

**Instructions: Odd no's (Q1, Q3), Even no's (Q2, Q4)**

**Note: Apply your creativity to design the templates**

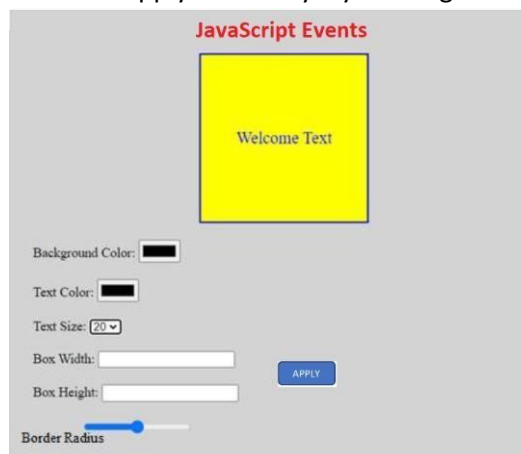
**Note: Use External JavaScript file**

**Aim:**

Create a web application using JavaScript to manipulate the CSS Styles and Animation.

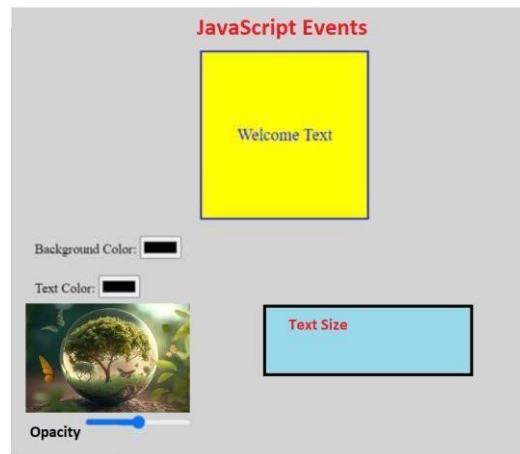
Q1) Create a web page to perform various style modification using for the “DIV” box such as background color, text color, font size, width, height and border radius using JavaScript code.

- Change the color of the text for the heading of the page (<h1>) for every 2 seconds. (setInterval)
- For background color and text color, use color chooser html element <input type=color>, trigger the JavaScript function when changing color and apply necessary style changes in “DIV”. (onchange event)
- For border radius, use HTML range element using <input type=range>, trigger the JavaScript function when changing the radius and apply necessary style changes in “DIV”. (onchange event)
- Select the text size in dropdown and enter the width & height, trigger the JavaScript function when pressing the button and apply necessary style changes in “DIV”. (onsubmit event)

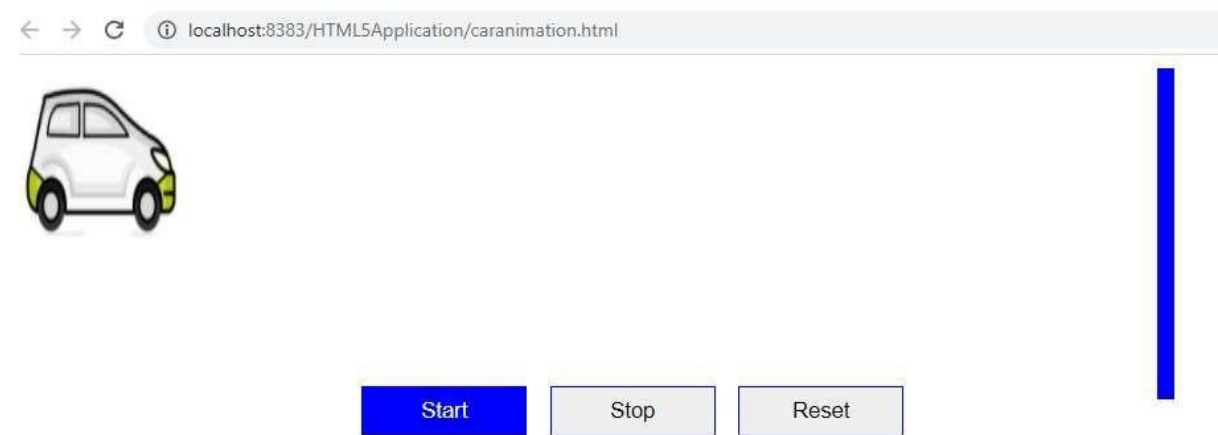


Q2) Create a web page to perform various style modification using JavaScript code.

