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

1. **How are JavaScript and jQuery different?**

|  |  |  |
| --- | --- | --- |
| [JavaScript](https://www.geeksforgeeks.org/introduction-to-javascript/) | | [jQuery](https://www.geeksforgeeks.org/jquery/) |
| 1. | JavaScript uses JIT[Just in Time Compiler] which is a combination of interpreter and Compile and is written in C. It’s a combination of ECMA script and DOM (Document Object Model). | While JQuery Uses the resources that are provided by JavaScript to make things easier. It is a lightweight JavaScript library. It has only the DOM. |
| 2. | JavaScript uses long lines of code as an individual has to write the code own-self. | With JQuery, one has to write fewer lines of code than JavaScript. We just need to import the library and use the only specific functions or methods of the library in our code. |
| 3. | In JavaScript, we have to write extra code or move around to have cross-browser compatibility. | JQuery has an inbuilt feature of cross-browser compatibility. We don’t need to worry about writing extra lines of code or moving around in order to make our code compatible with any browser. |
| 4. | JavaScript can be a burden over a developer as it may take a number of lines of lengthy code to attain functionality. | Unlike JavaScript, JQuery is more user-friendly only a few lines of code have to write in order to have its functionality. |
| 5. | JavaScript is verbose because one has to write their own scripting code which is time-consuming. | JQuery is concise and one need not write much as scripting already exists. |
| 6. | Pure JavaScript can be faster for DOM selection/manipulation than jQuery as JavaScript is directly processed by the browser and it curtails the overhead which JQuery actually has. | JQuery is also fast with modern browsers and modern computers. JQuery has to be converted into JavaScript to make it run in a browser. |
| 7. | We can make animations in JavaScript with many lines of code. Animations are mainly done by manipulating the style of an Html page. | In JQuery, we can add animation effects easily with fewer lines of code. |
| 8. | JavaScript is a language, obviously, it would be heavier than JQuery. | While JQuery is a library, derived from JavaScript hence, it is lightweight. |
| 9. | JavaScript is an independent language and can exist on its own. | JQuery is a JavaScript library. It would not have been invented had JavaScript was not there. jQuery is still dependent on JavaScript as it has to be converted to JavaScript for the browser in-built JavaScript engine to interpret and run it. |
| 10. | Brendan Eich created JavaScript at Netscape. | jQuery is created by John Resig. |
| 11. | JavaScript is a programming language. | jQuery is an Application Programming Interface (API). |
| 12. | There are no special symbols to define JavaScript like JQuery. | There are special symbols to define JQuery. |
| 13. | The disadvantage of JavaScript is that it is not easy to use it. | The advantage of JQuery is the ease in which one can use JQuery. |

1. **Which is the starting point of code execution in jQuery?**

The jQuery starts its code execution from the[**$(document).ready()**](https://www.geeksforgeeks.org/jquery-ready-with-examples/)function which is executed whenever the whole HTML DOM is loaded and is totally rendered by the browser, so that the event handlers work correctly without any errors. This *$(document).ready()*function load the script only after the whole DOM is loaded by the browser.

It takes time for the browser to get the document ready when we don’t use*$(document).ready()* function in the script tag. The jQuery in the script may get executed before some content or element on which an event handler or some other function is acting hence this may cause some problems in the webpage, so it is always necessary to start execution whenever the whole DOM is ready. So we use *$(document).ready()* function.

**Syntax:**

$(document).ready(function({....}));

or

$(function({....}));

**$(document).ready()** ensures that it gets executed when DOM is loaded. When we want the execution of the script such that all the resources like images, videos and iframes gets loaded, we need to use **$( window ).on( “load”, function() { … }).**

**Syntax:**

$( window ).on( "load", function() { ... })

1. **Document Load Vs Window. Load() jQuery**

**$(window).load()**

The code which gets included inside $( window ).on( "load", function() { ... }) runs only once the entire page is ready (not only DOM).

Note: The load() method deprecated in jQuery version 1.8. It was completely removed in version 3.0. To see its working, add jQuery version for CDN before 3.0.

**$(document).ready()**

The ready() method is used to make a function available after the document is loaded. Whatever code you write inside the $( document ).ready() method will run once the page DOM is ready to execute JavaScript code.

