElementById("img1").style.zIndex = "1";
    }
    </script>
4. Moving the Elements using Javascript
   /* moveImage.js JavaScript to move image*/
   var dom, x, y, finalx = 700;
   // function to initialize the x and y coordinates of the current
   position of the image to move
   function initImage() {
   dom = document.getElementById('image').style;
   /* Get the current position of the image and covert string values of
   lef and topto numbers */
   var x = parseInt(dom.left);
   var y = parseInt(dom.top);
   /* Call the function that moves it */
   moveImage(x, y);
   }
   // A function to move the image from its original position to (x,
   finalx)
   function moveImage(x, y) {
   /* If the x coordinates are not equal, move
   x toward finalx */
   if ((x != finalx) ) {
   // assign x and y values to propeties to cause the move
   dom.left = x + "px";
   dom.top = y + "px";
   /* Recursive call, after a 1-millisecond delay */
   setTimeout("moveImage(" + x + "," + y + ")", 1);
   }
   }
```

5. Explore the new features introduced in ES5 to recent.

JavaScript (JS) has evolved significantly from ECMAScript 5 (ES5) to the latest ECMAScript versions, introducing new features to improve syntax, performance, and developer experience.

JavaScript Versions

6. Web Development Challenge: Build an Interactive Static Website

Modify the Existing static website to incorporate interactive elements using JavaScript, Regular Expressions, and CSS to enhance the user experience. Your website should include the following features:

Requirements:

1. User Authentication Interface

- a) Create **Login and Signup pages** with form validation using **JavaScript and Regular Expressions**.
- b) Ensure fields like **UserName**, **email**, **password**, **and Phone Number** follow proper validation rules.

2. Layered Layout with Stacking Elements

- a) Implement **stacking (z-index) techniques** to overlay elements creatively.
- b) Demonstrate layering for pop-ups, modals, tooltips, or banners.

3. **Dynamic Table Generation**

- a) Use **JavaScript** to create and populate a table dynamically.
- b) The table content should be generated based on **user input or pre-defined** data arrays.

4. Element Animations & Movement

- a) Add **animations or transitions** to make elements move dynamically on the webpage.
- b) Examples: Sliding menus, scrolling text, bouncing buttons, or draggable elements.