**Module (JQuery Basic, Effects & Advanced) – 5**

1. **What is jQuery?**

**Ans:-**

* jQuery is a fast, lightweight, and feature-rich JavaScript library that simplifies tasks like HTML document manipulation, event handling, animation, and AJAX interactions. It makes things like DOM traversal and manipulation much easier with an easy-to-use API that works across a multitude of browsers.
* **Features:**
* Simplifies complex JavaScript operations.
* Cross-browser compatibility.
* Extensive set of utilities for DOM manipulation, event handling, and animations.
* Supports AJAX calls for dynamic content loading.
* Easy-to-use syntax.

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

**Ans:-**

* You can easily apply CSS styles using jQuery’s .css() method. It allows you to get or set CSS properties on HTML elements.
* In jQuery, you can dynamically add or remove CSS classes from elements using .addClass() and .removeClass() methods.
* jQuery has built-in animation effects to animate the DOM elements. Some commonly used methods include .animate(), .fadeIn(), .fadeOut(), .slideUp(), and .slideDown().

1. **How to create slider with animation?**

**Ans:-**

* Creating a slider with animation using jQuery is a great way to display images or content dynamically. The following explanation will walk you through how to build a simple horizontal slider with animations.
* **Steps to Create a Slider:**
* **HTML Structure**
* First, set up the basic structure of your slider. We'll create a div to wrap all the slides, and inside it, we’ll place multiple slides (div elements). These slides will hold the content or images that will be animated.
* **Explanation:**
* **slider:** A container that holds all the slides.
* **slides:** A container that wraps all the individual slide items.
* **slide:** Each individual slide.
* **CSS for Styling and Layout**
* You’ll need some CSS to give structure and layout to the slider. We’ll use basic CSS to position the slides horizontally and hide overflow so that only one slide is visible at a time.
* **Explanation:**
* **slider:** This is the visible area of the slider. We set overflow: hidden to only show one slide at a time.
* **slides:** This container wraps all the slides and will be animated to shift horizontally. We use flex to lay out the slides in a row.
* **slide:** Each individual slide has a width and height equal to the slider container.
* **jQuery for Animation**
* Now, we need to animate the slides using jQuery. We'll write a simple script to shift the slides horizontally at regular intervals.
* **Explanation:**
* **currentSlide:** This variable keeps track of the currently visible slide.
* **slides:** This holds the total number of slides inside the slider.
* **slideWidth:** The width of each slide is taken from the .slider container so that we can use it in the animation.
* **showNextSlide():** This function calculates the new position of the slides container and uses jQuery’s .animate() method to move the slides horizontally.
* **setInterval():** This function automatically triggers showNextSlide() every 3 seconds, creating an automatic slide animation.
* **Result: How the Slider Works**
* Initially, only the first slide will be visible since the .slider has overflow: hidden.
* Every 3 seconds, the showNextSlide() function will animate the left property of the .slides container to shift it by the width of one slide.
* When the last slide is reached, the script resets to the first slide by setting currentSlide = 0, creating a continuous loop.
* **How the Animation Works:**
* The left property of the .slides element is adjusted by multiplying the slideWidth by the currentSlide index.
* This creates the sliding effect by moving the entire set of slides to the left, revealing the next one in the viewport.
* The transition is smooth thanks to jQuery’s .animate() method, and the slider loops back to the first slide when it reaches the last one.