

Full Stack Application Development with Cloud Computing

Module 2 – Front-End Development Tools, Technologies and Frameworks

Lab - 4

Unit 3 - JavaScript and DOM Manipulation

Topic: JavaScript Events and Animations

Ex. 1: A JavaScript program that demonstrates the usage of events and animations.

- use JavaScript to detect a button click and display a message when the button is clicked.
- detect when a user hovers over a paragraph element and change its text content.
- example of an animated box that moves horizontally and reverses its direction using CSS keyframes and JavaScript.

```
<!DOCTYPE html>
<html>
<head>
  <title>JavaScript Events and Animations</title>
  <style>
    .box {
      width: 100px;
      height: 100px;
      background-color: lightgreen;
      position: relative;
      animation: moveAnimation 2s ease-in-out infinite alternate;
    }
```

```

@keyframes moveAnimation {
  0% {
    transform: translateX(0);
  }
  100% {
    transform: translateX(200px);
  }
}
</style>
</head>
<body>
  <div>
    <h2>Click Event</h2>
    <button id="clickButton">Click Me</button>
    <p id="clickOutput"></p>
  </div>

  <div>
    <h2>Mouseover Event</h2>
    <p id="mouseoverOutput">Hover over this text.</p>
  </div>

  <div>
    <h2>Animation</h2>
    <div class="box"></div>
  </div>

  <script>
    var clickButton = document.getElementById("clickButton");
    var clickOutput = document.getElementById("clickOutput");

    // Click Event
    clickButton.addEventListener("click", function() {

```

```

        clickOutput.textContent = "Button Clicked!";
    });

    var mouseoverOutput =
document.getElementById("mouseoverOutput");

    // Mouseover Event
    mouseoverOutput.addEventListener("mouseover", function() {
        mouseoverOutput.textContent = "Mouse over detected!";
    });

    // No need for JavaScript to control the animation, as it's handled by
    CSS
    </script>
</body>
</html>

```

Output:

Click Event

Click Me

Mouseover Event

Hover over this text.

Animation



Click Event

Click Me

Button Clicked!

Mouseover Event

Mouse over detected!

Animation



Practice Question

Ex. 2: Create an interactive webpage that demonstrates the usage of JavaScript events and animations. Design a simple HTML page with the following features and functionalities:

- **Click Event:** Include a button element, When the button is clicked, a paragraph below it should display any message. Use JavaScript to detect the button click event and update the paragraph content accordingly.
- **Mouseover Event:** Add a paragraph element. When a user hovers their mouse over this paragraph, the text content should change. Utilize JavaScript to detect the mouseover event and modify the paragraph content.
- **Animation:** Create a visually appealing animation using CSS keyframes. Design a moving element (e.g., a div or an image) that smoothly moves horizontally across the screen and then reverses its direction. Use JavaScript to control the start and stop of the animation.