**JavaScript Basic**

* [JavaScript "Hello World!" application](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=embed-javascript-code-in-an-html-file)

var greet = "Hello World!";

document.write(greet); // Prints: Hello World!

* [Embedding JavaScript code in an HTML file](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=embed-javascript-code-in-an-html-file)

var greet = "Hello World!";

document.write(greet); // Prints: Hello World!

* [Calling an external JavaScript file in a HTML document](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=call-an-external-javascript-file-in-a-html-document)

<button type="button" id="myBtn">Click Me</button>

<script src="/examples/javascript/hello.js"></script>

* [Insert JavaScript code inside HTML tag](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=insert-javascript-code-inside-html-tag)

<button onclick="alert('Hello World!')">Click Me</button>

* [Case sensitivity in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=case-sensitivity)

// This is my first JavaScript program

document.write("Hello World!");

* [JavaScript Single line comments](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=single-line-comment)

// This is my first JavaScript program

document.write("Hello World!");

* [JavaScript Multi line comments](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=multi-line-comment)

/\* This is my first program

in JavaScript \*/

document.write("Hello World!");

* [Creating variables in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=create-variables)

// Creating variables

var name = "Peter Parker";

var age = 21;

var isMarried = false;

// Printing variable values

document.write(name + "<br>");

document.write(age + "<br>");

document.write(isMarried);

* [Declaring variables in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=declare-variables)

// Declaring Variable

var userName;

// Assigning value

userName = "Clark Kent";

// Printing variable values

document.write(userName);

* [Declaring multiple variables in at once JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=declare-multiple-variables)

// Declaring multiple Variables

var name = "Peter Parker", age = 21, isMarried = false;

// Printing variable values

document.write(name + "<br>");

document.write(age + "<br>");

document.write(isMarried);

**JavaScript Generating Output**

* [Writing into the browser console](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=write-into-the-browser-console)

// Printing a simple text message

console.log("Hello World!"); // Prints: Hello World!

// Printing a variable value

var x = 10;

var y = 20;

var sum = x + y;

console.log(sum); // Prints: 30[Writing into an alert dialog box](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=write-into-an-alert-dialog-box)

* Writing into Alert dialog box

// Displaying a simple text message

alert("Hello World!"); // Outputs: Hello World!

// Displaying a variable value

var x = 10;

var y = 20;

var sum = x + y;

alert(sum); // Outputs: 30

* [Writing into the browser window](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=write-into-the-browser-window)

// Printing a simple text message

document.write("Hello World!"); // Prints: Hello World!

// Printing a variable value

var x = 10;

var y = 20;

var sum = x + y;

document.write(sum); // Prints: 30

* [Problem with document.write() method](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=problem-with-document-write-method)

<h1>This is a heading</h1>

<p>This is a paragraph of text.</p>

<button type="button" onclick="document.write('Hello World!')">Click

* [Writing into an HTML element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=write-into-an-html-element)

<p id="greet"></p>

<p id="result"></p>

<script>

// Writing text string inside an element

document.getElementById("greet").innerHTML = "Hello World!";

// Writing a variable value inside an element

var x = 10;

var y = 20;

var sum = x + y;

document.getElementById("result").innerHTML = sum;

</script>

**JavaScript Data Types**

* [String data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=string-data-type)

// Creating variables

var a = 'Hi there!'; // using single quotes

var b = "Hi there!"; // using double quotes

// Printing variable values

document.write(a + "<br>");

document.write(b);

* [Number data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=number-data-type)

// Creating variables

var a = 25;

var b = 80.5;

var c = 4.25e+6;

var d = 4.25e-6;

// Printing variable values

document.write(a + "<br>");

document.write(b + "<br>");

document.write(c + "<br>");

document.write(d);

* [Representing Infinity value](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=infinity)

document.write(16 / 0);

document.write("<br>");

document.write(-16 / 0);

document.write("<br>");

document.write(16 / -0);

* [Representing *Not-a-Number* value](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=not-a-number)

document.write("Some text" / 2);

document.write("<br>");

document.write("Some text" / 2 + 10);

document.write("<br>");

document.write(Math.sqrt(-1));

* [Boolean data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=boolean-data-type)

// Creating variables

var isReading = true; // yes, I'm reading

var isSleeping = false; // no, I'm not sleeping

// Printing variable values

document.write(isReading + "<br>");

document.write(isSleeping);

* [Undefined data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=undefined-data-type)

// Creating variables

var a;

var b = "Hello World!"

// Printing variable values

document.write(a + "<br>");

document.write(b);

* [Null data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=null-data-type)

var a = null;

document.write(a + "<br>"); // Print: null

var b = "Hello World!"

document.write(b + "<br>"); // Print: Hello World!

b = null;

document.write(b) // Print: null

* [Object data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=object-data-type)

var emptyObject = {};

var person = {"name": "Clark", "surname": "Kent", "age": "36"};

// For better reading

var car = {

"modal": "BMW X3",

"color": "white",

"doors": 5

}

// Print variables values in browser's console

console.log(person);

console.log(car);

* [Object properties names without quotes](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=object-properties-names-without-quotes)

var car = {

modal: "BMW X3",

color: "white",

doors: 5

}

// Print variable value in browser's console

console.log(car);

* [Array data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=array-data-type)

// Creating arrays

var colors = ["Red", "Yellow", "Green", "Orange"];

var cities = ["London", "Paris", "New York"];

// Printing array values

document.write(colors[0] + "<br>"); // Output: Red

document.write(cities[2]); // Output: New York

* [Function data type](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=function-data-type)

var greeting = function(){

return "Hello World!";

}

// Check the type of greeting variable

document.write(typeof greeting) // Output: function

document.write("<br>");

document.write(greeting()); // Output: Hello World!

* [Passing a function as argument to other function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=function-passed-as-argument-to-other-function)

function createGreeting(name){

return "Hello, " + name;

}

function displayGreeting(greetingFunction, userName){

return greetingFunction(userName);

}

var result = displayGreeting(createGreeting, "Peter");

document.write(result); // Output: Hello, Peter

* [The typeof operator](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=typeof-operator)

// Numbers

document.write(typeof 15 + "<br>"); // Prints: "number"

document.write(typeof 42.7 + "<br>"); // Prints: "number"

document.write(typeof 2.5e-4 + "<br>"); // Prints: "number"

document.write(typeof Infinity + "<br>"); // Prints: "number"

document.write(typeof NaN + "<br>"); // Prints: "number". Despite being "Not-A-Number"

// Strings

document.write(typeof '' + "<br>"); // Prints: "string"

document.write(typeof 'hello' + "<br>"); // Prints: "string"

document.write(typeof '12' + "<br>"); // Prints: "string". Number within quotes is document.write(typeof string

// Booleans

document.write(typeof true + "<br>"); // Prints: "boolean"

document.write(typeof false + "<br>"); // Prints: "boolean"

// Undefined

document.write(typeof undefined + "<br>"); // Prints: "undefined"

document.write(typeof undeclaredVariable + "<br>"); // Prints: "undefined"

// Null

document.write(typeof Null + "<br>"); // Prints: "object"

// Objects

document.write(typeof {name: "John", age: 18} + "<br>"); // Prints: "object"

// Arrays

document.write(typeof [1, 2, 4] + "<br>"); // Prints: "object"

// Functions

document.write(typeof function(){}); // Prints: "function"

**JavaScript Operators**

* [Arithmetic operators](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=arithmetic-operators)

var x = 10;

var y = 4;

document.write(x + y); // Prints: 14

document.write("<br>");

document.write(x - y); // Prints: 6

document.write("<br>");

document.write(x \* y); // Prints: 40

document.write("<br>");

document.write(x / y); // Prints: 2.5

document.write("<br>");

document.write(x % y); // Prints: 2

* [Assignment operators](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=assignment-operators)

var x; // Declaring Variable

x = 10;

document.write(x + "<br>"); // Prints: 10

x = 20;

x += 30;

document.write(x + "<br>"); // Prints: 50

x = 50;

x -= 20;

document.write(x + "<br>"); // Prints: 30

x = 5;

x \*= 25;

document.write(x + "<br>"); // Prints: 125

x = 50;

x /= 10;

document.write(x + "<br>"); // Prints: 5

x = 100;

x %= 15;

document.write(x); // Prints: 10

* [String operators](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=string-operators)

var str1 = "Hello";

var str2 = " World!";

document.write(str1 + str2 + "<br>"); // Outputs: Hello World!

str1 += str2;

document.write(str1); // Outputs: Hello World!

* [Increment decrement operators](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=increment-decrement-operators)

var x; // Declaring Variable

x = 10;

document.write(++x); // Prints: 11

document.write("<p>" + x + "</p>"); // Prints: 11

x = 10;

document.write(x++); // Prints: 10

document.write("<p>" + x + "</p>"); // Prints: 11

x = 10;

document.write(--x); // Prints: 9

document.write("<p>" + x + "</p>"); // Prints: 9

x = 10;

document.write(x--); // Prints: 10

document.write("<p>" + x + "</p>"); // Prints: 9

* [Logical operators](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=logical-operators)

var year = 2018;

// Leap years are divisible by 400 or by 4 but not 100

if((year % 400 == 0) || ((year % 100 != 0) && (year % 4 == 0))){

document.write(year + " is a leap year.");

} else{

document.write(year + " is not a leap year.");

}

* [Comparison operators](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=comparison-operators)

var x = 25;

var y = 35;

var z = "25";

document.write(x == z); // Prints: true

document.write("<br>");

document.write(x === z); // Prints: false

document.write("<br>");

document.write(x != y); // Prints: true

document.write("<br>");

document.write(x !== z); // Prints: true

document.write("<br>");

document.write(x < y); // Prints: true

document.write("<br>");

document.write(x > y); // Prints: false

document.write("<br>");

document.write(x <= y); // Prints: true

document.write("<br>");

document.write(x >= y); // Prints: false

**JavaScript Events**

* [Attaching event handlers inline](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=attaching-event-handlers-inline)

<button type="button" onclick="alert('Hello World!')">Click Me</button>

* [Attaching event handlers in an external file](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=attaching-event-handlers-in-an-external-file)

function sayHello(){

alert('Hello World!');

}

document.getElementById("myBtn").onclick = sayHello;

* [Handling the click event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-click-event)

<button type="button" onclick="alert('You have clicked a button!');">Click Me</button>

<a href="#" onclick="alert('You have clicked a link!');">Click Me</a>

* [Handling the contextmenu event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-contextmenu-event)

<button type="button" oncontextmenu="alert('You have right-clicked a button!');">Right Click on Me</button>

<a href="#" oncontextmenu="alert('You have right-clicked a link!');">Right Click on Me</a>

* [Handling the mouseover event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-mouseover-event)

<button type="button" onmouseover="alert('You have placed mouse pointer over a button!');">Place Mouse Over Me</button>

<a href="#" onmouseover="alert('You have placed mouse pointer over a link!');">Place Mouse Over Me</a>

* [Handling the mouseout event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-mouseout-event)

<button type="button" onmouseout="alert('You have moved out of the button!');">Place Mouse Inside Me and Move Out</button>

<a href="#" onmouseout="alert('You have moved out of the link!');">Place Mouse Inside Me and Move Out</a>

* [Handling the keydown event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-keydown-event)

input type="text" onkeydown="alert('You have pressed a key inside text input!')">

<hr>

<textarea cols="30" onkeydown="alert('You have pressed a key inside textarea!')"></textarea>

* [Handling the keyup event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-keyup-event)

<input type="text" onkeyup="alert('You have released a key inside text input!')">

<hr>

<textarea cols="30" onkeyup="alert('You have released a key inside textarea!')"></textarea>

* [Handling the keypress event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-keypress-event)

<input type="text" onkeypress="alert('You have pressed a key inside text input!')">

<hr>

<textarea cols="30" onkeypress="alert('You have pressed a key inside textarea!')"></textarea>

* [Handling the focus event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-focus-event)

<script>

function highlightInput(elm){

elm.style.background = "yellow";

}

</script>

<input type="text" onfocus="highlightInput(this)">

<button type="button">Button</button>

* [Handling the blur event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-blur-event)

<input type="text" onblur="alert('Text input loses focus!')">

<button type="button">Submit</button>

* [Handling the change event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-change-event)

<select onchange="alert('You have changed the selection!');">

<option>Select</option>

<option>Male</option>

<option>Female</option>

</select>

* [Handling the submit event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-submit-event)

<form action="/examples/html/action.php" method="post" onsubmit="alert('Form data will be submitted to the server!');">

<label>First Name:</label>

<input type="text" name="first-name" required>

<input type="submit" value="Submit">

</form>

* [Handling the load event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-load-event)

<body onload="window.alert('Page is loaded successfully!');">

<h1>This is a heading</h1>

<p>This is paragraph of text.</p>

</body>

* [Handling the unload event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-unload-event)

<body onunload="alert('Are you sure you want to leave this page?');">

<h1>This is a heading</h1>

<p>This is paragraph of text.</p>

<p><strong>Note:</strong> This example may not work. The unload event is not supported properly in most of the browsers.</p>

</body>

* [Handling the resize event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=handling-the-resize-event)

<p id="result"></p>

<script>

function displayWindowSize(){

var w = window.outerWidth;

var h = window.outerHeight;

var txt = "Window size: width=" + w + ", height=" + h;

document.getElementById("result").innerHTML = txt;

}

window.onresize = displayWindowSize;

</script>

**JavaScript Strings**

* [Creating strings in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=create-strings)

<script>

// Creating variables

var myString = 'Hello World!'; // Single quoted string

var myString = "Hello World!"; // Double quoted string

// Printing variable values

document.write(myString + "<br>");

document.write(myString);

</script>

* [Using quotes inside a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=using-quotes-inside-a-string)

<script>

// Creating variables

var str1 = "it's okay";

var str2 = 'He said "Goodbye"';

var str3 = "She replied 'Calm down, please'";

// Printing variable values

document.write(str1 + "<br>");

document.write(str2 + "<br>");

document.write(str3);

</script>

* [Escaping quotes inside a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=escaping-quotes-inside-a-string)

<script>

// Creating variables

var str1 = 'it\'s okay';

var str2 = "He said \"Goodbye\"";

var str3 = 'She replied \'Calm down, please\'';

// Printing variable values

document.write(str1 + "<br>");

document.write(str2 + "<br>");

document.write(str3);

</script>

* [Using escape sequences](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=escape-sequences)

<script>

// Creating variables

var str1 = "The quick brown fox \n jumps over the lazy dog.";

document.write("<pre>" + str1 + "</pre>"); // Create line break

var str2 = "C:\Users\Downloads";

document.write(str2 + "<br>"); // Prints C:UsersDownloads

var str3 = "C:\\Users\\Downloads";

document.write(str3); // Prints C:\Users\Downloads

</script>

* [Get the length of a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-the-length-of-a-string)

<script>

var str1 = "This is a paragraph of text.";

document.write(str1.length + "<br>"); // Prints 28

var str2 = "This is a \n paragraph of text.";

document.write(str2.length); // Prints 30, because \n is only one character

</script>

* [Find the position a substring within a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-the-position-a-substring-within-a-string)

<script>

var str = "If the facts don't fit the theory, change the facts.";

var pos = str.indexOf("facts");

document.write(pos); // 0utputs: 7

</script>

* [Find the position of last occurrence of a substring within a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-the-position-of-last-occurrence-of-a-substring-within-a-string)

<script>

var str = "If the facts don't fit the theory, change the facts.";

var pos = str.lastIndexOf("facts");

document.write(pos); // 0utputs: 46

</script>

* [Find the position of a substring within a string from specific index](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-the-position-of-a-substring-within-a-string-from-specific-index)

<script>

var str = "If the facts don't fit the theory, change the facts.";

// Searching forwards

var pos1 = str.indexOf("facts", 20);

document.write(pos1 + "<br>"); // 0utputs: 46

// Searching backwards

var pos2 = str.lastIndexOf("facts", 20);

document.write(pos2); // 0utputs: 7

</script>

* [Search text or pattern inside a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=search-text-or-pattern-inside-a-string)

<script>

var str = "Color red looks brighter than color blue.";

// Case sensitive search

var pos1 = str.search("color");

document.write(pos1 + "<br>"); // 0utputs: 30

// Case insensitive search using regexp

var pos2 = str.search(/color/i);

document.write(pos2); // 0utputs: 0

</script>

* [Slice out a portion of a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=slice-out-a-portion-of-a-string)

<script>

var str = "The quick brown fox jumps over the lazy dog.";

var subStr = str.slice(4, 15);

document.write(subStr); // Prints: quick brown

</script>

* [Slice strings using negative indexes](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=slice-strings-using-negative-indexes)

<script>

var str = "The quick brown fox jumps over the lazy dog.";

document.write(str.slice(-28, -19) + "<br>"); // Prints: fox jumps

document.write(str.slice(31)); // Prints: the lazy dog.

