**Q. 1 What is jQuery?**

jQuery is a JavaScript library designed to simplify web development tasks. Released in 2006, it streamlines HTML document manipulation, event handling, and AJAX requests. jQuery's cross-browser compatibility and concise API make it popular for tasks like DOM manipulation and animation. However, as web development has evolved, native JavaScript features and newer frameworks like React and Vue.js have gained prominence. While jQuery is still present in many projects, it's no longer considered essential for modern web development. Developers now often choose frameworks that offer more advanced capabilities and improved performance for building dynamic and interactive web applications.

**Q.2 How to Apply CSS Using JQuery, How to Add Class and Remove Class in Jquery, JQuery Animation?**

**Applying CSS Using jQuery:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Simple jQuery CSS Example</title>

<script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>

</head>

<body>

<p id="targetParagraph">This is a paragraph.</p>

<script>

$(document).ready(function() {

// Applying CSS using jQuery

$("#targetParagraph").css("color", "blue");

});

</script>

</body>

</html>

**Adding and Removing Classes Using jQuery:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Simple jQuery Class Example</title>

<script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>

<style>

.highlight {

background-color: yellow;

}

</style>

</head>

<body>

<p id="targetParagraph">This is a paragraph.</p>

<script>

$(document).ready(function() {

// Adding and removing classes using jQuery

$("#targetParagraph").addClass("highlight");

// After a delay, remove the class

setTimeout(function() {

$("#targetParagraph").removeClass("highlight");

}, 2000);

});

</script>

</body>

</html>

**jQuery Animation:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Simple jQuery Animation Example</title>

<script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>

<style>

#animatedBox {

width: 100px;

height: 100px;

background-color: blue;

}

</style>

</head>

<body>

<div id="animatedBox"></div>

<script>

$(document).ready(function() {

// jQuery animation

$("#animatedBox").animate({

left: "250px",

opacity: 0.5,

height: "150px",

width: "150px"

}, 1000);

});

</script>

</body>

</html>

**Q.3 How to create slider with animation?**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Simple jQuery Slider</title>

<script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>

<style>

#sliderContainer {

width: 300px;

overflow: hidden;

}

#slider {

display: flex;

transition: transform 0.5s ease-in-out;

}

.slide {

width: 300px;

}

</style>

</head>

<body>

<div id="sliderContainer">

<div id="slider">

<div class="slide" style="background-color: #ffcc00;">Slide 1</div>

<div class="slide" style="background-color: #66cc66;">Slide 2</div>

<div class="slide" style="background-color: #3399ff;">Slide 3</div>

</div>

</div>

<script>

$(document).ready(function() {

var currentIndex = 0;

var slideWidth = $(".slide").width();

function showSlide(index) {

var newPosition = -index \* slideWidth;

$("#slider").css("transform", "translateX(" + newPosition + "px)");

}

// Automatic slider animation (change slide every 3 seconds)

setInterval(function() {

currentIndex = (currentIndex + 1) % $(".slide").length;

showSlide(currentIndex);

}, 3000);

});

</script>

</body>

</html>