1. **What is the difference between prop and attr?**

|  |  |  |
| --- | --- | --- |
|  | prop() Method | attr() Method |
| 1. | This method returns the current value. | This method returns the default value. |
| 2. | This method is mainly used when the user wants to change the value for an HTML tag’s attribute. | This method is mainly used to set the default value for an HTML tag’s attribute. |
| 3. | It changes properties for that HTML tag as per the DOM tree. | It changes attributes for that HTML tag. |
| 4. | Its syntax is -:  $(selector).prop(property) | Its syntax is -:  $(selector).attr(attribute) |
| 5. | It takes three parameters Property , value and a function | It takes three parameters an attribute, value, and a function |

1. **Explain Difference Between JQuery And JavaScript?**

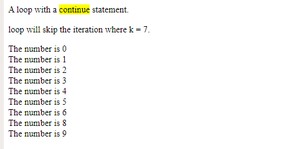
[**JavaScript**](https://www.geeksforgeeks.org/javascript-tutorial/)**:** It is a major scripting programming language that is used to make websites more responsive and interactive. It is one of the pivoted parts alongside [HTML](https://www.geeksforgeeks.org/html-tutorials/)and [CSS](https://www.geeksforgeeks.org/css-tutorials/)which are used to create web pages. If HTML & CSS decorates and designed the web pages so, Javascript makes the web pages dynamic(we can say it gives them life). JavaScript is a major client-side language. It’s not only confined to website development but also used in many desktop and server programs ( Node.js is the best-known example) and Some databases, like MongoDB and CouchDB, also use JavaScript. Whenever your browser parses a web page, its responsibility is to create a tree-structure presentation in memory.

**Example:**This example uses the Javascript loop concept to print the numbers.

HTML

|  |
| --- |
| <p>A loop with a      <mark>continue</mark> statement.  </p>  <p>loop will skip the iteration where k = 7.</p>  <p id="maddy"></p>  <!-------------------------------------------------------Script------------------------------------------>  <script>      var text = "";      var k;      for (k = 0; k < 10; k++) {          if (k === 7) {              continue;          }          text += "The number is " + k + "<br>";      }      document.getElementById("maddy").innerHTML = text;  </script> |

**Output:**



*JavaScript Output*

[**jQuery**](https://www.geeksforgeeks.org/jquery/)**:** JQuery is a framework for javaScript developed from JavaScript. It is the most popular JavaScript library invented by John Resign and was released in January 2006 at BarCamp NYC. It is a free, open-source library and It’s a fast, concise, and rich-featured JavaScript library and also has cross-browser compatibility. The purpose of jQuery is to make life easier for the masses so that they can easily develop websites and browser-based applications using JavaScript. In a concise manner, we can say that “JQuery is a library to provide better client-side web page development” environment to the developer with the help of its feature-rich library.

**DOM manipulation:**DOM elements can be easily traversed, and for browser’s modified.

Animations Lots of built-in features for animations.

HTML event handling and manipulation.

Ajax is much simpler with an easy-to-use API that works across a multitude of browsers.

CSS manipulation

Has a high-level UI widget library.

**Cross-browser support:** work well on browsers like Chrome, Opera, etc.

**Lightweight:** Only 19kb in size.

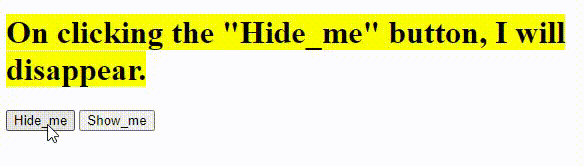
And other common utilities

**Example:** This example uses the [show() method](https://www.geeksforgeeks.org/jquery-ui-show-method/) & [hide() method](https://www.geeksforgeeks.org/jquery-hide-with-examples/) to toggle the element to display.

HTML

|  |
| --- |
| <script src="<https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js>">  </script>  <!------------------------------------------------------- Script------------------------------------------>  <script>      $(document).ready(function () {          $("#hide").click(function () {              $("h1").hide();          });          $("#show").click(function () {              $("h1").show();          });      });  </script>  <!------------------------------------------------------- Buttons------------------------------------------>  <h1>      <mark>          On clicking the "Hide\_me" button, I will disappear.      </mark>  </h1>  <button id="hide">Hide\_me</button>  <button id="show">Show\_me</button> |

**Output:** As we click on the Hide\_me button, the above-marked heading will disappear, but as soon as we click on the Show\_me button it’ll again appear.