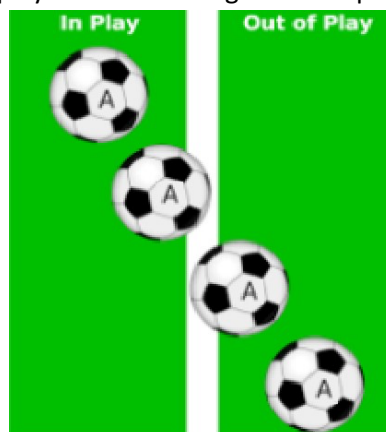
- Change the background color of the webpage for every 2 seconds. (setInterval)
- For background color and text color of <DIV>, use color chooser html element <input type=color>, trigger the JavaScript function when changing color and apply necessary style changes in “DIV”. (onchange event)
- Display an image, for changing the opacity, use HTML range element using <input type=range>, trigger the JavaScript function when changing the radius and apply necessary style changes in “DIV”. (onchange event)
- Create event handlers that will increase the font size when a mouse moves over a paragraph and decrease the size when the mouse moves off the paragraph.



Q3) Create a web page with JavaScript code to move absolutely-positioned car object (or any image as per your choice) when user clicks the start button and stop the car image when a user clicks the stop button. [Note: Use JavaScript timer functions such as setInterval() or setTimeout()]



Q4) Write JavaScript code to develop an animation game to move a ball image. When the ball moves out of the play area, display an alert message "out of play".



**Source code :**

**Event :**

```
<!DOCTYPE html>
<html lang="en">
```

```

<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0"> <title>Style
Modification</title>
<style>
body {
    font-family: Arial, sans-serif;    text-
align: center;
    background-color: white; /* Set default background color to white */
}
#content {
    background-color: lightblue;
padding: 20px;    margin-top:
20px;    border-radius: 8px;
    display: inline-block; /* Make the blue area inline-block to center it */
}
img {
    max-width: 100%;
height: auto;    margin-top:
20px;
    transition: opacity 0.5s ease-in-out;
}

.box {    width: 200px;
height: 200px;    background-
color: lightblue;    border: 1px
solid #ccc;    padding: 20px;
margin: 20px auto;    text-
align: center;
    transition: font-size 0.3s ease;
}
</style>
</head>
<body>

```

```

<h2>Style Modification</h2>

```

```

<div id="content">
    <p>Change the background color of the webpage:</p>
    <input type="button" id="startButton" value="Start Background Color Change"
onclick="toggleBackgroundColorChange()">
        <input type="button" value="Stop Background Color Change"
onclick="stopBackgroundColorChange()">
    <br><br>
    <label for="backgroundColorPicker">Choose background color:</label>
    <input type="color" id="backgroundColorPicker" onchange="changeBackgroundColor()">
<br><br>
    <label for="textColorPicker">Choose text color:</label>

```

```

    <input type="color" id="textColorPicker" onchange="changeTextColor()">
<br><br>
    <label for="opacityRange">Adjust image opacity:</label>
    <input type="range" id="opacityRange" min="0" max="1" step="0.1" value="1"
onchange="changeOpacity()">
    <br><br>
    

        <div class="box" onmouseover="increaseFontSize(this)"
onmouseout="decreaseFontSize(this)">
            <p>This is a paragraph inside the box.</p>
        </div>
    </div>

<script>
    var backgroundColorInterval;

    function toggleBackgroundColorChange() {
        if (!backgroundColorInterval) {
            backgroundColorInterval = setInterval(changeBackgroundColor, 2000);
            document.getElementById("startButton").value = "Stop Background Color Change";
        } else {
            clearInterval(backgroundColorInterval);
            backgroundColorInterval = null; // Reset interval variable
            document.getElementById("startButton").value = "Start Background Color Change";
        }
    }

    function stopBackgroundColorChange() {
        clearInterval(backgroundColorInterval);
        backgroundColorInterval = null; // Reset interval variable
        document.getElementById("startButton").value = "Start Background Color Change";
    }

    function changeBackgroundColor() {
        var color =
document.getElementById("backgroundColorPicker").value;
document.getElementById("content").style.backgroundColor = color;
    }

    function changeTextColor() {
        var color =
document.getElementById("textColorPicker").value;
document.getElementById("content").style.color = color;
    }

```

```

    function changeOpacity() {
        var opacity =
document.getElementById("opacityRange").value;
document.getElementById("image").style.opacity = opacity;
    }

```

```

    var content = document.getElementById("content");
content.onmouseover = function() {
    this.style.fontSize = "20px";
};
content.onmouseout = function() {
    this.style.fontSize = "inherit";
};

```

```

function increaseFontSize(element) {
    element.style.fontSize = "24px";
}

```

```

function decreaseFontSize(element) {
    element.style.fontSize = "16px";
}

