**(Q.1) What is JQuery?**

* jQuery is a lightweight, "write less, do more", JavaScript library.
* The purpose of jQuery is to make it much easier to use JavaScript on your website.
* jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.
* jQuery also simplifies a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.
* The jQuery library contains the following features:
* HTML/DOM manipulation
* CSS manipulation
* HTML event methods
* Effects and animations
* AJAX
* Utilities
* There are lots of other JavaScript libraries out there, but jQuery is probably the most popular, and the most extendable.
* Many of the biggest companies on the Web use jQuery, such as:
* Google
* Microsoft
* IBM
* Netflix
* The purpose of jQuery is to make it much easier to use JavaScript on your website.

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

* The css() method sets or returns one or more style properties for the selected elements.
* Syntax:

Css(“propertyname”);

Ex.

$("p").css("background-color");

* To set a specified CSS property, use the following syntax:

css("propertyname","value");

Ex.

$("p").css("background-color", "yellow");

* To set multiple CSS properties, use the following syntax:

css({"propertyname":"value","propertyname":"value",...});

Ex.

$("p").css({"background-color": "yellow", "font-size": "200%"});

* Add Class using JQuery
* addClass() - Adds one or more classes to the selected elements
* Syntax:

addClass()

Ex.

$("button").click(function(){  
  $("h1, h2, p").addClass("blue");  
  $("div").addClass("important");  
});

* You can also specify multiple classes within the addClass() method:

Ex.

$("button").click(function(){  
  $("#div1").addClass("important blue");  
});

* Remove Class using JQuery
* Syntax:

removeClass()

Ex.

$("button").click(function(){  
  $("h1, h2, p").removeClass("blue");  
});

* Together Example of Add Class & Remove Class

<!DOCTYPE html>

<html>

<head>

    <meta charset="utf-8">

    <meta name="viewport" content="width=device-width, initial-scale=1">

    <title></title>

    <script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.6.1/jquery.min.js" integrity="sha512-aVKKRRi/Q/YV+4mjoKBsE4x3H+BkegoM/em46NNlCqNTmUYADjBbeNefNxYV7giUp0VxICtqdrbqU7iVaeZNXA==" crossorigin="anonymous" referrerpolicy="no-referrer"></script>

    <style type="text/css">

        .x

        {

            height: 300px;

            width: 300px;

            background: linear-gradient(red,blue);

        }

     </style>

</head>

<body>

    <div>

    </div>

    <button id="b1">Add Effects</button>

    <button id="b2">Remove Effects</button>

    <button id="b3">Add/Remove Effects</button>

    <script type="text/javascript">

        $('#b1').click(function () {

            $('div').addClass('x')

        })

        $('#b2').click(function () {

            $('div').removeClass('x')

        })

        $('#b3').click(function () {

            $('div').toggleClass('x')

        })

</script>

</body>

</html>

* Animation In JQuery
* The jQuery animate() method is used to create custom animations.
* Syntax:

$(selector).animate({params},speed,callback);

* The required params parameter defines the CSS properties to be animated.
* The optional speed parameter specifies the duration of the effect. It can take the following values: "slow", "fast", or milliseconds.
* The optional callback parameter is a function to be executed after the animation completes.

Ex.

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<html>

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    <title></title>

    <script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.6.1/jquery.min.js" integrity="sha512-aVKKRRi/Q/YV+4mjoKBsE4x3H+BkegoM/em46NNlCqNTmUYADjBbeNefNxYV7giUp0VxICtqdrbqU7iVaeZNXA==" crossorigin="anonymous" referrerpolicy="no-referrer"></script>

    <style type="text/css">

        .shape

        {

            height: 300px;

            width: 300px;

            background: red;

            position: absolute;

        }

    </style>

</head>

<body>

    <button>Click me</button>

    <div class="shape">

    </div>

    <script type="text/javascript">

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

            $('.shape').animate({

                "background":"blue",

                "border-radius":"50%",

                "left":"450px"

            })

        })

    </script>

</body>

</html>

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

<!DOCTYPE html>

<html>

<head>

<script src="<https://ajax.googleapis.com/>

             ajax/libs/jquery/3.3.1/jquery.min.js"></script>

<style type="text/css">

#p1, #f1 {

    padding: 5px;

    text-align: center;

    background-color: white;

    border: solid 2px green;

    }

#p1 {

    padding: 50px;

    width:100px;

    display:none;

    color: green;

    font-style: italic;

    }

#f1 {

    width:190px;

    }

</style>

</head>

<body>

<h1 align="center">Slide Down Example</h1>

<center>

<div id="f1">Slide down Effect</div>

<div id="p1">Welcome to MyWeb</div>

</center>

<script type="text/javascript">

    $("#f1").click(function(){

        $("#p1").slideDown("slow");

    });

</script>

</body>

</html>