</script>

* [Extract substring from a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=extract-substring-from-a-string)

<script>

var str = "The quick brown fox jumps over the lazy dog.";

document.write(str.substring(4, 15) + "<br>"); // Prints: quick brown

document.write(str.substring(9, 0) + "<br>"); // Prints: The quick

document.write(str.substring(-28, -19) + "<br>"); // Prints nothing

document.write(str.substring(31)); // Prints: the lazy dog.

</script>

* [Extract fixed number of characters from a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=extract-fixed-number-of-characters-from-a-string)

<script>

var str = "The quick brown fox jumps over the lazy dog.";

document.write(str.substr(4, 15) + "<br>"); // Prints: quick brown fox

document.write(str.substr(-28, -19) + "<br>"); // Prints nothing

document.write(str.substr(-28, 9) + "<br>"); // Prints: fox jumps

document.write(str.substr(31)); // Prints: the lazy dog.

</script>

* [Replace part of string with another string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=replace-part-of-string-with-another-string)

var str = "Color red looks brighter than color blue.";

var result = str.replace("color", "paint");

document.write(result); // 0utputs: Color red looks brighter than paint blue.

* [Find and replace text in a string case insensitively](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-and-replace-text-in-a-string-case-insensitively)

var str = "Color red looks brighter than color blue.";

var result = str.replace(/color/i, "paint");

document.write(result); // 0utputs: paint red looks brighter than color blue.

* [Replace all occurrences of a substring in a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=replace-all-occurrences-of-a-substring-in-a-string)

var str = "Color red looks brighter than color blue.";

var result = str.replace(/color/ig, "paint");

document.write(result); // 0utputs: paint red looks brighter than paint blue.

* [Convert a string to uppercase characters](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-a-string-to-uppercase-characters)

var str = "Hello World!";

var result = str.toUpperCase();

document.write(result); // Prints: HELLO WORLD!

* [Convert a string to lowercase characters](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-a-string-to-lowercase-characters)

var str = "Hello World!";

var result = str.toLowerCase();

document.write(result); // Prints: hello world!

* [Join two or more strings](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=join-two-or-more-strings)

var hello = "Hello";

var world = "World";

var greet = hello + " " + world;

document.write(greet + "<br>"); // Prints: Hello World

var wish = "Happy";

wish += " New Year";

document.write(wish); // Prints: Happy New Year

* [Extract a single character from a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=extract-a-single-character-from-a-string)

var str = "Hello World!";

document.write(str.charAt() + "<br>"); // Prints: H

document.write(str.charAt(6) + "<br>"); // Prints: W

document.write(str.charAt(30) + "<br>"); // Prints nothing

document.write(str.charAt(str.length - 1)); // Prints: !

* [Extract a single character from a string using square brackets](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=extract-a-single-character-from-a-string-using-square-brackets)

var str = "Hello World!";

document.write(str[0] + "<br>"); // Prints: H

document.write(str[6] + "<br>"); // Prints: W

document.write(str[str.length - 1] + "<br>"); // Prints: !

document.write(str[30]); // Prints: undefined

* [Split a string into an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=split-a-string-into-an-array)

var fruitsStr = "Apple, Banana, Mango, Orange, Papaya";

var fruitsArr = fruitsStr.split(", ");

document.write(fruitsArr[0] + "<br>"); // Prints: Apple

document.write(fruitsArr[2] + "<br>"); // Prints: Mango

document.write(fruitsArr[fruitsArr.length - 1]); // Prints: Papaya

document.write("<hr>");

// Loop through all the elements of the fruits array

for(var i in fruitsArr) {

document.write("<p>" + fruitsArr[i] + "</p>");

}

* [Split a string into an array of characters](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=split-a-string-into-an-array-of-characters)

var str = "INTERSTELLAR";

var strArr = str.split("");

document.write(strArr[0] + "<br>"); // Prints: I

document.write(strArr[1] + "<br>"); // Prints: N

document.write(strArr[strArr.length - 1]); // Prints: R

document.write("<hr>"); // Prints: N

// Loop through all the elements of the characters array and print them

for(var i in strArr) {

document.write("<br>" + strArr[i]);

}

**JavaScript Numbers**

* [Representing numbers in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=numbers)

// Creating variables

var x = 2; // integer number

var y = 3.14; // floating-point number

var z = 0xff; // hexadecimal number

// Printing variable values

document.write(x + "<br>");

document.write(y + "<br>");

document.write(z);

* [Representing numbers in exponential notation](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=representing-numbers-in-exponential-notation)

// Creating variables

var x = 1.57e4; // same as 15700

var y = 4.25e+6; // same as 4.25e6 or 4250000

var z = 4.25e-6; // same as 0.00000425

// Printing variable values

document.write(x + "<br>");

document.write(y + "<br>");

document.write(z);

* [Representing numbers in hexadecimal notation](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=representing-numbers-in-hexadecimal-notation)

// Creating variables

var x = 1.57e4; // same as 15700

var y = 4.25e+6; // same as 4.25e6 or 4250000

var z = 4.25e-6; // same as 0.00000425

// Printing variable values

document.write(x + "<br>");

document.write(y + "<br>");

document.write(z);

* [Adding numbers and strings](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=adding-numbers-and-strings)

// Creating variables

var x = 10;

var y = 20;

var z = "30";

// Adding a number with a number, the result will be sum of numbers

document.write(x + y); // 30

document.write("<br>");

// Adding a string with a string, the result will be string concatenation

document.write(z + z); // '3030'

document.write("<br>");

// Adding a number with a string, the result will be string concatenation

document.write(x + z); // '1030'

document.write("<br>");

// Adding a string with a number, the result will be string concatenation

document.write(z + x); // '3010'

document.write("<br>");

// Adding strings and numbers, the result will be string concatenation

document.write("The result is: " + x + y); // 'The result is: 1020'

document.write("<br>");

// Adding numbers and strings, calculation performed from left to right

document.write(x + y + z); // 'The result is: 3030'

* [Automatic conversion of numeric strings to numbers](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=automatic-conversion-of-numeric-strings-to-numbers)

// Creating variables

var x = 10;

var y = 20;

var z = "30";

// Subtracting a number from a number

document.write(y - x); // 10

document.write("<br>");

// Subtracting a number from a numeric string

document.write(z - x); // 20

document.write("<br>");

// Multiplying a number with a numeric string

document.write(x \* z); // 300

document.write("<br>");

// Dividing a number with a numeric string

document.write(z / x); // 3

* [Performing mathematical operation on non-numeric values](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=performing-mathematical-operation-on-non-numeric-values)

// Creating variables

var x = 10;

var y = "foo";

var z = NaN;

// Subtracting a number from a non-numeric string

document.write(y - x); // NaN

document.write("<br>");

// Multiplying a number with a non-numeric string

document.write(x \* y); // NaN

document.write("<br>");

// Dividing a number with a non-numeric string

document.write(x / y); // NaN

document.write("<br>");

// Adding NaN to a number

document.write(x + z); // NaN

document.write("<br>");

// Adding NaN to a string

document.write(y + z); // fooNaN

* [Adding floating point numbers](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=adding-floating-point-numbers)

var x = 0.1 + 0.2;

document.write(x) // 0.30000000000000004

* [Fixing roundoff error](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=fixing-roundoff-error)

var x = (0.1 \* 10 + 0.2 \* 10) / 10;

document.write(x) // 0.3

* [Precision problem with integers](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=precision-problem-with-integers)

var x = 999999999999999;

document.write(x + "<br>"); // 999999999999999

var y = 9999999999999999;

document.write(y); // 10000000000000000

* [Parse integers from strings](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=parse-integers-from-strings)

document.write(parseInt("3.14") + "<br>"); // 3

document.write(parseInt("50px") + "<br>"); // 50

document.write(parseInt("12pt") + "<br>"); // 12

document.write(parseInt("0xFF", 16) + "<br>"); // 255

document.write(parseInt("20 years") + "<br>"); // 20

document.write(parseInt("Year 2048") + "<br>"); // NaN

document.write(parseInt("10 12 2018")); // 10

* [Parse floating point numbers from strings](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=parse-floating-point-numbers-from-strings)

document.write(parseFloat("3.14") + "<br>"); // 3.14

document.write(parseFloat("50px") + "<br>"); // 50

document.write(parseFloat("1.6em") + "<br>"); // 1.6

document.write(parseFloat("124.5 lbs") + "<br>"); // 124.5

document.write(parseFloat("weight 124.5 lbs") + "<br>"); // NaN

document.write(parseFloat("6.5 acres")); // 6.5

* [Convert numbers to strings](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-numbers-to-strings)

var x = 10;

var y = x.toString();

document.write(y); // '10'

document.write(typeof y + "<br>"); // string

document.write(typeof x + "<br>"); // number

document.write((12).toString() + "<br>"); // '12'

document.write((15.6).toString() + "<br>"); // '15.6'

document.write((6).toString(2) + "<br>"); // '110'

document.write((255).toString(16)); // 'ff'

* [Format a number in exponential notation](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=format-a-number-in-exponential-notation)

var x = 67.1234;

document.write(x.toExponential() + "<br>"); // 6.71234e+1

document.write(x.toExponential(6) + "<br>"); // 6.712340e+1

document.write(x.toExponential(4) + "<br>"); // 6.7123e+1

document.write(x.toExponential(2)); // 6.71e+1

* [Format numbers to fixed decimal places](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=format-numbers-to-fixed-decimal-places)

var x = 72.635;

document.write(x.toFixed() + "<br>"); // '73' (note rounding, no fractional part)

document.write(x.toFixed(2) + "<br>"); // '72.64' (note rounding)

document.write(x.toFixed(1) + "<br>"); // '72.6'

var y = 6.25e+5;

document.write(y.toFixed(2) + "<br>"); // '625000.00'

var z = 1.58e-4;

document.write(z.toFixed(2)); // '0.00' (since 1.58e-4 is equal to 0.000158)

* [Format numbers with precision](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=format-numbers-with-precision)

var x = 6.235;

document.write(x.toPrecision() + "<br>"); // '6.235'

document.write(x.toPrecision(3) + "<br>"); // '6.24' (note rounding)

document.write(x.toPrecision(2) + "<br>"); // '6.2'

document.write(x.toPrecision(1) + "<br>"); // '6'

var y = 47.63;

document.write(y.toPrecision(2) + "<br>"); // '48' (note rounding, no fractional part)

var z = 1234.5;

document.write(z.toPrecision(2)); // '1.2e+3'

* [Largest and smallest possible numbers](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=largest-and-smallest-possible-pumbers)

var a = Number.MAX\_VALUE;

document.write(a + "<br>"); // 1.7976931348623157e+308

var b = Number.MIN\_VALUE;

document.write(b + "<br>"); // 5e-324

var x = Number.MAX\_VALUE \* 2;

document.write(x + "<br>"); // Infinity

var y = -1 \* Number.MAX\_VALUE \* 2;

document.write(y); // -Infinity

**JavaScript If...Else and Switch Statements**

* [JavaScript if statement](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=if-statement)

var now = new Date();

var dayOfWeek = now.getDay(); // Sunday - Saturday : 0 - 6

if(dayOfWeek == 5) {

document.write("Have a nice weekend!");

}

* [JavaScript if...else statement](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=if-else-statement)

var now = new Date();

var dayOfWeek = now.getDay(); // Sunday - Saturday : 0 - 6

if(dayOfWeek == 5) {

document.write("Have a nice weekend!");

} else {

document.write("Have a nice day!");

}

* [JavaScript if...elseif...else statement](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=if-elseif-else-statement)

var now = new Date();

var dayOfWeek = now.getDay(); // Sunday - Saturday : 0 - 6

if(dayOfWeek == 5) {

document.write("Have a nice weekend!");

} else if(dayOfWeek == 0) {

document.write("Have a nice Sunday!");

} else {

document.write("Have a nice day!");

}

* [JavaScript switch...case statement](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=switch-case-statement)

var d = new Date();

switch(d.getDay()) {

case 0:

document.write("Today is Sunday.");

break;

case 1:

document.write("Today is Monday.");

break;

case 2:

document.write("Today is Tuesday.");

break;

case 3:

document.write("Today is Wednesday.");

break;

case 4:

document.write("Today is Thursday.");

break;

case 5:

document.write("Today is Friday.");

break;

case 6:

document.write("Today is Saturday.");

break;

default:

document.write("No information available for that day.");

break;

}

* [JavaScript switch...case statement with default clause on top](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=switch-case-statement-with-default-clause-on-top)

var d = new Date();

switch(d.getDay()) {

default:

document.write("Looking forward to the weekend.");

break;

case 6:

document.write("Today is Saturday.");

break;

case 0:

document.write("Today is Sunday.");

}

* [Combine multiple cases in a switch case statement](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=combine-multiple-cases-in-a-switch-case-statement)

var d = new Date();

switch(d.getDay()) {

case 1:

case 2:

case 3:

case 4:

case 5:

document.write("It is a weekday.");

break;

case 0:

case 6:

document.write("It is a weekend day.");

break;

default:

document.write("Enjoy every day of your life.");

}

* [Typical conditional statement](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=typical-conditional-statement)

var userType;

var age = 21;

if(age < 18) {

userType = 'Child';

} else {

userType = 'Adult';

}

document.write(userType); // Prints Adult

* [Ternary operator](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=ternary-operator)

var age = 21;

var userType = age < 18 ? 'Child' : 'Adult';

document.write(userType); // Prints Adult

**JavaScript Arrays**

* [Storing single value in a variable](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=storing-single-values)

// Creating variables

var color1 = "Red";

var color2 = "Green";

var color3 = "Blue";

// Printing variable values

document.write(color1 + "<br>");

document.write(color2 + "<br>");

document.write(color3);

* [Creating arrays in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=creating-arrays)

// Creating variables

var colors = ["Red", "Green", "Blue"];

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

var cities = ["London", "Paris", "New York"];

var person = ["John", "Wick", 32];

// Printing variable values

document.write(colors + "<br>");

document.write(fruits + "<br>");

document.write(cities + "<br>");

document.write(person);

* [Access individual elements of an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=access-individual-elements-of-an-array)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

document.write(fruits[0] + "<br>"); // Prints: Apple

document.write(fruits[1] + "<br>"); // Prints: Banana

document.write(fruits[2] + "<br>"); // Prints: Mango

document.write(fruits[fruits.length - 1]); // Prints: Papaya

* [Get the length of an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-the-length-of-an-array)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

document.write(fruits.length); // 0utputs: 5

* [Loop through an array using for loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=loop-through-an-array-using-for-loop)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

// Iterates over array elements

for(var i = 0; i < fruits.length; i++){

document.write(fruits[i] + "<br>"); // Print array element

}

* [Loop through an array using for of loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=loop-through-an-array-using-for-of-loop)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

// Iterates over array elements

for(var fruit of fruits){

document.write(fruit + "<br>"); // Print array element

}

* [Loop through an array using for in loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=loop-through-an-array-using-for-in-loop)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

// Loop through all the elements in the array

for(var i in fruits) {

document.write(fruits[i] + "<br>");

}

* [Add a new element at the end of an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-a-new-element-at-the-end-of-an-array)

var colors = ["Red", "Green", "Blue"];

colors.push("Yellow");

document.write(colors + "<br>"); // Prints: Red,Green,Blue,Yellow

document.write(colors.length); // Prints: 4

* [Add a new element at the beginning of an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-a-new-element-at-the-beginning-of-an-array)

var colors = ["Red", "Green", "Blue"];

colors.unshift("Yellow");

document.write(colors + "<br>"); // Prints: Yellow,Red,Green,Blue

document.write(colors.length); // Prints: 4

* [Add multiple elements to an array at once](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-multiple-elements-to-an-array-at-once)

var colors = ["Red", "Green", "Blue"];

colors.push("Pink", "Voilet");

colors.unshift("Yellow", "Grey");

document.write(colors + "<br>"); // Prints: Yellow,Grey,Red,Green,Blue,Pink,Voilet

document.write(colors.length); // Prints: 7

* [Remove the last element from an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=remove-the-last-element-from-an-array)

var colors = ["Red", "Green", "Blue"];

var last = colors.pop();

document.write(last + "<br>"); // Prints: Blue

document.write(colors.length); // Prints: 2

* [Remove the first element from an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=remove-the-first-element-from-an-array)

var colors = ["Red", "Green", "Blue"];

var last = colors.pop();

document.write(last + "<br>"); // Prints: Blue

document.write(colors.length); // Prints: 2

* [Add or remove array elements at any index](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-or-remove-array-elements-at-any-index)

var colors = ["Red", "Green", "Blue"];

var removed = colors.splice(0,1); // Remove the first element

document.write(colors + "<br>"); // Prints: Green,Blue

document.write(removed + "<br>"); // Prints: Red (one item array)

document.write(removed.length + "<br>"); // Prints: 1

removed = colors.splice(1, 0, "Pink", "Yellow"); // Insert two items at position one

document.write(colors + "<br>"); // Prints: Green,Pink,Yellow,Blue

document.write(removed + "<br>"); // Empty array

document.write(removed.length + "<br>"); // Prints: 0

removed = colors.splice(1, 1, "Purple", "Voilet"); // Insert two values, remove one

document.write(colors + "<br>"); //Prints: Green,Purple,Voilet,Yellow,Blue

document.write(removed + "<br>"); // Prints: Pink (one item array)

document.write(removed.length); // Prints: 1

* [Join all elements of an array into a string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=join-all-elements-of-an-array-into-a-string)

var colors = ["Red", "Green", "Blue"];

document.write(colors.join() + "<br>"); // Prints: Red,Green,Blue

document.write(colors.join("") + "<br>"); // Prints: RedGreenBlue

document.write(colors.join("-") + "<br>"); // Prints: Red-Green-Blue

document.write(colors.join(", ")); // Prints: Red, Green, Blue

* [Convert an array into a comma separated string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-an-array-into-a-comma-separated-string)

var colors = ["Red", "Green", "Blue"];

document.write(colors.toString()); // Prints: Red,Green,Blue

* [Extract out a portion of an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=extract-out-a-portion-of-an-array)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

var subarr = fruits.slice(1, 3);

document.write(subarr); // Prints: Banana,Mango

* [Extract all elements from an array beyond specific index](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=extract-all-elements-from-an-array-beyond-specific-index)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

document.write(fruits.slice(2) + "<br>"); // Prints: Mango,Orange,Papaya

document.write(fruits.slice(-2) + "<br>"); // Prints: Orange,Papaya

document.write(fruits.slice(2, -1)); // Prints: Mango,Orange

* [Merge two arrays together into a single array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=merge-two-arrays)

var pets = ["Cat", "Dog", "Parrot"];

var wilds = ["Tiger", "Wolf", "Zebra"];