*Toggle to view the hidden element*

1. **How We Can Select The Specified <li> Element From The ListOf <li> Elements In <ul>?**

<!------------------------------------------------------- Ul List------------------------------------------>

<ul>

<li>One</li>

<li>Two</li>

<li class="hilite">Three</li>

<li>Four</li>

</ul>

<ul>

<li>Five</li>

<li>Six</li>

<li>Seven</li>

</ul>

<ul>

<li>Eight</li>

<li class="hilite">Nine</li>

<li>Ten</li>

<li class="hilite">Eleven</li>

</ul>

<p>Unique siblings: <b></b></p>

<!------------------------------------------------------- jqery script------------------------------------------>

<script>

var len = $( ".hilite" ).siblings()

.css( "color", "red" )

.length;

$( "b" ).text( len );

</script>

1. **In <table> Design Change The Color Of Even <tr> Elements To “green”And Change The Color Of Odd <tr> Elements To “blue” Color? Give An Example Code?**

<!------------------------------------------------------- CSS------------------------------------------>

<style>

/\* tr:nth-child(even) \*/

tr.even { background-color: green; }

/\* tr:nth-child(odd) \*/

tr.odd { background-color: blue; }

</style>

<script>

<!------------------------------------------------------- jquery function------------------------------------------>

$(function(){

// Apply to each table individually and make sure nothing is doubleclassed

// if you run this multiples of times.

$('table').each(function() {

$('tr:odd', this).addClass('odd').removeClass('even');

$('tr:even', this).addClass('even').removeClass('odd');

});

});

</script>

<!------------------------------------------------------- Table------------------------------------------>

<table>

          <thead>

            <td>Index</td>

            <td>Col-1</td>

            <td>Col-2</td>

            <td>Col-3</td>

          </thead>

          <tr>

            <td>1</td>

            <td>Column00</td>

            <td>Column01</td>

            <td>Column02</td>

          </tr>

          <tr>

            <td>2</td>

            <td>Column10</td>

            <td>Column11</td>

            <td>Column12</td>

          </tr>

          <tr>

            <td>3</td>

            <td>Column20</td>

            <td>Column21</td>

            <td>Column22</td>

          </tr>

          <tr>

            <td>4</td>

            <td>Column30</td>

            <td>Column31</td>

            <td>Column2</td>

          </tr>

         </table>

1. **How We Can Implement Animation Effects 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.

The following example demonstrates a simple use of the animate() method; it moves a <div> element to the right, until it has reached a left property of 250px:

**Example**

$("button").click(function(){  
  $("div").animate({left: '250px'});  
});

1. **Apply jQuery validation using library.**

Download bValidator jquery plugin

Put all the files of bvalidator in your folder and then create a form like below and use the bvalidator.

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<title>Untitled Document</title>

<!-- 3 file call -->

<script src="jquery-2.1.3.min.js" type="text/javascript"></script>

<script src="jquery.bvalidator.js" type="text/javascript"></script>

<link href="bvalidator.css" type="text/css" rel="stylesheet" />

<!-- add script & call FORM id -->

<script type="text/javascript">

$(document).ready(function () {

$('#form1').bValidator();

});

</script>

<script>

// now fore direct validation from above file u take data-bvalidator="" from the file "jquery.bvalidator.js"

// allways take <form id="" in jquery with #name

</script>

</head>

<body>

<BR>

<BR>

<BR>

<BR>

<BR>

<form id="form1" action="" method="" >

<table align="center">

<tr>

<th>User Fist Name:-</th>

<td><input type="text" name="ufn" data-bvalidator="required,alpha" ></td>

</tr>

<tr>

<th>User Name:-</th>

<td><input type="text" name="un" data-bvalidator="required,rangelength[3:8]" ></td>

</tr>

<tr>

<th>Password:-</th>

<td><input type="password" id="pass" name="pass" data-bvalidator="required,minlength[4],maxlength[8]"></td>

</tr>

<tr>

<th>Confirm Password:-</th>

<td><input type="password" name="cpass" data-bvalidator="required,equalto[pass]" ></td>

</tr>

<tr>

<th>Email Address:-</th>

<td><input type="text" name="email" data-bvalidator="required,email" ></td>

</tr>

<tr>

<th>Phone No:-</th>

<td><input type="text" name="pno" data-bvalidator="required,number" > </td>

</tr>

<tr>

<th>Pincode No:-</th>

<td><input type="text" name="pno" data-bvalidator="required,number" ></td>

</tr>

<tr>

<td><input type="submit" name="submit" class="btn btn-primary"/></td>

</tr>

</table>

</form>

</body>

</html>

1. **Create custom dynamic function for require field validator.**

<!-----------Name can't be blank----------------------->

$('#contact\_name').on('input', function() {

var input=$(this);

var is\_name=input.val();

if(is\_name){input.removeClass("invalid").addClass("valid");}

else{input.removeClass("valid").addClass("invalid");}

});