```

```

</script>
</body>
</html>

```

### **Ball:**

```

<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Ball Animation Game</title>
<style>  #playArea {
width: 500px;    height:
300px;    border: 2px
solid black;    position:
relative;    overflow:
hidden;
    background-color: rgb(20, 105, 114);
    }
    #ball {
width: 50px;
height: 50px;
    background-image: url('ball.png'); /* Replace 'ball_image.png' with the path to your image */
    background-size: cover; /* Adjusts the size of the background image to cover the entire
element */
    position: absolute;
    }
</style>

```

```
</head>
<body>

<div id="playArea">
  <div id="ball"></div>
</div>

<script src="script.js"></script>

</body>
</html>
```

Script:

```
var ball = document.getElementById("ball");

var posX = 0; var posY = 0;
ball.style.left = posX + "px";
ball.style.top = posY + "px";

var maxX = 450;
var maxY = 250;

var speedX = 2;
var speedY = 2;

function moveBall() {
  posX += speedX;
  posY += speedY;

  ball.style.left = posX + "px";
  ball.style.top = posY + "px";

  if (posX < 0 || posY < 0 || posX > maxX || posY > maxY) {
    alert("Out of play");
    clearInterval(animation);
  }
}

var animation = setInterval(moveBall, 20);
```

**Output :**

Event:

## Style Modification

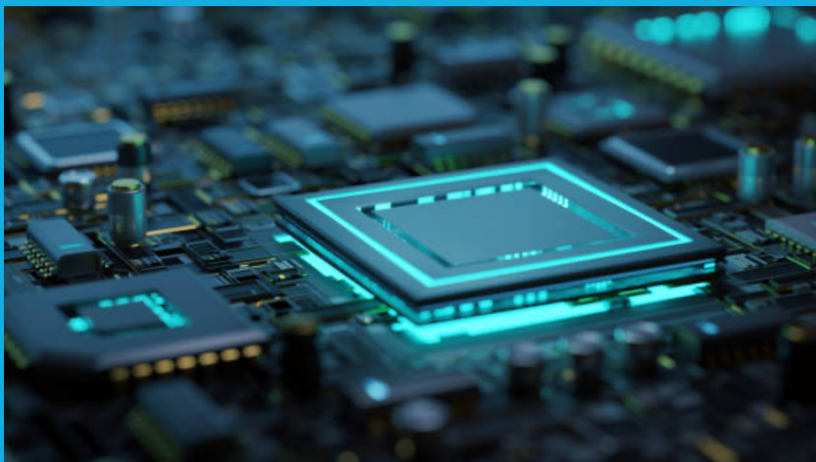
Change the background color of the webpage:

Start Background Color Change Stop Background Color Change

Choose background color:

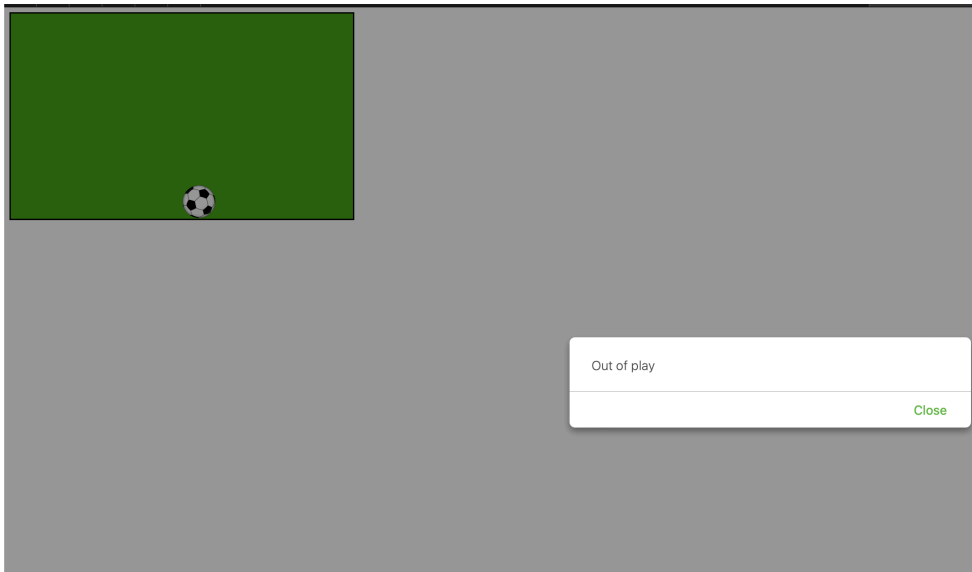
Choose text color:

Adjust image opacity:



This is a paragraph  
inside the box.

**Ball:**



**Result:**

Successfully Created a web application using JavaScript to manipulate the CSS Styles and Animation