// Creating new array by combining pets and wilds arrays

var animals = pets.concat(wilds);

document.write(animals); // Prints: Cat,Dog,Parrot,Tiger,Wolf,Zebra

* [Merge multiple arrays into a single array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=merge-multiple-arrays)

var pets = ["Cat", "Dog", "Parrot"];

var wilds = ["Tiger", "Wolf", "Zebra"];

var bugs = ["Ant", "Bee"];

// Creating new array by combining pets, wilds and bugs arrays

var animals = pets.concat(wilds, bugs);

document.write(animals); // Prints: Cat,Dog,Parrot,Tiger,Wolf,Zebra,Ant,Bee

* [Search an array for a specific value](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=search-an-array-for-a-specific-value)

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

document.write(fruits.indexOf("Apple") + "<br>"); // Prints: 0

document.write(fruits.indexOf("Banana") + "<br>"); // Prints: 1

document.write(fruits.indexOf("Pineapple")); // Prints: -1

* [Search an array for a specific value beyond certain index](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=search-an-array-for-a-specific-value-beyond-certain-index)

var arr = [1, 0, 3, 1, false, 5, 1, 4, 7];

// Searching forwards, starting at from- index

document.write(arr.indexOf(1, 2) + "<br>"); // Prints: 3

// Searching backwards, starting at from index

document.write(arr.lastIndexOf(1, 2)); // Prints: 0

* [Find whether an array includes a certain value](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-whether-an-array-includes-a-certain-value)

var arr = [1, 0, 3, 1, false, 5, 1, 4, 7];

document.write(arr.includes(1) + "<br>"); // Prints: true

document.write(arr.includes(6) + "<br>"); // Prints: false

document.write(arr.includes(1, 2) + "<br>"); // Prints: true

document.write(arr.includes(3, 4)); // Prints: false

* [Search an array based on certain condition](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=search-an-array-based-on-certain-condition)

var arr = [1, 0, 3, 1, false, 5, 1, 4, 7];

var result = arr.find(function(element){

return element > 4;

});

document.write(result); // Prints: 5

* [Search an array based on certain condition and find index](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=search-an-array-based-on-certain-condition-and-find-index)

var arr = [1, 0, 3, 1, false, 5, 1, 4, 7];

var result = arr.findIndex(function(element){

return element > 6;

});

document.write(result); // Prints: 8

* [Filter an array in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=filter-an-array)

var arr = [1, 0, 3, 1, false, 5, 1, 4, 7];

var result = arr.filter(function(element){

return element > 4;

});

document.write(result + "<br>"); // Prints: 5,7

document.write(result.length); // Prints: 2

**JavaScript Sorting Arrays**

* [Sort an array alphabetically in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=sort-an-array-alphabetically)

var fruits = ["Banana", "Orange", "Apple", "Papaya", "Mango"];

var sorted = fruits.sort();

document.write(fruits + "<br>"); // Outputs: Apple,Banana,Mango,Orange,Papaya

document.write(sorted); // Outputs: Apple,Banana,Mango,Orange,Papaya

* [Reverse the order of an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=reverse-the-order-of-an-array)

var counts = ["one", "two", "three", "four", "five"];

var reversed = counts.reverse();

document.write(counts + "<br>"); // Outputs: five,four,three,two,one

document.write(reversed); // Output: five,four,three,two,one

* [Sort a numeric array in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=sort-a-numeric-array)

var numbers = [5, 20, 10, 75, 50, 100];

numbers.sort(); // Sorts numbers array

document.write(numbers); // Outputs: 10,100,20,5,50,75

* [Sort a numeric array correctly using compare function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=sort-a-numeric-array-correctly-using-compare-function)

var numbers = [5, 20, 10, 75, 50, 100];

// Sorting an array using compare function

numbers.sort(function(a, b) {

return a - b;

});

document.write(numbers); // Prints: 5,10,20,50,75,100

* [Find the maximum and minimum value in an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-the-maximum-and-minimum-value-in-an-array)

var numbers = [3, -7, 10, 8, 15, 2];

// Defining function to find maximum value

function findMax(array){

return Math.max.apply(null, array);

}

// Defining function to find minimum value

function findMin(array){

return Math.min.apply(null, array);

}

document.write(findMax(numbers) + "<br>"); // Outputs: 15

document.write(findMin(numbers)); // Outputs: -7

* [Sort an array of objects](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=sort-an-array-of-objects)

var persons = [

{ name: "Harry", age: 14 },

{ name: "Ethan", age: 30 },

{ name: "Peter", age: 21 },

{ name: "Clark", age: 42 },

{ name: "Alice", age: 16 }

];

// Sort by age

persons.sort(function (a, b) {

return a.age - b.age;

});

console.log(persons);

// Sort by name

persons.sort(function(a, b) {

var x = a.name.toLowerCase(); // ignore upper and lowercase

var y = b.name.toLowerCase(); // ignore upper and lowercase

if(x < y) {

return -1;

}

if(x > y) {

return 1;

}

// names must be equal

return 0;

});

// Loop through all the elements in the array

for(var i in persons) {

// Loop through all the properties in the object

for(var prop in persons[i]) {

document.write(prop + ": " + persons[i][prop] + "<br>");

}

document.write("<hr>");

}

**JavaScript Loops**

* [JavaScript while loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=while-loop)

var i = 1;

while(i <= 5) {

document.write("<p>The number is " + i + "</p>");

i++;

}

* [JavaScript do...while loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=do-while-loop)

var i = 1;

do {

document.write("<p>The number is " + i + "</p>");

i++;

}

while(i <= 5);

* [JavaScript for loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=for-loop)

for(var i=1; i<=5; i++) {

document.write("<p>The number is " + i + "</p>");

}

* [Iterate over an array using for loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=iterate-over-an-array-using-for-loop)

// An array with some elements

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

// Loop through all the elements in the array

for(var i=0; i<fruits.length; i++) {

document.write("<p>" + fruits[i] + "</p>");

}

* [JavaScript for...in loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=for-in-loop)

// An object with some properties

var person = {"name": "Clark", "surname": "Kent", "age": "36"};

// Loop through all the properties in the object

for(var prop in person) {

document.write("<p>" + prop + " = " + person[prop] + "</p>");

}

* [Iterate over an array using for in loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=iterate-over-an-array-using-for-in-loop)

// An array with some elements

var fruits = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

// Loop through all the elements in the array

for(var i in fruits) {

document.write("<p>" + fruits[i] + "</p>");

}

**JavaScript Functions**

* [Define and call a function in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=define-and-call-a-function)

// Defining function

function sayHello() {

document.write("Hello, welcome to this website!");

}

// Calling function

sayHello(); // Prints: Hello, welcome to this website!

* [Add parameters to a function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-parameters-to-a-function)

// Defining function

function displaySum(num1, num2) {

var total = num1 + num2;

document.write(total);

}

// Calling function

displaySum(6, 20); // Prints: 26

document.write("<br>");

displaySum(-5, 17); // Prints: 12

* [Pass arguments to a function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=pass-arguments-to-a-function)

// Defining function

function showFullname(firstName, lastName) {

document.write(firstName + " " + lastName);

}

// Calling function

showFullname("Clark", "Kent"); // Prints: Clark Kent

document.write("<br>");

showFullname("John"); // Prints: John undefined

* [Return a value from a function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=return-a-value-from-a-function)

// Defining function

function getSum(num1, num2) {

var total = num1 + num2;

return total;

}

// Displaying returned value

document.write(getSum(6, 20) + "<br>"); // Prints: 26

document.write(getSum(-5, 17)); // Prints: 12

* [Return multiple values from a function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=return-multiple-values-from-a-function)

// Defining function

function divideNumbers(dividend, divisor){

var quotient = dividend / divisor;

var arr = [dividend, divisor, quotient];

return arr;

}

// Store returned value in a variable

var all = divideNumbers(10, 2);

// Displaying individual values

document.write(all[0] + "<br>"); // Prints: 10

document.write(all[1] + "<br>"); // Prints: 2

document.write(all[2]); // Prints: 5

* [JavaScript function expression](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=function-expression)

// Function Declaration

function getSum(num1, num2) {

var total = num1 + num2;

return total;

}

document.write(getSum(2, 3) + "<br>"); // Prints: 5

// Function Expression

var getSum = function(num1, num2) {

var total = num1 + num2;

return total;

}

document.write(getSum(4, 6)); // Prints: 10

* [Assign a function to a variable](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=assign-a-function-to-a-variable)

var getSum = function(num1, num2) {

var total = num1 + num2;

return total;

}

document.write(getSum(5, 10) + "<br>"); // Prints: 15

var sum = getSum(7, 25);

document.write(sum); // Prints: 32

* [JavaScript function declaration vs function expression](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=function-declaration-vs-function-expression)

declaration(); // Prints: Hi, I'm a function declaration!

function declaration() {

document.write("Hi, I'm a function declaration!");

}

expression(); // Uncaught TypeError: undefined is not a function

var expression = function() {

document.write("Hi, I'm a function expression!");

}

* [JavaScript local variable](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=local-variable)

// Defining function

function greetWorld() {

var greet = "Hello World!";

document.write(greet);

}

greetWorld(); // Prints: Hello World!

document.write(greet); // Uncaught ReferenceError: greet is not defined

* [JavaScript global variable](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=global-variable)

var greet = "Hello World!";

// Defining function

function greetWorld() {

document.write(greet);

}

greetWorld(); // Prints: Hello World!

document.write("<br>");

document.write(greet); // Prints: Hello World!

**JavaScript Objects**

* [Creating objects in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=creating-objects)

var person = {

name: "Peter",

age: 28,

gender: "Male",

displayName: function() {

alert(this.name);

}

};

document.write(person.name + "<br>"); // Prints: Peter

document.write(person.age + "<br>"); // Prints: 28

document.write(person.gender); // Prints: Male

console.log(person);

* [Quoting property names of an object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=quoting-property-names-of-an-object)

var person = {

"first name": "Peter",

"current age": 28,

gender: "Male"

};

document.write(person["first name"] + "<br>"); // Prints: Peter

document.write(person["current age"] + "<br>"); // Prints: 28

document.write(person["gender"]); // Prints: Male

console.log(person);

* [Get properties values of an object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-properties-values-of-an-object)

var book = {

"name": "Harry Potter and the Goblet of Fire",

"author": "J. K. Rowling",

"year": 2000

};

// Dot notation

document.write(book.name + "<br>"); // Prints: Harry Potter and the Goblet of Fire

document.write(book.author + "<br>"); // Prints: J. K. Rowling

document.write(book.year); // Prints: 2000

document.write("<hr>");

// Bracket notation

document.write(book["name"] + "<br>"); // Prints: Harry Potter and the Goblet of Fire

document.write(book["author"] + "<br>"); // Prints: J. K. Rowling

document.write(book["year"]); // Prints: 2000

* [Access properties of an object using bracket notation](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=access-properties-of-an-object-using-bracket-notation)

var book = {

name: "Harry Potter and the Goblet of Fire",

author: "J. K. Rowling",

"publication date": "8 July 2000"

};

// Bracket notation

document.write(book["publication date"]); // Prints: 8 July 2000

* [Dynamically access object properties using variables](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=dynamically-access-object-properties-using-variables)

var person = {

name: "Peter",

age: 28,

gender: "Male"

};

var key = prompt("Enter any property name to get its value");

alert(person[key]); // Outputs: Peter (if enter "name")

* [Loop through an object in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=loop-through-an-object)

var person = {

name: "Peter",

age: 28,

gender: "Male"

};

// Iterating over object properties

for(var i in person) {

document.write(person[i] + "<br>"); // Prints: name, age and gender

}

* [Set the properties of an object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=set-the-properties-of-an-object)

var person = {

name: "Peter",

age: 28,

gender: "Male"

};

// Setting a new property

person.country = "United States";

document.write(person.country + "<br>"); // Prints: United States

person["email"] = "peterparker@mail.com";

document.write(person.email + "<br>"); // Prints: peterparker@mail.com

// Updating existing property

person.age = 30;

document.write(person.age + "<br>"); // Prints: 30

person["name"] = "Peter Parker";

document.write(person.name); // Prints: Peter Parker

* [Remove properties from an object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=remove-properties-from-an-object)

var person = {

name: "Peter",

age: 28,

gender: "Male",

displayName: function() {

alert(this.name);

}

};

// Deleting property

delete person.age;

document.write(person.age); // Prints: undefined

* [Call the methods of an object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=call-the-methods-of-an-object)

var person = {

name: "Peter",

age: 28,

gender: "Male",

displayName: function() {

document.write(this.name);

}

};

person.displayName(); // Prints: Peter

document.write("<br>");

person["displayName"](); // Prints: Peter

* [JavaScript copy by value](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=copy-by-value)

var message = "Hello World!";

var greet = message; // Assign message variable to a new variable

greet = "Hi, there!";

document.write(message + "<br>"); // Prints: Hello World!

document.write(greet); // Prints: Hi, there!