<!-------------------------------------Email Valiation-------------------------------------->

$('#contact\_email').on('input', function() {

var input=$(this);

var re = /^[a-zA-Z0-9.!#$%&'\*+/=?^\_`{|}~-]+@[a-zA-Z0-9-]+(?:\.[a-zA-Z0-9-]+)\*$/;

var is\_email=re.test(input.val());

if(is\_email){input.removeClass("invalid").addClass("valid");}

else{input.removeClass("valid").addClass("invalid");}

});

1. **Get state data by country selection (Ajax).**

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Tra nsitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<title>Untitled Document</title>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<!-------------------------------------------------------Script-------------------------------------------------------->

<script>

function getState(cid)

{

if(window.XMLHttpRequest)

{

xmlhttp= new XMLHttpRequest();

}

else

{

xmlhttp= new ActiveXObject("Microsoft.XMLHTTP");

}

xmlhttp.onreadystatechange=function()

{

if(xmlhttp.readyState==4 && xmlhttp.status==200)

{

document.getElementById("sid").innerHTML=xmlhttp.responseText;

}

}

xmlhttp.open("GET","statedata?btn=" + cid,true);

xmlhttp.send();

}

<!-------------------------------------------------------AJAX-------------------------------------------------------->

function getCity(sid)

{

$.ajax

({

type: "POST",

url: "citydata",

data:"btn=" + sid,

success: function(data)

{

$("#city\_id").html(data) ;

}

});

}

</script>

<!--------------------------------------Form with country state and city--------------------------------------------------->

</head>

<body>

<a href="show">Show add data</a>

<form action="" method="post">

<table border="4" align="center">

<caption>Reg Form</caption>

<tr>

<td>User Name</td>

<td><input type="text" name="name" required></td>

</tr>

<tr>

<td>Country</td>

<td>

<select name="cid" onchange="getState(this.value)" required>

<option>----Select Country----</option>

<?php

foreach($country\_arr as $f)

{

?>

<option value="<?php echo $f->cid;?>">

<?php echo $f->cnm; ?>

</option>

<?php

}

?>

</select>

</td>

</tr>

<tr>

<td>State</td>

<td>

<select id="sid" name="sid" onchange="getCity(this.value)" required>

<option>----Select State----</option>

</select>

</td>

</tr>

<tr>

<td>City</td>

<td>

<select id="city\_id" name="city\_id" required>

<option>----Select city----</option>

</select>

</td>

</tr>

<tr>

<td><input type="submit" name="submit" value="Insert"></td>

</tr>

</table>

</form>

</body>

</html>

1. **Image uploading with preview.**

<!-----------------------------------------------------------------Java Script---------------------------------------------------------->

|  |
| --- |
| $(document).ready(()=>{        $('#photo').change(function(){          const file = this.files[0];          console.log(file);          if (file){            let reader = new FileReader();            reader.onload = function(event){              console.log(event.target.result);              $('#imgPreview').attr('src', event.target.result);            }            reader.readAsDataURL(file);          }        });      }); |

<!-----------------------------------------------------------------HTML---------------------------------------------------------->

|  |
| --- |
| <!DOCTYPE html>  <html lang="en">      <head>          <meta charset="UTF-8" />          <meta name="viewport"                content="width=device-width, initial-scale=1.0" />          <title>Geeks</title>      </head>      <body>          <script src=  "<https://ajax.googleapis.com/ajax/libs/jquery/1.9.1/jquery.min.js>">          </script>          <span class="heading">Geeks For Geeks</span>          <form>              <div class="holder">                  <img id="imgPreview" src="#" alt="pic" />              </div>              <input type="file" name="photograph"                     id="photo" required="true" />          </form>          <style>              .holder {                  height: 300px;                  width: 300px;                  border: 2px solid black;              }              img {                  max-width: 300px;                  max-height: 300px;                  min-width: 300px;                  min-height: 300px;              }              input[type="file"] {                  margin-top: 5px;              }              .heading {                  font-family: Montserrat;                  font-size: 45px;                  color: green;              }          </style>          <script>              $(document).ready(() => {                  $("#photo").change(function () {                      const file = this.files[0];                      if (file) {                          let reader = new FileReader();                          reader.onload = function (event) {                              $("#imgPreview")                                .attr("src", event.target.result);                          };                          reader.readAsDataURL(file);                      }                  });              });          </script>      </body>  </html> |