• What is jQuery?

Answer:- jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. Some key features of jQuery include:

1. \*\*DOM Manipulation\*\*: jQuery provides a straightforward syntax to select and manipulate elements in the Document Object Model (DOM). For example, you can easily add, remove, or modify elements and their attributes.

2. \*\*Event Handling\*\*: jQuery simplifies event handling, enabling you to bind events to elements and manage user interactions efficiently.

3. \*\*AJAX Support\*\*: jQuery has built-in support for asynchronous HTTP requests, making it easy to send and retrieve data without reloading the web page.

4. \*\*Animation\*\*: jQuery includes a range of effects and animations, allowing you to create dynamic web pages with ease.

5. \*\*Cross-browser Compatibility\*\*: jQuery handles many of the cross-browser inconsistencies, making it easier to write code that works on various browsers.

6. \*\*Plugins\*\*: The jQuery ecosystem includes a wide variety of plugins that extend its functionality, from user interface elements to complex features.

Here is a simple example of jQuery in action:

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>jQuery Example</title>

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

<script>

$(document).ready(function(){

$("#myButton").click(function(){

$("#myText").text("Hello, jQuery!");

});

});

</script>

</head>

<body>

<button id="myButton">Click me</button>

<p id="myText">Original text</p>

</body>

</html>

```

In this example, when the button is clicked, the text inside the paragraph element is changed using jQuery.

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

Answer:- ### Applying CSS Using jQuery

You can use the `.css()` method to apply CSS styles to elements. The `.css()` method allows you to get or set one or more style properties for the selected elements.

\*\*Example:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Apply CSS with jQuery</title>

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

<script>

$(document).ready(function(){

$("#applyCSS").click(function(){

$("#myText").css({

"color": "red",

"font-size": "20px",

"background-color": "yellow"

});

});

});

</script>

</head>

<body>

<button id="applyCSS">Apply CSS</button>

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

</body>

</html>

```

In this example, clicking the "Apply CSS" button changes the text color, font size, and background color of the paragraph.

### Adding and Removing Classes Using jQuery

You can use `.addClass()` to add one or more classes to the selected elements and `.removeClass()` to remove one or more classes from the selected elements.

\*\*Example:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Add/Remove Class with jQuery</title>

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

<style>

.highlight {

color: white;

background-color: blue;

}

</style>

<script>

$(document).ready(function(){

$("#addClass").click(function(){

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

});

$("#removeClass").click(function(){

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

});

});

</script>

</head>

<body>

<button id="addClass">Add Class</button>

<button id="removeClass">Remove Class</button>

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

</body>

</html>

```

In this example, clicking the "Add Class" button adds the "highlight" class to the paragraph, changing its style. Clicking the "Remove Class" button removes the "highlight" class, reverting the paragraph to its original style.

### jQuery Animation

jQuery provides several methods for creating animations, such as `.animate()`, `.fadeIn()`, `.fadeOut()`, `.slideDown()`, and `.slideUp()`.

\*\*Example of `.animate()`:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>jQuery Animation</title>

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

<style>

#box {

width: 100px;

height: 100px;

background-color: blue;

position: absolute;

}

</style>

<script>

$(document).ready(function(){

$("#animateBox").click(function(){

$("#box").animate({

left: '250px',

height: '150px',

width: '150px'

});

});

});

</script>

</head>

<body>

<button id="animateBox">Animate Box</button>

<div id="box"></div>

</body>

</html>

```

In this example, clicking the "Animate Box" button animates the blue box, moving it to the right and increasing its height and width.

\*\*Example of `.fadeIn()` and `.fadeOut()`:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Fade In/Out with jQuery</title>

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

<script>

$(document).ready(function(){

$("#fadeIn").click(function(){

$("#myText").fadeIn();

});

$("#fadeOut").click(function(){

$("#myText").fadeOut();

});

});

</script>

</head>

<body>

<button id="fadeIn">Fade In</button>

<button id="fadeOut">Fade Out</button>

<p id="myText" style="display:none;">This is a paragraph.</p>

</body>

</html>

```

In this example, clicking the "Fade In" button fades in the paragraph, while clicking the "Fade Out" button fades it out.

3. How to create slider with animation?

Answer:- Creating a slider with animation using jQuery involves a few steps: setting up the HTML structure, applying CSS for styling, and using jQuery for the slider functionality and animations. Here’s a simple example to demonstrate how to create a basic image slider with animation.

### HTML

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>jQuery Slider</title>

<link rel="stylesheet" href="styles.css">

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

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

</head>

<body>

<div class="slider">

<div class="slides">

<img src="image1.jpg" alt="Image 1">

<img src="image2.jpg" alt="Image 2">

<img src="image3.jpg" alt="Image 3">

</div>

<button class="prev">Previous</button>

<button class="next">Next</button>

</div>

</body>

</html>

```

### CSS (styles.css)

```css

body {

font-family: Arial, sans-serif;

}

.slider {

position: relative;

width: 600px;

height: 400px;

overflow: hidden;

margin: auto;

}

.slides {

display: flex;

transition: transform 0.5s ease-in-out;

}

.slides img {

width: 600px;

height: 400px;

}

button {

position: absolute;

top: 50%;

transform: translateY(-50%);

background-color: rgba(0, 0, 0, 0.5);

color: white;

border: none;

padding: 10px;

cursor: pointer;

}

button.prev {

left: 10px;

}

button.next {

right: 10px;

}

```

### jQuery (script.js)

```js

$(document).ready(function() {

var currentIndex = 0;

var slides = $('.slides img');

var totalSlides = slides.length;

$('.next').click(function() {

currentIndex = (currentIndex + 1) % totalSlides;

updateSlider();

});

$('.prev').click(function() {

currentIndex = (currentIndex - 1 + totalSlides) % totalSlides;

updateSlider();

});

function updateSlider() {

var newLeft = -currentIndex \* 600; // 600 is the width of each slide

$('.slides').css('transform', 'translateX(' + newLeft + 'px)');

}

});

```

### Explanation

1. \*\*HTML\*\*:

- The `.slider` div contains the `.slides` div, which holds the images for the slider.

- Two buttons, "Previous" and "Next," allow users to navigate through the images.

2. \*\*CSS\*\*:

- The `.slider` class sets up the dimensions and hides overflow content.

- The `.slides` class uses flexbox to arrange images in a row and applies a transition for smooth animation.

- The `button` styles position the navigation buttons and add basic styling.

3. \*\*jQuery\*\*:

- On document ready, the script initializes the `currentIndex` to track the current slide.

- The `.next` and `.prev` click events update the `currentIndex` and call the `updateSlider` function.

- The `updateSlider` function calculates the new position and updates the `.slides` transform property to slide to the correct image.

This basic example demonstrates how to create a simple animated slider using jQuery. You can enhance it further by adding features like auto-play, pause on hover, and more sophisticated transitions.

4. Event bubbling tickling example

<!DOCTYPE html>

<html>

<head>

<style>

.ancestors \* {

display: block;

border: 2px solid lightgrey;

color: lightgrey;

padding: 5px;

margin: 15px;

}

</style>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.7.1/jquery.min.js"></script>

<script>

$(document).ready(function(){

$("span").parentsUntil("div").css({"color": "red", "border": "2px solid red"});

});

</script>

</head>

<body class="ancestors"> body (great-great-grandparent)

<div style="width:500px;">div (great-grandparent)

<ul>ul (grandparent)

<li>li (direct parent)

<span>span</span>

</li>

</ul>

</div>

</body>

</html>