* [JavaScript copy by reference](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=copy-by-reference)

var person = {

name: "Peter",

age: 28,

gender: "Male"

};

var user = person; // Assign person variable to a new variable

user.name = "Harry";

document.write(person.name + "<br>"); // Prints: Harry

document.write(user.name); // Prints: Harry

**JavaScript DOM Selectors**

* [Select HTML head and body elements](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=select-html-head-and-body-elements)

// Prints lang attribute value of html element

document.write(document.documentElement.getAttribute("lang")); // Prints: en

document.write("<br>");

// Set background color of body element

document.body.style.background = "yellow";

// Prints tag name of the head element's first child

document.write(document.head.firstElementChild.nodeName); // Prints: meta

* [Access body element from different location](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=access-body-element-from-different-location)

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>JavaScript Access body Element from Different Location</title>

<script>

document.write("From HEAD: " + document.body); // Prints: null (since <body> is not parsed yet)

</script>

</head>

<body>

<hr>

<script>

document.write("From BODY: " + document.body); // Prints: HTMLBodyElement

</script>

</body>

</html>

* [Select an element by its id attribute](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=select-an-element-by-its-id-attribute)

<p id="mark">This is a paragraph of text.</p>

<p>This is another paragraph of text.</p>

<script>

// Selecting element with id mark

var match = document.getElementById("mark");

// Highlighting element's background

match.style.background = "yellow";

</script>

* [Select elements by class name](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=select-elements-by-class-name)

<p class="test">This is a paragraph of text.</p>

<div class="block test">This is another paragraph of text.</div>

<p>This is one more paragraph of text.</p>

<hr>

<script>

// Selecting elements with class test

var matches = document.getElementsByClassName("test");

// Displaying the selected elements count

document.write("Number of selected elements: " + matches.length);

// Applying bold style to first element in selection

matches[0].style.fontWeight = "bold";

// Applying italic style to last element in selection

matches[matches.length - 1].style.fontStyle = "italic";

// Highlighting each element's background through loop

for(var elem in matches) {

matches[elem].style.background = "yellow";

}

</script>

* [Select elements by tag name](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=select-elements-by-tag-name)

<p>This is a paragraph of text.</p>

<div class="test">This is another paragraph of text.</div>

<p>This is one more paragraph of text.</p>

<hr>

<script>

// Selecting all paragraph elements

var matches = document.getElementsByTagName("p");

// Printing the number of selected paragraphs

document.write("Number of selected elements: " + matches.length);

// Highlighting each paragraph's background through loop

for(var elem in matches) {

matches[elem].style.background = "yellow";

}

</script>

* [Select elements with css selectors](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=select-elements-with-css-selectors)

<ul>

<li>Bread</li>

<li class="tick">Coffee</li>

<li>Pineapple Cake</li>

</ul>

<script>

// Selecting all li elements

var matches = document.querySelectorAll("ul li");

// Printing the number of selected li elements

document.write("Number of selected elements: " + matches.length + "<hr>")

// Printing the content of selected li elements

for(var elem of matches) {

document.write(elem.innerHTML + "<br>");

}

// Applying line through style to first li element with class tick

matches = document.querySelectorAll("ul li.tick");

matches[0].style.textDecoration = "line-through";

</script>

**JavaScript DOM Styling**

* [Add inline styles to an element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-inline-styles-to-an-element)

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

<p>This is another paragraph.</p>

<button type="button" onclick="setStyle()">Set intro paragraph styles</button>

<script>

function setStyle() {

// Selecting element

var elem = document.getElementById("intro");

// Appling styles on element

elem.style.color = "blue";

elem.style.fontSize = "18px";

elem.style.fontWeight = "bold";

}

</script>

* [Get style information from an element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-style-information-from-an-element)

<p id="intro" style="color:red; font-size:20px;">This is a paragraph.</p>

<p>This is another paragraph.</p>

<script>

// Selecting element

var elem = document.getElementById("intro");

// Getting style information from element

document.write(elem.style.color + "<br>"); // Prints: red

document.write(elem.style.fontSize + "<br>"); // Prints: 20px

document.write(elem.style.fontStyle); // Prints nothing

</script>

* [Get computed style information from an element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-computed-style-information-from-an-element)

<p id="intro" style="color:red; font-size:20px;">This is a paragraph.</p>

<p>This is another paragraph.</p>

<script>

// Selecting element

var elem = document.getElementById("intro");

// Getting computed style information

var styles = window.getComputedStyle(elem);

document.write(styles.getPropertyValue("color") + "<br>"); // Prints: rgb(255, 0, 0)

document.write(styles.getPropertyValue("font-size") + "<br>"); // Prints: 20px

document.write(styles.getPropertyValue("font-weight") + "<br>"); // Prints: 700

document.write(styles.getPropertyValue("font-style")); // Prints: italic

</script>

* [Add or replace css classes on an element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-or-replace-css-classes-on-an-element)

<div id="info" class="disabled">Something very important!</div>

<script>

// Selecting element

var elem = document.getElementById("info");

elem.className = "note"; // Add or replace all classes with note class

elem.className += " highlight"; // Add a new class highlight

</script>

* [Add or remove css classes on an element using classlist](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=add-or-remove-css-classes-on-an-element-using-classlist)

<div id="info" class="disabled">Something very important!</div>

<script>

// Selecting element

var elem = document.getElementById("info");

elem.classList.add("hide"); // Add a new class

elem.classList.add("note", "highlight"); // Add multiple classes

elem.classList.remove("hide"); // Remove a class

elem.classList.remove("disabled", "note"); // Remove multiple classes

elem.classList.toggle("visible"); // If class exists remove it, if not add it

// Determine if class exist

if(elem.classList.contains("highlight")) {

alert("The specified class exists on the element.");

}

</script>

**JavaScript DOM Get Set Attributes**

* [Get the value of an attribute](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-the-value-of-an-attribute)

<p><a href="https://www.google.com/" target="\_blank" id="myLink">Google</a></p>

<script>

// Selecting the element by ID attribute

var link = document.getElementById("myLink");

// Getting the attributes values

var href = link.getAttribute("href");

document.write(href); // Prints: https://www.google.com/

document.write("<br>");

var target = link.getAttribute("target");

document.write(target); // Prints: \_blank

</script>

* [Set an attribute on an element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=set-an-attribute-on-an-element)

<button type="button" id="myBtn">Click Me</button>

<script>

// Selecting the element

var btn = document.getElementById("myBtn");

// Setting new attributes

btn.setAttribute("class", "click-btn");

btn.setAttribute("disabled", "");

</script>

* [Remove an attribute from an element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=remove-an-attribute-from-an-element)

<a href="https://www.google.com/" id="myLink">Google</a>

<script>

// Selecting the element

var link = document.getElementById("myLink");

// Removing the href attribute

link.removeAttribute("href");

</script>

* [Change the value of an attribute](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=change-the-value-of-an-attribute)

<p><a href="#" id="myLink">Tutorial Republic</a></p>

<script>

// Selecting the element

var link = document.getElementById("myLink");

// Changing the href attribute value

link.setAttribute("href", "https://www.tutorialrepublic.com");

</script>

**JavaScript DOM Manipulation**

* [Insert new element into the DOM](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=insert-new-element-into-the-dom)

<div id="main">

<h1 id="title">Hello World!</h1>

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

</div>

<button type="button" onclick="insertElement()">Insert Element</button>

<script>

function insertElement() {

// Creating a new div element

var newDiv = document.createElement("div");

// Creating a text node

var newContent = document.createTextNode("Hi, how are you doing?");

// Adding the text node to the newly created div

newDiv.appendChild(newContent);

// Adding the newly created element and its content into the DOM

var currentDiv = document.getElementById("main");

document.body.appendChild(newDiv, currentDiv);

}

</script>

* [Insert new element at the beginning](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=insert-new-element-at-the-beginning)

<div id="main">

<h1 id="title">Hello World!</h1>

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

</div>

<button type="button" onclick="insertElement()">Insert Element</button>

<script>

function insertElement() {

// Creating a new div element

var newDiv = document.createElement("div");

// Creating a text node

var newContent = document.createTextNode("Hi, how are you doing?");

// Adding the text node to the newly created div

newDiv.appendChild(newContent);

// Adding the newly created element and its content into the DOM

var currentDiv = document.getElementById("main");

document.body.insertBefore(newDiv, currentDiv);

}

</script>

* [Get set inner HTML of an element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-set-inner-html-of-an-element)

<div id="main">

<h1 id="title">Hello World!</h1>

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

</div>

<button type="button" onclick="getContents()">Get Contents</button>

<button type="button" onclick="setContents()">Set Contents</button>

<script>

function getContents() {

// Getting inner HTML conents

var contents = document.getElementById("main").innerHTML;

alert(contents); // Outputs inner html contents

}

function setContents() {

// Setting inner HTML contents

var mainDiv = document.getElementById("main");

mainDiv.innerHTML = "<p>This is <em>newly inserted</em> paragraph.</p>";

}

</script>

* [Insert HTML without replacing the existing content](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=insert-html-without-replacing-the-existing-content)

<!-- beforebegin -->

<div id="main">

<!-- afterbegin -->

<h1 id="title">Hello World!</h1>

<!-- beforeend -->

</div>

<!-- afterend -->

<button type="button" onclick="insertContent()">Insert Content</button>

<script>

function insertContent() {

// Selecting target element

var mainDiv = document.getElementById("main");

// Inserting HTML just before the element itself, as a previous sibling

mainDiv.insertAdjacentHTML('beforebegin', '<p>This is paragraph one.</p>');

// Inserting HTML just inside the element, before its first child

mainDiv.insertAdjacentHTML('afterbegin', '<p>This is paragraph two.</p>');

// Inserting HTML just inside the element, after its last child

mainDiv.insertAdjacentHTML('beforeend', '<p>This is paragraph three.</p>');

// Inserting HTML just after the element itself, as a next sibling

mainDiv.insertAdjacentHTML('afterend', '<p>This is paragraph four.</p>');

}

</script>

* [Remove an element from the DOM](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=remove-an-element-from-the-dom)

<div id="main">

<h1 id="title">Hello World!</h1>

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

</div>

<button type="button" onclick="removeElement()">Remove Element</button>

<script>

function removeElement() {

var parentElem = document.getElementById("main");

var childElem = document.getElementById("hint");

parentElem.removeChild(childElem);

}

</script>

* [Remove child element without knowing its parent](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=remove-child-element-without-knowing-its-parent)

<div id="main">

<h1 id="title">Hello World!</h1>

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

</div>

<button type="button" onclick="removeElement()">Remove Element</button>

<script>

function removeElement() {

var childElem = document.getElementById("hint");

childElem.parentNode.removeChild(childElem);

}

</script>

* [Replace an element with another element in the DOM](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=replace-an-element-with-another-element-in-the-dom)

<div id="main">

<h1 id="title">Hello World!</h1>

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

</div>

<button type="button" onclick="replaceParagraph()">Replace Paragraph</button>

<script>

function replaceParagraph() {

var parentElem = document.getElementById("main");

var oldPara = document.getElementById("hint");

// Creating new elememt

var newPara = document.createElement("p");

var newContent = document.createTextNode("This is a new paragraph.");

newPara.appendChild(newContent);

// Replacing old paragraph with newly created paragraph

parentElem.replaceChild(newPara, oldPara);

}

</script>

**JavaScript DOM Navigation**

* [Get first and last child nodes](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-first-and-last-child-nodes)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p>

</div>

<script>

var main = document.getElementById("main");

console.log(main.firstChild.nodeName); // Prints: #text

var hint = document.getElementById("hint");

console.log(hint.firstChild.nodeName); // Prints: SPAN

</script>

* [Get only element child nodes](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-only-element-child-nodes)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p>

</div>

<script>

var main = document.getElementById("main");

console.log(main.firstElementChild.nodeName); // Prints: H1

main.firstElementChild.style.color = "red";

var hint = document.getElementById("hint");

console.log(hint.firstElementChild.nodeName); // Prints: SPAN

hint.firstElementChild.style.color = "blue";

</script>

* [Get all child nodes](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-all-child-nodes)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p>

</div>

<script>

var main = document.getElementById("main");

// First check that the element has child nodes

if(main.hasChildNodes()) {

var nodes = main.childNodes;

// Loop through node list and display node name

for(var i = 0; i < nodes.length; i++) {

console.log(nodes[i].nodeName);

}

}

</script>

* [Get all element child nodes](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-all-element-child-nodes)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p>

</div>

<script>

var main = document.getElementById("main");

// First check that the element has child nodes

if(main.hasChildNodes()) {

var nodes = main.children;

// Loop through node list and display node name

for(var i = 0; i < nodes.length; i++) {

console.log(nodes[i].nodeName);

}

}

</script>

* [Get parent node](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-parent-node)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p>

</div>

<script>

var hint = document.getElementById("hint");

console.log(hint.parentNode.nodeName); // Prints: DIV

console.log(document.documentElement.parentNode.nodeName); // Prints: #document

console.log(document.parentNode); // Outputs: null

</script>

* [Get only parent element node](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-only-parent-element-node)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p>

</div>

<script>

var hint = document.getElementById("hint");

console.log(hint.parentNode.nodeName); // Prints: DIV

hint.parentNode.style.backgroundColor = "yellow";

</script>

* [Get previous and next node](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-previous-and-next-node)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p><hr>

</div>

<script>

var title = document.getElementById("title");

console.log(title.previousSibling.nodeName); // Prints: #text

var hint = document.getElementById("hint");

console.log(hint.nextSibling.nodeName); // Prints: HR

</script>

* [Get previous and next sibling element](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-previous-and-next-sibling-element)

<div id="main">

<h1 id="title">My Heading</h1>

<p id="hint"><span>This is some text.</span></p><hr>

</div>

<script>

var title = document.getElementById("title");

console.log(title.previousSibling.nodeName); // Prints: #text

var hint = document.getElementById("hint");

console.log(hint.nextSibling.nodeName); // Prints: HR

</script>

**JavaScript Window**

* [Get browser viewport dimensions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-browser-viewport-dimensions)

<script>

function windowSize(){

var w = window.innerWidth;

var h = window.innerHeight;

alert("Width: " + w + ", " + "Height: " + h);

}

</script>

<button type="button" onclick="windowSize();">Get Window Size</button>

* [Get width and height of the browser viewport excluding scrollbars](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-width-and-height-of-the-browser-viewport-excluding-scrollbars)

<script>

// Prints complete URL

document.write(window.location.href + "<br>");

// Prints protocol like http: or https:

document.write(window.location.protocol + "<br>");

// Prints hostname with port like localhost or localhost:3000

document.write(window.location.host + "<br>");

// Prints hostname like localhost or www.example.com

document.write(window.location.hostname + "<br>");

// Prints port number like 3000

document.write(window.location.port + "<br>");

// Prints pathname like /products/search.php

document.write(window.location.pathname + "<br>");

// Prints query string like ?q=ipad

document.write(window.location.search + "<br>");

// Prints fragment identifier like #featured

document.write(window.location.hash);

</script>

* [Get screen resolution](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-screen-resolution)

<script>

function getResolution() {

alert("Your screen is: " + screen.width + "x" + screen.height);

}

</script>

<button type="button" onclick="getResolution();">Get Resolution</button>

* [Get available width and height of the screen](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-available-width-and-height-of-the-screen)

<script>

function getAvailSize() {

alert("Available Screen Width: " + screen.availWidth + ", Height: " + screen.availHeight);

}

</script>

<button type="button" onclick="getAvailSize();">Get Available Size</button>

* [Get color depth of the screen](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-color-depth-of-the-screen)

<script>

function getColorDepth() {

alert("Your screen color depth is: " + screen.colorDepth);

}

</script>

<button type="button" onclick="getColorDepth();">Get Color Depth</button>

* [Get pixel depth of the screen](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-pixel-depth-of-the-screen)

<script>

function getPixelDepth() {

alert("Your screen pixel depth is: " + screen.pixelDepth);

}

</script>

<button type="button" onclick="getPixelDepth();">Get Pixel Depth</button>

**JavaScript Window Location**

* [Get the current url](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-current-url)

<script>

function getURL() {

alert("The URL of this page is: " + window.location.href);

}

</script>

<button type="button" onclick="getURL();">Get Page URL</button>

* [Get the different parts of a url](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-different-parts-of-a-url)

<script>

// Prints complete URL

document.write(window.location.href + "<br>");

// Prints protocol like http: or https:

document.write(window.location.protocol + "<br>");

// Prints hostname with port like localhost or localhost:3000

document.write(window.location.host + "<br>");

// Prints hostname like localhost or www.example.com

document.write(window.location.hostname + "<br>");

// Prints port number like 3000

document.write(window.location.port + "<br>");

// Prints pathname like /products/search.php

document.write(window.location.pathname + "<br>");

// Prints query string like ?q=ipad

document.write(window.location.search + "<br>");

// Prints fragment identifier like #featured

document.write(window.location.hash);

</script>

* [Load another resource from a url](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=load-another-resource-from-a-url)

<script>

function loadHomePage() {

window.location.assign("https://www.tutorialrepublic.com");

}

</script>

<button type="button" onclick="loadHomePage();">Load Home Page</button>

* [Replace current url with a new url](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=replace-current-url-with-a-new-url)

<script>

function loadHomePage(){

window.location.replace("https://www.tutorialrepublic.com");

}

</script>

<button type="button" onclick="loadHomePage();">Load Home Page</button>

* [Load new document in the window](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=load-new-document-in-the-window)

<script>

function loadHomePage() {

window.location.href = "https://www.tutorialrepublic.com";

}

</script>

<button type="button" onclick="loadHomePage();">Load Home Page</button>

* [Reload a page dynamically](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=reload-a-page-dynamically)

<script>

function forceReload() {

window.location.reload(true);

}

</script>

<button type="button" onclick="forceReload();">Reload Page</button>

**JavaScript Dialog Boxes**

* [Alert popup box](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=alert-popup-box)

<script>

var message = "Hi there! Click OK to continue.";

alert(message);

/\* The following line won't execute until you dismiss previous alert \*/

alert("This is another alert box.");

</script>

* [Confirm popup box](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=confirm-popup-box)

<script>

var result = confirm("Are you sure?");

if(result) {

document.write("You clicked OK button!");

} else {

document.write("You clicked Cancel button!");

}

</script>

* [Prompt popup box](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=prompt-popup-box)

<script>

var name = prompt("What's your name?");

if(name.length > 0 && name != "null") {

document.write("Hi, " + name);

} else {

document.write("Anonymous!");

}

</script>

**JavaScript Timers**

* [Execute a function after some time](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=execute-a-function-after-some-time)

<script>

function myFunction() {

alert('Hello World!');

}

</script>

<button onclick="setTimeout(myFunction, 2000)">Click Me</button>

<p><strong>Note:</strong> Alert popup will be displayed 2 seconds after clicking the button.</p>

* [Execute a function at regular intervals](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=execute-a-function-at-regular-intervals)

<script>

function showTime() {

var d = new Date();

document.getElementById("clock").innerHTML = d.toLocaleTimeString();

}

setInterval(showTime, 1000);

</script>

<p>The current time on your computer is: <span id="clock"></span></p>

* [Cancel a timer with cleartimeout](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=cancel-a-timer-with-cleartimeout)

<script>

var timeoutID;

function delayedAlert() {

timeoutID = setTimeout(showAlert, 2000);

}

function showAlert() {

alert('This is a JavaScript alert box.');

}

function clearAlert() {

clearTimeout(timeoutID);

}

</script>

<button onclick="delayedAlert();">Show Alert After Two Seconds</button>

<button onclick="clearAlert();">Cancel Alert Before It Display</button>

* [Cancel a timer with clearinterval](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=cancel-a-timer-with-clearinterval)

<script>

var intervalID;

function showTime() {

var d = new Date();

document.getElementById("clock").innerHTML = d.toLocaleTimeString();

}

function stopClock() {

clearInterval(intervalID);

}

var intervalID = setInterval(showTime, 1000);

</script>

<p>The current time on your computer is: <span id="clock"></span></p>

<button onclick="stopClock();">Stop Clock</button>

**JavaScript Date and Time**

* [Create a date object in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=create-a-date-object)

<script>

var d = new Date();

document.write(d);

</script>

* [Passing parameters to the date object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=passing-parameters-to-the-date-object)

<script>

var d = new Date(2018,0,31,14,35,20,50);

document.write(d);

</script>

* [Construct a date object by passing a date string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=construct-a-date-object-by-passing-a-date-string)

<script>

var d = new Date("31 January 2018");

document.write(d);

</script>

* [Define a date object by passing the number of milliseconds](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=define-a-date-object-by-passing-the-number-of-milliseconds)

<script>

var d = new Date(1517356800000);

document.write(d);

</script>

* [Get the current date and time in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-the-current-date-and-time)

<script>

var now = new Date();

document.write(now); // Display the current date and time

</script>

* [Generate date strings in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=generate-date-strings)

<script>

var d = new Date();

document.write(d.toDateString() + "<br>"); // Display an abbreviated date string

document.write(d.toLocaleDateString() + "<br>"); // Display a localized date string

document.write(d.toISOString() + "<br>"); // Display the ISO standardized date string

document.write(d.toUTCString() + "<br>"); // Display a date string converted to UTC time

document.write(d.toString()); // Display the full date string with local time zone

</script>

* [Generate time strings in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=generate-time-strings)

<script>

var d = new Date();

document.write(d.toTimeString() + "<br>"); // Display the time portion of the date

document.write(d.toLocaleTimeString()); // Display a localized time string

</script>

* [Get year month and day from a date object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-year-month-and-day-from-a-date-object)

<script>

var d = new Date();

// Extracting date part

document.write(d.getDate() + "<br>"); // Display the day of the month

document.write(d.getDay() + "<br>"); // Display the number of days into the week (0-6)

document.write(d.getMonth() + "<br>"); // Display the number of months into the year (0-11)

document.write(d.getFullYear()); // Display the full year (four digits)

</script>

* [Get hours minutes and seconds from a date object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-hours-minutes-and-seconds-from-a-date-object)

<script>

var d = new Date();

// Extracting time part

document.write(d.getHours() + "<br>"); // Display the number of hours into the day (0-23)

document.write(d.getMinutes() + "<br>"); // Display the number of minutes into the hour (0-59)

document.write(d.getSeconds() + "<br>"); // Display the seconds into the minute (0-59)

document.write(d.getMilliseconds() + "<br>"); // Display the number of milliseconds into second (0-999)

document.write(d.getTime() + "<br>"); // Display the number of milliseconds since 1/1/1970

document.write(d.getTimezoneOffset()); // Display the time-zone offset (from Greenwich Mean Time) in minutes

</script>

* [Set the year value of a date object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=set-the-year-value-of-a-date-object)

<script>

var d = new Date();

d.setFullYear(d.getFullYear() + 2);

document.write(d); // Display future date

</script>

* [Set the month value of a date object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=set-the-month-value-of-a-date-object)

<script>

var d = new Date(); // Current date and time

d.setMonth(0); // Sets month to 0, January

document.write(d);

</script>

* [Specify the month value outside of the range](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=specify-the-month-value-outside-of-the-range)

<script>

var d = new Date(2018, 5, 24); // June 24, 2018

d.setMonth(12); // Sets month to 12, new date will be January 24, 2019

document.write(d);

</script>

* [Set the date value of a date object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=set-the-date-value-of-a-date-object)

<script>

var d = new Date(2018, 5, 24); // June 24, 2018

d.setDate(15); // Sets date to 15, new date will be June 15, 2018

document.write(d);

</script>

* [Specify the date value outside of the range](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=specify-the-date-value-outside-of-the-range)

<script>

var d = new Date(2018, 5, 24); // June 24, 2018

d.setDate(36); // Sets day to 36, new date will be July 6, 2018

document.write(d);

</script>

* [Set the hours minutes and seconds values of a date object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=set-the-hours-minutes-and-seconds-values-of-a-date-object)

<script>

var d = new Date(2018, 5, 24); // June 24, 2018 00:00:00

d.setHours(8);

d.setMinutes(30);

d.setSeconds(45);

d.setMilliseconds(600);

document.write(d);

</script>

**JavaScript Math Operations**

* [Representing PI (π) in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=pi-property)

<script>

// Printing PI value

document.write(Math.PI + "<br>"); // Prints: 3.141592653589793

// Function to calculate circle area

function calculateCircleArea(radius){

var area = (Math.PI) \* radius \* radius;

return area;

}

document.write(calculateCircleArea(5) + "<br>"); // Prints: 78.53981633974483

document.write(calculateCircleArea(10) + "<br>"); // Prints: 314.1592653589793

</script>

* [Get the absolute value of a number](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-the-absolute-value-of-a-number)

<script>

document.write(Math.abs(-1) + "<br>"); // Prints: 1

document.write(Math.abs(1) + "<br>"); // Prints: 1

document.write(Math.abs(-5) + "<br>"); // Prints: 5

document.write(Math.abs(-10.5)); // Prints: 10.5

</script>

* [Generate a random integer](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=generate-a-random-integer)

<script>

document.write(Math.random() + "<br>"); // Expected output: a number between 0 and 1

// Function to create random integer

function getRandomInt(max) {

return Math.floor(Math.random() \* max);

}

document.write(getRandomInt(3) + "<br>"); // Expected output: 0, 1 or 2

document.write(getRandomInt(1)); // Expected output: 0

</script>

* [Calculate the square root of a number](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=calculate-the-square-root-of-a-number)

<script>

document.write(Math.sqrt(4) + "<br>"); // Prints: 2

document.write(Math.sqrt(16) + "<br>"); // Prints: 4

document.write(Math.sqrt(0.25) + "<br>"); // Prints: 0.5

document.write(Math.sqrt(-9) + "<br>"); // Prints: NaN

/\* Function to calculate hypotenuse.

Hypotenuse is the longest side of a right-angled triangle. \*/

function calculateHypotenuse(a, b) {

return Math.sqrt((a \* a) + (b \* b));

}

document.write(calculateHypotenuse(3, 4) + "<br>"); // Prints: 5

document.write(calculateHypotenuse(5, 12)); // Prints: 13

</script>

* [Round a number up in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=round-a-number-up)

<script>

document.write(Math.ceil(3.5) + "<br>"); // Prints: 4

document.write(Math.ceil(-5.7) + "<br>"); // Prints: -5

document.write(Math.ceil(9.99) + "<br>"); // Prints: 10

document.write(Math.ceil(-9.99) + "<br>"); // Prints: -9

document.write(Math.ceil(0)); // Prints: 0

</script>

* [Round a number down in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=round-a-number-down)

<script>

document.write(Math.floor(3.5) + "<br>"); // Prints: 3

document.write(Math.floor(-5.7) + "<br>"); // Prints: -6

document.write(Math.floor(9.99) + "<br>"); // Prints: 9

document.write(Math.floor(-9.99) + "<br>"); // Prints: -10

document.write(Math.floor(0)); // Prints: 0

</script>

* [Round a number to the nearest integer](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=round-a-number-to-the-nearest-integer)

<script>

document.write(Math.round(3.5) + "<br>"); // Prints: 4

document.write(Math.round(-5.7) + "<br>"); // Prints: -6

document.write(Math.round(7.25) + "<br>"); // Prints: 7

document.write(Math.round(4.49) + "<br>"); // Prints: 4

document.write(Math.round(0)); // Prints: 0

</script>

* [Find the largest and smallest numbers in a set](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-the-largest-and-smallest-numbers-in-a-set)

<script>

document.write(Math.max(1, 3, 2) + "<br>"); // Prints: 3

document.write(Math.max(-1, -3, -2) + "<br>"); // Prints: -1

document.write(Math.min(1, 3, 2) + "<br>"); // Prints: 1

document.write(Math.min(-1, -3, -2)); // Prints: -3

</script>

* [Find the maximum and minimum values in an array](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-the-maximum-and-minimum-values-in-an-array)

<script>

var numbers = [1, 3, 2];

document.write(Math.max.apply(null, numbers) + "<br>"); // Prints: 3

document.write(Math.min.apply(null, numbers)); // Prints: 1

</script>

* [Pass an array to max and min methods using spread operator](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=pass-an-array-to-max-and-min-methods-using-spread-operator)

<script>

var numbers = [1, 3, 2];

document.write(Math.max(...numbers) + "<br>"); // Prints: 3

document.write(Math.min(...numbers)); // Prints: 1

</script>

* [Raise a number to a certain power](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=raise-a-number-to-a-certain-power)

<script>

document.write(Math.pow(3, 2) + "<br>"); // Prints: 9

document.write(Math.pow(0, 1) + "<br>"); // Prints: 0

document.write(Math.pow(5, -2) + "<br>"); // Prints: 0.04

document.write(Math.pow(16, 0.5) + "<br>"); // Prints: 4 (square root of 4)

document.write(Math.pow(8, 1/3)); // Prints: 2 (cube root of 8)

</script>

* [Perform trigonometric operations in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=trigonometric-operations)

<script>

document.write(Math.sin(0 \* Math.PI / 180) + "<br>"); // Prints: 0

document.write(Math.sin(90 \* Math.PI / 180) + "<br>"); // Prints: 1

document.write(Math.cos(0 \* Math.PI / 180) + "<br>"); // Prints: 1

document.write(Math.cos(180 \* Math.PI / 180) + "<br>"); // Prints: -1

document.write(Math.tan(0 \* Math.PI / 180)); // Prints: 0

</script>

**JavaScript Type Conversions**

* [Automatic data type conversions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=automatic-data-type-conversions)

document.write("3" - 2); // Prints: 1

document.write("<br>");

document.write("3" + 2); // Prints: "32" (because + is also concatenation operator)

document.write("<br>");

document.write(3 + "2"); // Prints: "32"

document.write("<br>");

document.write("3" \* "2"); // Prints: 6

document.write("<br>");

document.write("10" / "2"); // Prints: 5

document.write("<br>");

document.write(1 + true); // Prints: 2 (because true is converted to 1)

document.write("<br>");

document.write(1 + false); // Prints: 1 (because false is converted to 0)

document.write("<br>");

document.write(1 + undefined); // Prints: NaN

document.write("<br>");

document.write(3 + null); // Prints: 3 (because null is converted to 0)

document.write("<br>");

document.write("3" + null); // Prints: "3null"

document.write("<br>");

document.write(true + null); // Prints: 1

document.write("<br>");

document.write(true + undefined); // Prints: NaN

* [Convert a numeric string to number](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-a-numeric-string-to-number)

var str = "123";

document.write(typeof str); // Outputs: string

document.write("<br>");

var num = Number(str); // Becomes a number 123

document.write(typeof num); // // Outputs: number

* [Convert values to numbers](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-values-to-numbers)

document.write(Number("10.5") + "<br>"); // Prints: 10.5

document.write(Number(true) + "<br>"); // Prints: 1

document.write(Number(false) + "<br>"); // Prints: 0

document.write(Number(null) + "<br>"); // Prints: 0

document.write(Number(" 123 ") + "<br>"); // Prints: 123

document.write(Number(" ") + "<br>"); // Prints: 0

document.write(Number("") + "<br>"); // Prints: 0

document.write(Number("123e-1") + "<br>"); // Prints: 12.3

document.write(Number("0xFF") + "<br>"); // Prints: 255 (hexadecimal representation)

document.write(Number("undefined") + "<br>"); // Prints: NaN

document.write(Number("null") + "<br>"); // Prints: NaN

document.write(Number("Hello World!")); // Prints: NaN

* [Convert a boolean value to string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-a-boolean-value-to-string)

var bool = true;

document.write(typeof bool); // Prints: boolean

document.write("<br>");

var str = String(bool); // Becomes a string "true"

document.write(typeof str); // Prints: string

</script>

* [Convert values to strings](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-values-to-strings)

var num = 123;

document.write(typeof num); // Prints: number

document.write("<br>");

var str = num.toString(); // Becomes a string "123"

document.write(typeof str); // Prints: string

* [Convert a number to string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-a-number-to-string)

var num = 123;

document.write(typeof num); // Prints: number

document.write("<br>");

var str = num.toString(); // Becomes a string "123"

document.write(typeof str); // Prints: string

* [Convert values to boolean](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-values-to-boolean)

document.write(Boolean(0) + "<br>"); // Prints: false

document.write(Boolean(null) + "<br>"); // Prints: false

document.write(Boolean(false) + "<br>"); // Prints: false

document.write(Boolean(undefined) + "<br>"); // Prints: false

document.write(Boolean(NaN) + "<br>"); // Prints: false

document.write(Boolean("") + "<br>"); // Prints: false

document.write(Boolean("0") + "<br>"); // Prints: true

document.write(Boolean(1) + "<br>"); // Prints: true

document.write(Boolean(true) + "<br>"); // Prints: true

document.write(Boolean("false") + "<br>"); // Prints: true

document.write(Boolean("Hello World!") + "<br>"); // Prints: true

document.write(Boolean(" ")); // Prints: true

* [Automatic object to primitive data type conversions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=automatic-object-to-primitive-data-type-conversions)

var date1 = new Date(2018, 5, 24);

document.write(date1 + "<br>"); // Display date string like: Sun Jun 24 2018 00:00:00

var date2 = new Date(2025, 8, 15);

var time = date2 - date1;

document.write(time) // Display time in milliseconds: 228096000000

* [Convert objects to primitive data types manually](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-objects-to-primitive-data-types-manually)

var arr = [1, 2, 3];

document.write(arr.toString() + "<br>"); // Prints: "1,2,3"

var d = new Date(2018, 5, 24);

document.write(d.toDateString() + "<br>"); // Prints: date like Sun Jun 24 2018 00:00:00

document.write(d.valueOf()); // Prints: 1529778600000

* [Perform data type conversions using operators](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=perform-data-type-conversions-using-operators)

var x = "10"; // x is a string

var y = +x;

document.write(typeof(y) + "<br>"); // Prints: number

document.write(y + "<br>"); // Prints: 10

var x = 10; // x is a number

var y = x + "";

document.write(typeof(y) + "<br>"); // Prints: string

document.write(y + "<br>"); // Prints: 10

var x = "15"; // x is a string

var y = x - 0;

document.write(typeof(y) + "<br>"); // Prints: number

document.write(y + "<br>"); // Prints: 15

var x = "123";

document.write(typeof(!!x) + "<br>"); // Prints: boolean

document.write(!!x + "<br>"); // Prints: true

var x = "Hello World!";

var y = +x;

document.write(typeof(y) + "<br>");// Prints: number

document.write(y + "<br>"); // Prints: NaN

**JavaScript Event Listeners**

* [Assigning multiple event handlers on a single event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=assigning-multiple-event-handlers-on-a-single-event)

<button id="myBtn">Click Me</button>

<script>

// Defining custom functions

function firstFunction() {

alert("The first function executed successfully!");

}

function secondFunction() {

alert("The second function executed successfully");

}

// Selecting button element

var btn = document.getElementById("myBtn");

// Assigning event handlers to the button

btn.onclick = firstFunction;

btn.onclick = secondFunction; // This one overwrite the first

</script>

* [Assigning multiple event listeners on a single event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=assigning-multiple-event-listeners-on-a-single-event)

<button id="myBtn">Click Me</button>

<script>

// Defining custom functions

function firstFunction() {

alert("The first function executed successfully!");

}

function secondFunction() {

alert("The second function executed successfully");

}

// Selecting button element

var btn = document.getElementById("myBtn");

// Assigning event listeners to the button

btn.addEventListener("click", firstFunction);

btn.addEventListener("click", secondFunction);

</script>

* [Attaching different event listeners to different event types](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=attaching-different-event-listeners-to-different-event-types)

<button id="myBtn">Click Me</button>

<script>

// Selecting button element

var btn = document.getElementById("myBtn");

// Defining custom functions

function sayHello() {

alert("Hi, how are you doing?");

}

function setHoverColor() {

btn.style.background = "yellow";

}

function setNormalColor() {

btn.style.background = "";

}

// Assigning event listeners to the button

btn.addEventListener("click", sayHello);

btn.addEventListener("mouseover", setHoverColor);

btn.addEventListener("mouseout", setNormalColor);

</script>

* [Adding event listener to the window resize event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=adding-event-listener-to-the-window-resize-event)

<div id="result"></div>

<script>

// Defining event listener function

function displayWindowSize() {

var w = window.innerWidth;

var h = window.innerHeight;

var size = "Width: " + w + ", " + "Height: " + h;

document.getElementById("result").innerHTML = size;

}

// Attaching the event listener function to window's resize event

window.addEventListener("resize", displayWindowSize);

</script>

* [Removing an event listener](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=removing-an-event-listener)

<button id="myBtn">Click Me</button>

<script>

// Defining function

function greetWorld() {

alert("Hello World!");

}

// Selecting button element

var btn = document.getElementById("myBtn");

// Attaching event listener

btn.addEventListener("click", greetWorld);

// Removing event listener

btn.removeEventListener("click", greetWorld);

</script>

**JavaScript Event Propagation**

* [Event capturing mechanism](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=event-capturing)

<div id="wrap">DIV

<p class="hint">P

<a href="#">A</a>

</p>

</div>

<script>

function showTagName() {

alert("Capturing: "+ this.tagName);

}

var elems = document.querySelectorAll("div, p, a");

for(let elem of elems) {

elem.addEventListener("click", showTagName, true);

}

</script>

* [Event bubbling mechanism](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=event-bubbling)

<div onclick="alert('Bubbling: ' + this.tagName)">DIV

<p onclick="alert('Bubbling: ' + this.tagName)">P

<a href="#" onclick="alert('Bubbling: ' + this.tagName)">A</a>

</p>

* [Get the event target](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=get-the-event-target)

<div id="wrap">DIV

<p class="hint">P

<a href="#">A</a>

</p>

</div>

<script>

// Selecting the div element

var div = document.getElementById("wrap");

// Attaching an onclick event handler

div.onclick = function(event) {

event.target.style.backgroundColor = "lightblue";

// Let the browser finish rendering of background color before showing alert

setTimeout(() => {

alert("target = " + event.target.tagName + ", this = " + this.tagName);

event.target.style.backgroundColor = ''

}, 0);

}

</script>

* [Event propagation in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=event-propagation)

<div id="wrap">DIV

<p class="hint">P

<a href="#">A</a>

</p>

</div>

<script>

function showAlert() {

alert("You clicked: "+ this.tagName);

}

var elems = document.querySelectorAll("div, p, a");

for(let elem of elems) {

elem.addEventListener("click", showAlert);

}

</script>

* [Stop event propagation](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=stop-event-propagation)

<div id="wrap">DIV

<p class="hint">P

<a href="#">A</a>

</p>

</div>

<script>

function showAlert(event) {

alert("You clicked: "+ this.tagName);

event.stopPropagation();

}

var elems = document.querySelectorAll("div, p, a");

for(let elem of elems) {

elem.addEventListener("click", showAlert);

}

</script>

* [Stop immediate propagation of an event](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=stop-immediate-propagation-of-an-event)

<div onclick="alert('You clicked: ' + this.tagName)">DIV

<p onclick="alert('You clicked: ' + this.tagName)">P

<a href="#" id="link">A</a>

</p>

</div>

<script>

function sayHi() {

alert("Hi, there!");

event.stopImmediatePropagation();

}

function sayHello(){

alert("Hello World!");

}

// Attaching multiple event handlers to hyperlink

var link = document.getElementById("link");

link.addEventListener("click", sayHi);

link.addEventListener("click", sayHello);

</script>

* [Prevent default actions with JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=prevent-default-actions)

<form action="/examples/html/action.php" method="post" id="users">

<label>First Name:</label>

<input type="text" name="first-name" id="firstName">

<input type="submit" value="Submit" id="submitBtn">

</form>

<script>

var btn = document.getElementById("submitBtn");

btn.addEventListener("click", function(event) {

var name = document.getElementById("firstName").value;

alert("Sorry, " + name + ". The preventDefault() won't let you submit this form!");

event.preventDefault(); // Prevent form submission

});

**JavaScript Borrowing Methods**

* [Call methods from other object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=call-methods)

var objA = {

name: "object A",

say: function(greet) {

document.write(greet + ", " + this.name);

}

}

objA.say("Hi"); // Prints: Hi, object A

document.write("<br>");

var objB = {

name: "object B"

}

/\* The objB doesn't have say() method, but it can borrow it from objA \*/

objA.say.call(objB, "Hello"); // Prints: Hello, object B

* [Apply methods of another object](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=apply-methods)

var objA = {

name: "object A",

say: function(greet) {

document.write(greet + ", " + this.name);

}

}

objA.say("Hi"); // Prints: Hi, object A

document.write("<br>");

var objB = {

name: "object B"

}

/\* The objB doesn't have say() method, but it can borrow it from objA \*/

objA.say.apply(objB, ["Hello"]); // Prints: Hello, object B

* [Apply built in methods](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=apply-built-in-methods)

var numbers = [2, 5, 6, 4, 3, 7];

// Using Math.max apply

var max = Math.max.apply(null, numbers);

document.write(max); // Prints: 7

document.write("<br>");

var min = Math.min.apply(null, numbers);

document.write(min); // Prints: 2

* [Using spread operator instead of apply method](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=using-spread-operator-instead-of-apply-method)

var numbers = [2, 5, 6, 4, 3, 7];

// Using spread operator

var max = Math.max(...numbers);

document.write(max); // Prints: 7

document.write("<br>");

var min = Math.min(...numbers);

document.write(min); // Prints: 2

* [Find max or min value in an array using reduce method](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=find-max-or-min-value-in-an-array-using-reduce-method)

var numbers = [2, 5, 6, 4, 3, 7];

// Using reduce method to find max value

var max = numbers.reduce(function(a, b) {

return Math.max(a, b);

});

document.write(max); // Prints: 7

document.write("<br>");

// Using reduce method to find min value

var min = numbers.reduce(function(a, b) {

return Math.min(a, b);

});

document.write(min); // Prints: 2

**JavaScript Hoisting**

* [Function hoisting in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=function-hoisting)

// Calling function before declaration

sayHello(); // Outputs: Hello, I'm hoisted!

function sayHello() {

document.write("Hello, I'm hoisted!");

}

* [Using a variable before it is declared](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=using-a-variable-before-it-is-declared)

str = "Hello World!";

document.write(str); // Prints: Hello World!

var str;

* [Using a variable before it is initialized](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=using-a-variable-before-it-is-initialized)

document.write(str); // Prints: undefined

var str;

str = "Hello World!";

* [Variable hoisting in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=variable-hoisting)

var i = 1; // Declare and initialize i

document.write(i + ", " + j + "<br>"); // Prints: 1, undefined

var j = 2; // Declare and initialize j

var x = 5; // Declare and initialize x

var y; // Declare y

document.write(x + ", " + y + "<br>"); // Prints: 5, undefined

y = 10; // Initialize y

var a = 3; // Declare and initialize a

b = 6; // Initialize b

document.write(a + ", " + b + "<br>"); // Prints: 3, 6

var b; // Declare b

var u = 4; // Declare and initialize u

document.write(u + ", " + v); // Prints: 4, undefined

var v; // Declare v

v = 8; // Initialize v

**JavaScript Strict Mode**

* [Enable strict mode in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=enable-strict-mode)

"use strict";

// All your code goes here

x = 5; // ReferenceError: x is not defined

console.log(x);

* [Enable strict mode inside the function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=enable-strict-mode-inside-the-function)

x = 5;

console.log(x); // 5

function sayHello() {

"use strict";

str = "Hello World!"; // ReferenceError: str is not defined

console.log(str);

}

sayHello();

* [Cannot assign to undeclared variable in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=cannot-assign-to-undeclared-variable-in-strict-mode)

"use strict";

function doSomething() {

msg = "Hi, there!"; // ReferenceError: msg is not defined

return msg;

}

console.log(doSomething());

* [Cannot delete a variable in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=cannot-delete-a-variable-in-strict-mode)

"use strict";

var person = {name: "Peter", age: 28};

delete person; // SyntaxError

* [Cannot delete a function in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=cannot-delete-a-function-in-strict-mode)

"use strict";

var person = {name: "Peter", age: 28};

delete person; // SyntaxError

* [Duplicate parameter name not allowed in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=duplicate-parameter-name-not-allowed-in-strict-mode)

"use strict";

function square(a, a) { // SyntaxError

return a \* a;

}

console.log(square(2, 2));

* [Eval cannot alter scope in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=eval-cannot-alter-scope-in-strict-mode)

"use strict";

eval("var x = 5;");

console.log(x); // ReferenceError: x is not defined

* [Eval and arguments cannot be used as identifier in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=eval-and-arguments-cannot-be-used-as-identifier-in-strict-mode)

"use strict";

var eval = 10; // SyntaxError

console.log(eval);

* [Strict mode code may not contain with statements](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=strict-mode-code-may-not-contain-with-statements)

"use strict";

// Without with statement

var radius1 = 5;

var area1 = Math.PI \* radius1 \* radius1;

// Using with statement

var radius2 = 5;

with(Math) { // SyntaxError

var area2 = PI \* radius2 \* radius2;

}

* [Cannot assign to read only property of object in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=cannot-assign-to-read-only-property-of-object-in-strict-mode)

"use strict";

var person = {name: "Peter", age: 28};

Object.defineProperty(person, "gender", {value: "male", writable: false});

person.gender = "female"; // TypeError

* [Cannot add property to a non-extensible object in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=cannot-add-property-to-a-non-extensible-object-in-strict-mode)

"use strict";

var person = {name: "Peter", age: 28};

console.log(Object.isExtensible(person)); // true

Object.freeze(person); // lock down the person object

console.log(Object.isExtensible(person)); // false

person.gender = "male"; // TypeError

* [Octal literals are not allowed in strict mode](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=octal-literals-are-not-allowed-in-strict-mode)

"use strict";

var x = 010; // SyntaxError

console.log(parseInt(x));

**JavaScript JSON Parsing**

* [JSON object data structure](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=json-object)

/\* Storing multi-line JSON string in a JS variable

using the new ES6 template literals \*/

var json = `{

"book": {

"name": "Harry Potter and the Goblet of Fire",

"author": "J. K. Rowling",

"year": 2000,

"genre": "Fantasy Fiction",

"bestseller": true

}

}`;

// Converting JSON object to JS object

var obj = JSON.parse(json);

console.log(obj);

* [JSON array data structure](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=json-array)

/\* Storing multi-line JSON string in a JS variable

using the new ES6 template literals \*/

var json = `{

"fruits": [

"Apple",

"Banana",

"Strawberry",

"Mango"

]

}`;

// Converting JSON object to JS object

var obj = JSON.parse(json);

console.log(obj);

* [Convert JSON string to JavaScript object and access individual values](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-json-string-to-js-object-and-access-individual-values)

// Store JSON data in a JS variable

var json = '{"name": "Peter", "age": 22, "country": "United States"}';

// Converting JSON-encoded string to JS object

var obj = JSON.parse(json);

// Accessing individual value from JS object

document.write(obj.name + "<br>"); // Prints: Peter

document.write(obj.age + "<br>"); // Prints: 22

document.write(obj.country); // Prints: United States

* [Parse nested JSON data in JavaScript](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=parse-nested-json-data)

/\* Storing multi-line JSON string in a JS variable

using the new ES6 template literals \*/

var json = `{

"book": {

"name": "Harry Potter and the Goblet of Fire",

"author": "J. K. Rowling",

"year": 2000,

"characters": ["Harry Potter", "Hermione Granger", "Ron Weasley"],

"genre": "Fantasy Fiction",

"price": {

"paperback": "$10.40", "hardcover": "$20.32", "kindle": "$4.11"

}

}

}`;

// Converting JSON object to JS object

var obj = JSON.parse(json);

// Define recursive function to print nested values

function printValues(obj) {

for(var k in obj) {

if(obj[k] instanceof Object) {

printValues(obj[k]);

} else {

document.write(obj[k] + "<br>");

};

}

};

// Printing all the values from the resulting object

printValues(obj);

document.write("<hr>");

// Printing a single value

document.write(obj["book"]["author"] + "<br>"); // Prints: J. K. Rowling

document.write(obj["book"]["characters"][0] + "<br>"); // Prints: Harry Potter

document.write(obj["book"]["price"]["hardcover"]); // Prints: $20.32

* [Convert JavaScript object to JSON string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-js-object-to-json-string)

// Sample JS object

var obj = {"name": "Peter", "age": 22, "country": "United States"};

// Converting JS object to JSON string

var json = JSON.stringify(obj);

document.write(json);

* [Convert JavaScript array to JSON string](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=convert-js-array-to-json-string)

// Sample JS array

var arr = ["Apple", "Banana", "Mango", "Orange", "Papaya"];

// Converting JS array to JSON string

var json = JSON.stringify(arr);

document.write(json);

**JavaScript ES6 Features**

* [ES6 let keyword](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-let-keyword)

<script>

// ES6 syntax

for(let i = 0; i < 5; i++) {

document.write(i + "<br>"); // 0,1,2,3,4

}

document.write("<hr>" + i + "<hr>"); // undefined

// ES5 syntax

for(var i = 0; i < 5; i++) {

document.write(i + "<br>"); // 0,1,2,3,4

}

document.write("<hr>" + i);

</script>

* [ES6 const keyword](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-const-keyword)

const PI = 3.14;

document.write(PI); // 3.14

PI = 10; // error

* [ES6 constants are not truly immutable](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-constants-are-not-truly-immutable)

// Changing object property value

const PERSON = {name: "Peter", age: 28};

document.write(PERSON.age + "<br>"); // 28

PERSON.age = 30;

document.write(PERSON.age + "<hr>"); // 30

// Changing array element

const COLORS = ["red", "green", "blue"];

document.write(COLORS[0] + "<br>"); // red

COLORS[0] = "yellow";

document.write(COLORS[0]); // yellow

* [ES6 for...of loop](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-for-of-loop)

// Iterating over array

let letters = ["a", "b", "c", "d", "e", "f"];

for(let letter of letters) {

document.write(letter + "<br>"); // a,b,c,d,e,f

}

document.write("<hr>");

// Iterating over string

let greet = "Hello World!";

for(let character of greet) {

document.write(character + "<br>"); // H,e,l,l,o, ,W,o,r,l,d,!

}

* [ES6 template literals](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-template-literals)

// Simple multi-line string

let str = `The quick brown fox

jumps over the lazy dog.`;

document.write(`<pre>${str}</pre>`);

// String with embedded variables and expression

let a = 10;

let b = 20;

let result = `The sum of ${a} and ${b} is ${a+b}.`;

document.write(result); // The sum of 10 and 20 is 30.

* [Creating multi line strings in older versions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=creating-multi-line-strings-in-older-versions)

// Multi-line string

var str = 'The quick brown fox\n\t'

+ 'jumps over the lazy dog.';

document.write("<pre>" + str + "</pre>");

// Creating string using variables and expression

var a = 10;

var b = 20;

var result = 'The sum of ' + a + ' and ' + b + ' is ' + (a+b) + '.';

document.write(result); // The sum of 10 and 20 is 30.

* [ES6 function with default parameter values](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-function-with-default-parameter-values)

function sayHello(name='World'){

return `Hello ${name}!`;

}

document.write(sayHello()); // Hello World!

document.write("<br>");

document.write(sayHello('John')); // Hello John!

* [Setting default values for function parameters in older versions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=setting-default-values-for-function-parameters-in-older-versions)

function sayHello(name){

var name = name || 'World';

return 'Hello ' + name + '!';

}

document.write(sayHello()); // Hello World!

document.write("<br>");

document.write(sayHello('John')); // Hello John!

* [ES6 arrow functions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-arrow-functions)

// Function Expression

var sum = function(a, b) {

return a + b;

}

document.write(sum(2, 3)); // 5

document.write("<br>");

// Arrow function

var sum = (a, b) => a + b;

document.write(sum(2, 3)); // 5

* [ES6 arrow function variations](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-arrow-function-variations)

// Single parameter, single statement

var greet = name => document.write("Hi " + name + "!");

greet("Peter"); // Hi Peter!

document.write("<br>");

// Multiple arguments, single statement

var multiply = (x, y) => x \* y;

document.write(multiply(2, 3)); // 6

document.write("<br>");

// Single parameter, multiple statements

var test = age => {

if(age > 18) {

document.write("Adult");

} else {

document.write("Teenager");

}

}

test(21); // Adult

document.write("<br>");

// Multiple parameters, multiple statements

var divide = (x, y) => {

if(y != 0) {

return x / y;

}

}

document.write(divide(10, 2)); // 5

document.write("<br>");

// No parameter, single statement

var hello = () => document.write('Hello World!');

hello(); // Hello World!

* [The this keyword value inside a simple function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=this-keyword-value-inside-a-simple-function)

function Person(nickname, country) {

this.nickname = nickname;

this.country = country;

this.getInfo = function() {

// Outer function context (Person object)

return function() {

// Inner function context (Global object 'Window')

document.write(this.constructor.name); // Window

document.write("<p>Hi, I'm " + this.nickname + " from " + this.country + "</p>");

};

}

}

var p = new Person('Rick', 'Argentina');

var printInfo = p.getInfo();

printInfo(); // Hi, I'm undefined from undefined

* [The this keyword value inside an arrow function](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=this-keyword-value-inside-an-arrow-function)

function Person(nickname, country) {

this.nickname = nickname;

this.country = country;

this.getInfo = function() {

// Outer function context (Person object)

return () => {

// Inner function context (Person object)

document.write(this.constructor.name); // Person

document.write(`<p>Hi, I'm ${this.nickname} from ${this.country}</p>`);

};

}

}

let p = new Person('Rick', 'Argentina');

let printInfo = p.getInfo();

printInfo(); // Hi, I'm Rick from Argentina

* [ES6 class declaration](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-classes)

class Rectangle {

// Class constructor

constructor(length, width) {

this.length = length;

this.width = width;

}

// Class method

getArea() {

return this.length \* this.width;

}

}

// Square class inherits from the Rectangle class

class Square extends Rectangle {

// Child class constructor

constructor(length) {

// Call parent's constructor

super(length, length);

}

// Child class method

getPerimeter() {

return 2 \* (this.length + this.width);

}

}

let rectangle = new Rectangle(5, 10);

document.write(rectangle.getArea()); // 50

document.write("<br>");

let square = new Square(5);

document.write(square.getArea()); // 25

document.write("<br>");

document.write(square.getPerimeter()); // 20

document.write("<br>");

document.write(square instanceof Square); // true

document.write("<br>");

document.write(square instanceof Rectangle); // true

document.write("<br>");

document.write(rectangle instanceof Square); // false

* [ES6 module system](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-modules)
* **main.js**

let greet = "Hello World!";

const PI = 3.14;

function multiplyNumbers(a, b) {

return a \* b;

}

// Exporting variables and functions

export { greet, PI, multiplyNumbers };

* **app.js**

import { greet, PI, multiplyNumbers } from '/examples/js/main.js';

alert(greet); // Hello World!

alert(PI); // 3.14

alert(multiplyNumbers(6, 15)); // 90

* [ES6 rest parameter](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-rest-parameter)

<script>

function sortNames(...names) {

return names.sort();

}

document.write(sortNames("Sarah", "Harry", "Peter")); // Harry,Peter,Sarah

document.write("<br>");

document.write(sortNames("Tony", "Ben", "Rick", "Jos")); // John,Jos,Rick,Tony

</script>

* [ES6 get extra function arguments with rest parameter](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-get-extra-function-arguments-with-rest-parameter)

function myFunction(a, b, ...args) {

return args;

}

document.write(myFunction(1, 2, 3, 4, 5)); // 3,4,5

document.write("<br>");

document.write(myFunction(-7, 5, 0, -2, 4.5, 1, 3)); // 0,-2,4.5,1,3

* [ES6 spread operator](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-spread-operator)

function addNumbers(a, b, c) {

return a + b + c;

}

let numbers = [5, 12, 8];

// ES5 way of passing array as an argument of a function

document.write(addNumbers.apply(null, numbers)); // 25

document.write("<br>");

// ES6 spread operator

document.write(addNumbers(...numbers)); // 25

* [ES6 insert array elements into another array using spread operator](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-insert-array-elements-into-another-array-using-spread-operator)

let pets = ["Cat", "Dog", "Parrot"];

let bugs = ["Ant", "Bee"];

// Creating an array by inserting elements from other arrays

let animals = [...pets, "Tiger", "Wolf", "Zebra", ...bugs];

document.write(animals); // Cat,Dog,Parrot,Tiger,Wolf,Zebra,Ant,Bee

* [Accessing individual array elements in older versions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=accessing-individual-array-elements-in-older-versions)

// ES5 syntax

var fruits = ["Apple", "Banana"];

var a = fruits[0];

var b = fruits[1];

document.write(a); // Apple

document.write("<br>");

document.write(b); // Banana

* [ES6 array destructuring assignment](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-array-destructuring-assignment)

// ES6 syntax

let fruits = ["Apple", "Banana"];

let [a, b] = fruits; // Array destructuring assignment

document.write(a); // Apple

document.write("<br>");

document.write(b); // Banana

* [ES6 using rest operator in array destructuring assignment](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-using-rest-operator-in-array-destructuring-assignment)

// ES6 syntax

let fruits = ["Apple", "Banana", "Mango"];

let [a, ...r] = fruits;

document.write(a); // Apple

document.write("<br>");

document.write(r); // Banana,Mango

document.write("<br>");

document.write(Array.isArray(r)); // true

* [Accessing object property values in older versions](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=accessing-object-property-values-in-older-versions)

// ES5 syntax

var person = {name: "Peter", age: 28};

var name = person.name;

var age = person.age;

document.write(name); // Peter

document.write("<br>");

document.write(age); // 28

* [ES6 object destructuring assignment](https://www.tutorialrepublic.com/codelab.php?topic=javascript&file=es6-object-destructuring-assignment)

// ES6 syntax

let person = {name: "Peter", age: 28};

let {name, age} = person; // Object destructuring assignment

document.write(name); // Peter

document.write("<br>");

document.write(age); // 28

## jQuery Basic

* [Including jQuery in HTML document](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=including-jquery-in-html-page)
* [Display "Hello World" message using jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=document-ready-demo)

$(document).ready(function(){

$("p").text("Hello World!");

});

* [Standard syntax of jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=document-ready-syntax)

$(document).ready(function(){

// Some code to be executed...

alert("Hello World!");

});

* [Shorthand syntax of jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=shorthand-syntax-of-document-ready-event)

$(document).ready(function(){

// Some code to be executed...

alert("Hello World!");

});

* [Change text color of the elements using jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=simple-jquery-powered-web-page)

$(document).ready(function(){

$("h1").css("color", "#0088ff");

});

* [Change text contents of the elements on button click using jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=simple-jquery-powered-web-page)

$(document).ready(function(){

$("h1").css("color", "#0088ff");

});

## jQuery Selectors

* [Selecting an element by ID in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=id-selector)

$(document).ready(function(){

// Highlight element with id mark

$("#mark").css("background", "yellow");

});

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

<p>This is another paragraph.</p>

<p>This is one more paragraph.</p>

* [Selecting elements by class name in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=class-selector)

$(document).ready(function(){

// Highlight elements with class mark

$(".mark").css("background", "yellow");

});

<p class="mark">This is a paragraph.</p>

<p class="mark">This is another paragraph.</p>

<p>This is one more paragraph.</p>

* [Selecting elements by element name in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=element-selector)

$(document).ready(function(){

// Highlight paragraph elements

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

});

<h1>This is heading</h1>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

<div>This is another block of text.</div>

* [Selecting elements by attribute in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=attribute-selector)

$(document).ready(function(){

// Highlight paragraph elements

$('input[type="text"]').css("background", "yellow");

});

<form>

<label>Name: <input type="text"></label>

<label>Password: <input type="password"></label>

<input type="submit" value="Sign In">

</form>

* [Selecting elements by compound CSS selector in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=compound-selector)

$(document).ready(function(){

// Highlight only paragraph elements with class mark

$("p.mark").css("background", "yellow");

// Highlight only span elements inside the element with ID mark

$("#mark span").css("background", "yellow");

// Highlight li elements inside the ul elements

$("ul li").css("background", "yellow");

// Highlight li elements only inside the ul element with id mark

$("ul#mark li").css("background", "red");

// Highlight li elements inside all the ul element with class mark

$("ul.mark li").css("background", "green");

// Highlight all anchor elements with target blank

$('a[target="\_blank"]').css("background", "yellow");

});

<p>This is a paragraph.</p>

<p class="mark">This is another paragraph.</p>

<p>This is one more paragraph.</p>

<ul>

<li>List item one</li>

<li>List item two</li>

<li>List item three</li>

</ul>

<ul id="mark">

<li>List item one</li>

<li>List <span>item two</span></li>

<li>List item three</li>

</ul>

<ul class="mark">

<li>List item one</li>

<li>List item two</li>

<li>List item three</li>

</ul>

<p>Go to <a href="https://www.tutorialrepublic.com/" target="\_blank">Home page</a></p>

* [Selecting elements by jQuery custom selector](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=custom-selector)

## $(document).ready(function(){

## // Highlight table ro

## ws appearing at odd places

## $("tr:odd").css("background", "yellow");

## 

## // Highlight table rows appearing at even places

## $("tr:even").css("background", "orange");

## 

## // Highlight first paragraph element

## $("p:first").css("background", "red");

## 

## // Highlight last paragraph element

## $("p:last").css("background", "green");

## 

## // Highlight all input elements with type text inside a form

## $("form :text").css("background", "purple");

## 

## // Highlight all input elements with type password inside a form

## $("form :password").css("background", "blue");

## 

## // Highlight all input elements with type submit inside a form

## $("form :submit").css("background", "violet");

## });

## <table border="1">

## <thead>

## <tr>

## <th>No.</th>

## <th>Name</th>

## <th>Email</th>

## </tr>

## </thead>

## <tbody>

## <tr>

## <td>1</td>

## <td>John Carter</td>

## <td>johncarter@mail.com</td>

## </tr>

## <tr>

## <td>2</td>

## <td>Peter Parker</td>

## <td>peterparker@mail.com</td>

## </tr>

## <tr>

## <td>3</td>

## <td>John Rambo</td>

## <td>johnrambo@mail.com</td>

## </tr>

## </tbody>

## </table>

## <p>This is a paragraph.</p>

## <p>This is another paragraph.</p>

## <p>This is one more paragraph.</p>

## <form>

## <label>Name: <input type="text"></label>

## <label>Password: <input type="password"></label>

## <input type="submit" value="Sign In">

## </form>

## jQuery Events

* [Run code on document ready event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-ready-event)
* $(document).ready(function(){
* $("p").text("The DOM is now loaded and can be manipulated.");
* });
* [Run code on click event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-click-event)

$(document).ready(function(){

$("p").click(function(){

$(this).slideUp();

});

});

<p>Click on me and I'll disappear.</p>

<p>Click on me and I'll disappear.</p>

* [Run code on double-click event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-double-click-event)

$(document).ready(function(){

$("p").dblclick(function(){

$(this).slideUp();

});

});

<p>Double-click on me and I'll disappear.</p>

<p>Double-click on me and I'll disappear.</p>

* [Run code on hover event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-hover-event)

$(document).ready(function(){

$("p").hover(function(){

$(this).addClass("highlight");

}, function(){

$(this).removeClass("highlight");

});

});

<p>Place mouse pointer on me.</p>

<p>Place mouse pointer on me.</p>

* [Run code on mouseenter event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-mouseenter-event)

$(document).ready(function(){

$("p").mouseenter(function(){

$(this).addClass("highlight");

});

$("p").mouseleave(function(){

$(this).removeClass("highlight");

});

});

<p>Place mouse pointer on me.</p>

<p>Place mouse pointer on me.</p>

* [Run code on mouseleave event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-mouseleave-event)

$(document).ready(function(){

$("p").mouseenter(function(){

$(this).addClass("highlight");

});

$("p").mouseleave(function(){

$(this).removeClass("highlight");

});

});

<p>Place mouse pointer on me.</p>

<p>Place mouse pointer on me.</p>

* [Run code on keypress event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-keypress-event)

$(document).ready(function(){

var i = 0;

$('input[type="text"]').keypress(function(){

$("span").text(i += 1);

$("p").show().fadeOut();

});

});

<input type="text">

<div>Keypress: <span>0</span></div>

* [Run code on keydown event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-keydown-event)

$(document).ready(function(){

var i = 0;

$('input[type="text"]').keydown(function(){

$("span").text(i += 1);

$("p").show().fadeOut();

});

});

<input type="text">

<div>Keydown: <span>0</span></div>

* [Run code on keyup event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-keyup-event)

$(document).ready(function(){

var i = 0;

$('input[type="text"]').keyup(function(){

$("span").text(i += 1);

$("p").show().fadeOut();

});

});

<input type="text">

<div>Keyup: <span>0</span></div>

* [Run code on change event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-change-event)

$(document).ready(function(){

$("select").change(function(){

var selectedOption = $(this).find(":selected").val();

alert("You have selected - " + selectedOption);

});

});

<form>

<label>City:</label>

<select>

<option>London</option>

<option>Paris</option>

<option>New York</option>

</select>

</form>

* [Run code on focus event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-focus-event)

$(document).ready(function(){

$("input").focus(function(){

$(this).next("span").show().fadeOut("slow");

});

});

<form>

<label>Email: <input type="text"> <span>focus fire</span></label>

<label>Password: <input type="password"> <span>focus fire</span></label>

<label><input type="submit" value="Sign In"> <span>focus fire</span></label>

</form>

* [Run code on blur event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-blur-event)

$(document).ready(function(){

$("input").blur(function(){

$(this).next("span").show().fadeOut("slow");

});

});

<form>

<label>Email: <input type="text"> <span>blur fire</span></label>

<label>Password: <input type="password"> <span>blur fire</span></label>

<label><input type="submit" value="Sign In"> <span>blur fire</span></label>

</form>

* [Run code on submit event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-submit-event)

$(document).ready(function(){

$("form").submit(function(event){

var regex = /^[a-zA-Z]+$/;

var currentValue = $("#firstName").val();

if(regex.test(currentValue) == false){

$("#result").html('<p class="error">Not valid!</p>').show().fadeOut(1000);

// Preventing form submission

event.preventDefault();

}

});

});

<form action="/examples/html/action.php" method="post" id="users">

<label for="firstName">First Name:</label>

<input type="text" name="first-name" id="firstName">

<input type="submit" value="Submit">

<div id="result"></div>

</form>

* [Run code on resize event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-resize-event)

$(document).ready(function(){

$(window).resize(function() {

$(window).bind("resize", function(){

$("p").text("Window width: " + $(window).width() + ", " + "Window height: " + $(window).height());

});

});

});

<p>Open the output in a new tab and resize the browser window by dragging the corners.</p>

* [Run code on scroll event in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-a-function-on-scroll-event)

## <style>

## p{

## width: 100%;

## padding: 50px 0;

## text-align: center;

## font: bold 34px sans-serif;

## background: #f0e68c;

## position: fixed;

## top: 50px;

## display: none;

## }

## .dummy-content{

## height: 600px;

## font: 34px sans-serif;

## text-align: center;

## }

## </style>

## <script>

## $(document).ready(function(){

## $(window).scroll(function() {

## $("p").show().fadeOut("slow");

## });

## });

## <p>Scroll Happened!</p>

## <div class="dummy-content">Scroll the viewport.</div>

## <div class="dummy-content">Scroll the viewport.</div>

## <div class="dummy-content">Scroll the viewport.</div>

## <div class="dummy-content">Scroll the viewport.</div>

## <div class="dummy-content">Scroll the viewport.</div>

## </script>

## jQuery Show and Hide Effects

* [Creating a simple show hide effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=show-hide-effects)

$(document).ready(function(){

// Hide displayed paragraphs

$(".hide-btn").click(function(){

$("p").hide();

});

// Show hidden paragraphs

$(".show-btn").click(function(){

$("p").show();

});

});

<button type="button" class="hide-btn">Hide Paragraphs</button>

<button type="button" class="show-btn">Show Paragraphs</button>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

* [Creating animated show hide effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=animated-show-hide-effects)

$(document).ready(function(){

// Hide displayed paragraphs with different speeds

$(".hide-btn").click(function(){

$("p.normal").hide();

$("p.fast").hide("fast");

$("p.slow").hide("slow");

$("p.very-fast").hide(50);

$("p.very-slow").hide(2000);

});

// Show hidden paragraphs with different speeds

$(".show-btn").click(function(){

$("p.normal").show();

$("p.fast").show("fast");

$("p.slow").show("slow");

$("p.very-fast").show(50);

$("p.very-slow").show(2000);

});

});

* [Creating simple toggle effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=toggle-effect)

$(document).ready(function(){

// Toggles paragraphs display

$(".toggle-btn").click(function(){

$("p").toggle();

});

});

<button type="button" class="toggle-btn">Toggle Paragraphs</button>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

* [Creating animated toggle effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=animated-toggle-effect)

$(document).ready(function(){

// Toggles paragraphs with different speeds

$(".toggle-btn").click(function(){

$("p.normal").toggle();

$("p.fast").toggle("fast");

$("p.slow").toggle("slow");

$("p.very-fast").toggle(50);

$("p.very-slow").toggle(2000);

});

});

<button type="button" class="toggle-btn">Toggle Paragraphs</button>

<p class="very-fast">This paragraph will show/hide with very fast speed.</p>

<p class="normal">This paragraph will show/hide with default speed.</p>

<p class="fast">This paragraph will show/hide with fast speed.</p>

<p class="slow">This paragraph will show/hide with slow speed.</p>

<p class="very-slow">This paragraph will show/hide with very slow speed.</p>

## jQuery Fading Effects

* [Creating fade-in and fade-out effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=fade-in-and-out-effects)

$(document).ready(function(){

// Fadeing out displayed paragraphs

$(".out-btn").click(function(){

$("p").fadeOut();

});

// Fading in hidden paragraphs

$(".in-btn").click(function(){

$("p").fadeIn();

});

});

<button type="button" class="out-btn">Fade Out Paragraphs</button>

<button type="button" class="in-btn">Fade In Paragraphs</button>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

* [Setting the duration of fading effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-the-duration-of-fade-in-and-out-effects)

<script>

$(document).ready(function(){

// Fading out displayed paragraphs with different speeds

$(".out-btn").click(function(){

$("p.normal").fadeOut();

$("p.fast").fadeOut("fast");

$("p.slow").fadeOut("slow");

$("p.very-fast").fadeOut(50);

$("p.very-slow").fadeOut(2000);

});

// Fading in hidden paragraphs with different speeds

$(".in-btn").click(function(){

$("p.normal").fadeIn();

$("p.fast").fadeIn("fast");

$("p.slow").fadeIn("slow");

$("p.very-fast").fadeIn(50);

$("p.very-slow").fadeIn(2000);

});

});

</script>

<body>

<button type="button" class="out-btn">Fade Out Paragraphs</button>

<button type="button" class="in-btn">Fade In Paragraphs</button>

<p class="very-fast">This paragraph will fade in/out with very fast speed.</p>

<p class="normal">This paragraph will fade in/out with default speed.</p>

<p class="fast">This paragraph will fade in/out with fast speed.</p>

<p class="slow">This paragraph will fade in/out with slow speed.</p>

<p class="very-slow">This paragraph will fade in/out with very slow speed.</p>

</body>

* [Creating fade toggle effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=fade-toggle-effect)

$(document).ready(function(){

// Toggles paragraphs display with fading

$(".toggle-btn").click(function(){

$("p").fadeToggle();

});

});

<button type="button" class="toggle-btn">Fade Toggle Paragraphs</button>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

* [Setting the duration of fade toggle effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-the-duration-of-fade-toggle-effect)

$(document).ready(function(){

// Fade Toggles paragraphs with different speeds

$(".toggle-btn").click(function(){

$("p.normal").fadeToggle();

$("p.fast").fadeToggle("fast");

$("p.slow").fadeToggle("slow");

$("p.very-fast").fadeToggle(50);

$("p.very-slow").fadeToggle(2000);

});

});

<button type="button" class="toggle-btn">Fade Toggle Paragraphs</button>

<p class="very-fast">This paragraph will fade in/out with very fast speed.</p>

<p class="normal">This paragraph will fade in/out with default speed.</p>

<p class="fast">This paragraph will fade in/out with fast speed.</p>

<p class="slow">This paragraph will fade in/out with slow speed.</p>

<p class="very-slow">This paragraph will fade in/out with very slow speed.</p>

* [Fading elements to a certain opacity in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=fade-to-effect)

$(document).ready(function(){

// Fade to paragraphs with different opacity

$(".to-btn").click(function(){

$("p.none").fadeTo("fast", 0);

$("p.partial").fadeTo("slow", 0.5);

$("p.complete").fadeTo(2000, 1);

});

});

<button type="button" class="to-btn">Fade To Hidden Paragraphs</button>

<p class="none">This is a paragraph.</p>

<p class="partial">This is another paragraph.</p>

<p class="complete">This is one more paragraph.</p>

## jQuery Sliding Effects

* [Creating slide-up and slide-down effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=slide-up-and-down-effects)

$(document).ready(function(){

// Slide up displayed paragraphs

$(".up-btn").click(function(){

$("p").slideUp();

});

// Slide down hidden paragraphs

$(".down-btn").click(function(){

$("p").slideDown();

});

});

<button type="button" class="up-btn">Slide Up Paragraphs</button>

<button type="button" class="down-btn">Slide Down Paragraphs</button>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

* [Setting the duration of sliding effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-the-duration-of-slide-up-and-down-effects)

$(document).ready(function(){

// Sliding up displayed paragraphs with different speeds

$(".up-btn").click(function(){

$("p.normal").slideUp();

$("p.fast").slideUp("fast");

$("p.slow").slideUp("slow");

$("p.very-fast").slideUp(50);

$("p.very-slow").slideUp(2000);

});

// Sliding down hidden paragraphs with different speeds

$(".down-btn").click(function(){

$("p.normal").slideDown();

$("p.fast").slideDown("fast");

$("p.slow").slideDown("slow");

$("p.very-fast").slideDown(50);

$("p.very-slow").slideDown(2000);

});

});

<button type="button" class="up-btn">Slide Up Paragraphs</button>

<button type="button" class="down-btn">Slide Down Paragraphs</button>

<p class="very-fast">This paragraph will fade in/out with very fast speed.</p>

<p class="normal">This paragraph will fade in/out with default speed.</p>

<p class="fast">This paragraph will fade in/out with fast speed.</p>

<p class="slow">This paragraph will fade in/out with slow speed.</p>

<p class="very-slow">This paragraph will fade in/out with very slow speed.</p>

* [Creating slide toggle effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=slide-toggle-effect)

$(document).ready(function(){

// Toggles paragraphs display with sliding

$(".toggle-btn").click(function(){

$("p").slideToggle();

});

});

<button type="button" class="toggle-btn">Slide Toggle Paragraphs</button>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

* [Setting the duration of slide toggle effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-the-duration-of-slide-toggle-effect)

$(document).ready(function(){

// Slide Toggles paragraphs with different speeds

$(".toggle-btn").click(function(){

$("p.normal").slideToggle();

$("p.fast").slideToggle("fast");

$("p.slow").slideToggle("slow");

$("p.very-fast").slideToggle(50);

$("p.very-slow").slideToggle(2000);

});

});

<button type="button" class="toggle-btn">Fade Toggle Paragraphs</button>

<p class="very-fast">This paragraph will slide up/down with very fast speed.</p>

<p class="normal">This paragraph will slide up/down with default speed.</p>

<p class="fast">This paragraph will slide up/down with fast speed.</p>

<p class="slow">This paragraph will slide up/down with slow speed.</p>

<p class="very-slow">This paragraph will slide up/down with very slow speed.</p>

## jQuery Animation Effects

* [Creating animation effect in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=animation)

$(document).ready(function(){

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

$("img").animate({

left: 300

});

});

});

<button type="button">Start Animation</button>

<p>

<img src="/examples/images/mushroom.jpg" alt="Mushroom">

</p>

* [Animate multiple CSS properties in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=animate-multiple-css-properties)

$(document).ready(function(){

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

$(".box").animate({

width: "300px",

height: "300px",

marginLeft: "150px",

borderWidth: "10px",

opacity: 0.5

});

});

});

<button type="button">Start Animation</button>

<div class="box"></div>

* [Animate multiple CSS properties only by one in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=queued-animation)

$(document).ready(function(){

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

$(".box")

.animate({width: "300px"})

.animate({height: "300px"})

.animate({marginLeft: "150px"})

.animate({borderWidth: "10px"})

.animate({opacity: 0.5});

});

});

<button type="button">Start Animation</button>

<div class="box"></div>

* [Animate CSS property using relative values in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=animate-css-property-with-relative-values)

$(document).ready(function(){

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

$(".box").animate({

top: "+=50px",

left: "+=50px",

width: "+=50px",

height: "+=50px"

});

});

});

<button type="button">Start Animation</button>

<p><strong>Note:</strong> Click the "Start Animation" button multiple times to see how the relative value works.</p>

<div class="box"></div>

* [Animate CSS property with predefined values in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=animate-css-property-with-pre-defined-values)

$(document).ready(function(){

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

$(".box").animate({

width: 'toggle'

});

});

});

<button type="button">Toggle Animation</button>

<div class="box"></div>

## jQuery Chaining

* [Method chaining in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=method-chaining)

$(document).ready(function(){

$(".start").click(function(){

$("p").animate({width: "100%"}).animate({fontSize: "46px"}).animate({borderWidth: 30});

});

$(".reset").click(function(){

$("p").removeAttr("style");

});

});

<p>Hello World!</p>

<button type="button" class="start">Start Chaining</button>

<button type="button" class="reset">Reset</button>

* [Breaking method chaining code in multiple line in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=breaking-method-chaining-code-in-multiple-lines)

$(document).ready(function(){

$(".start").click(function(){

$("p")

.animate({width: "100%"})

.animate({fontSize: "46px"})

.animate({borderWidth: 30});

});

$(".reset").click(function(){

$("p").removeAttr("style");

});

});

<p>Hello World!</p>

<button type="button" class="start">Start Chaining</button>

<button type="button" class="reset">Reset</button>

* [Exceptions method chaining in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=method-chaining-exceptions)

$(document).ready(function(){

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

// This will work

$("h1").html("Hello World!").addClass("test").fadeOut(1000);

// This will NOT work

$("p").html().addClass("test");

});

});

<h1>This is a heading</h1>

<p>This is a paragraph.</p>

<button type="button">Start Chaining</button>

## jQuery Callback

* [jQuery effect method without a callback function](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=method-without-callback)

$(document).ready(function(){

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

$("p").slideToggle("slow");

alert("The slide toggle effect has completed.");

});

});

<p>This is paragraph.</p>

<button type="button">Click me</button>

* [jQuery effect method with a callback function](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=method-with-callback)

$(document).ready(function(){

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

$("p").slideToggle("slow", function(){

alert("The slide toggle effect has completed.");

});

});

});

<p>This is paragraph.</p>

<button type="button">Click me</button>

* [Executing callback multiple times in jQuery](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=callback-executed-multiple-times)

$(document).ready(function(){

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

$("h1, p").slideToggle("slow", function(){

alert("The slide toggle effect has completed.");

});

});

});

<h1>This is heading</h1>

<p>This is paragraph.</p>

<button type="button">Click me</button>

## jQuery Get & Set Contents

* [jQuery get text contents of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-text-contents-of-an-element)

$(document).ready(function(){

$(".btn-one").click(function(){

var str = $("p").text();

alert(str);

});

$(".btn-two").click(function(){

var str = $("p:first").text();

alert(str);

});

$(".btn-three").click(function(){

var str = $("p.extra").text();

alert(str);

});

});

<button type="button" class="btn-one">Get All Paragraph's Text</button>

<button type="button" class="btn-two">Get First Paragraph's Text</button>

<button type="button" class="btn-three">Get Last Paragraph's Text</button>

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

<p class="extra">This is one more paragraph.</p>

* [jQuery set text contents of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-text-contents-of-elements)

$(document).ready(function(){

$(".btn-one").click(function(){

$("p").text("This is demo text.");

});

$(".btn-two").click(function(){

$("p:first").text("This is another demo text.");

});

$(".btn-three").click(function(){

$("p.empty").text("This is one more demo text.");

});

});

<button type="button" class="btn-one">Set All Paragraph's Text</button>

<button type="button" class="btn-two">Set First Paragraph's Text</button>

<button type="button" class="btn-three">Set Empty Paragraph's Text</button>

<p>This is a test paragraph.</p>

<p>This is another test paragraph.</p>

<p class="empty"></p>

* [jQuery get HTML contents of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-html-contents-of-an-element)

$(document).ready(function(){

$(".btn-one").click(function(){

var str = $("p").html();

alert(str);

});

$(".btn-two").click(function(){

var str = $("#container").html();

alert(str);

});

});

<button type="button" class="btn-one">Get Paragraph's HTML Contents</button>

<button type="button" class="btn-two">Get Container's HTML Contents</button>

<div id="container">

<h1>Hello World!</h1>

<p>The quick <b>brown fox</b> jumps over the lazy dog.</p>

</div>

* [jQuery set HTML contents of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-html-contents-of-elements)

$(document).ready(function(){

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

$("body").html("<p>Hello World!</p>");

});

});

<button type="button">Write Message</button>

* [jQuery get value an attribute of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-attribute-value-of-an-element)

$(document).ready(function(){

$(".btn-one").click(function(){

var str = $("a").attr("href");

alert(str);

});

$(".btn-two").click(function(){

var str = $("img#sky").attr("alt");

alert(str);

});

});

<button type="button" class="btn-one">Get Link's HREF Attribute</button>

<button type="button" class="btn-two">Get Image ALT Attribute</button>

<p><a href="https://www.tutorialrepublic.com/">Tutorial Republic</a></p>

<img id="sky" src="/examples/images/sky.jpg" alt="Cloudy Sky">

* [jQuery set an attribute for the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-an-attribute-for-elements)

$(document).ready(function(){

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

$('input[type="checkbox"]').attr("checked", "checked");

});

});

<p><label><input type="checkbox"></label> I agree with terms and conditions.</p>

<button type="button">Check</button>

* [jQuery set multiple attributes for the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-multiple-attributes-for-elements)

$(document).ready(function(){

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

$("img").attr({

"class" : "frame",

"title" : "Hot Air Balloons"

});

});

});

<button type="button">Set Attributes for Image</button>

<p>

<img src="/examples/images/balloons.jpg" alt="Hot Air Balloons">

</p>

* [jQuery get the value of a form element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-a-form-field-value)

$(document).ready(function(){

$("button.get-name").click(function(){

var name = $("#name").val();

alert(name);

});

$("button.get-comment").click(function(){

var comment = $("#comment").val();

alert(comment);

});

$("button.get-city").click(function(){

var city = $("#city").val();

alert(city);

});

});

<form>

<table>

<tr>

<td>Name:</td>

<td>

<input type="text" id="name">

</td>

</tr>

<tr>

<td>Comments:</td>

<td>

<textarea rows="4" cols="30" id="comment"></textarea>

</td>

</tr>

<tr>

<td>City:</td>

<td>

<select id="city">

<option>London</option>

<option>Paris</option>

<option>New York</option>

</select>

</td>

</tr>

</table>

</form>

<p><strong>Note:</strong> Fill the above form and click the following button to get the value.</p>

<button type="button" class="get-name">Get Name</button>

<button type="button" class="get-comment">Get Comment</button>

<button type="button" class="get-city">Get City</button>

* [jQuery set the values of the form elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-form-fields-values)

$(document).ready(function(){

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

var text = $(this).text();

$('input[type="text"]').val(text);

});

});

<button type="button">Discovery</button>

<button type="button">Atlantis</button>

<button type="button">Endeavour</button>

<p><strong>Note:</strong> Click the above buttons to set the value of following input box.</p>

<p>

<input type="text">

</p>

## jQuery Insert Content

* [jQuery insert HTML at the end of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=insert-html-at-the-end-of-an-element)

$(document).ready(function(){

// Append all paragraphs on document ready

$("p").append(' <a href="#">read more...</a>');

// Append a div container on button click

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

$("#container").append("This is demo text.");

});

});

<button type="button">Insert Text</button>

<div id="container">

<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam eu sem tempor, varius quam at, luctus dui. Mauris magna metus, dapibus nec turpis vel, semper malesuada ante.</p>

</div>

* [jQuery insert HTML at the beginning of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=insert-html-at-the-start-of-an-element)

$(document).ready(function(){

// Prepend all paragraphs on document ready

$("p").prepend("<strong>Note:</strong> ");

// Prepend a div container on button click

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

$("#container").prepend("This is demo text.");

});

});

<button type="button">Insert Text</button>

<div id="container">

<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam eu sem tempor, varius quam at, luctus dui. Mauris magna metus, dapibus nec turpis vel, semper malesuada ante.</p>

</div>

* [jQuery multiple HTML elements at the beginning or end of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=append-or-prepend-multiple-elements-at-once)

$(document).ready(function(){

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

var newHeading = "<h1>Important Note:</h1>";

var newParagraph = document.createElement("p");

newParagraph.innerHTML = "<em>Lorem Ipsum is dummy text...</em>";

var newImage = $('<img src="/examples/images/smiley.png" alt="Symbol">');

$("body").append(newHeading, newParagraph, newImage);

});

});

<button type="button">Insert Contents</button>

<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam eu sem tempor, varius quam at, luctus dui. Mauris magna metus, dapibus nec turpis vel, semper malesuada ante, metus ac nisl bibendum.</p>

* [jQuery insert HTML before and after the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=insert-html-before-and-after-an-element)

$(document).ready(function(){

// Add content after a div container on document ready

$("#container").after("<p>&mdash; The End &mdash;</p>");

// Add content before a div container on document ready

$("#container").before("<p>&mdash; Demo Text &mdash;</p>");

// Add content after heading on button click

$("button.insert-after").click(function(){

$("h1").after('<img src="/examples/images/marker-right.gif" alt="Symbol">');

});

// Add content before heading on button click

$("button.insert-before").click(function(){

$("h1").before('<img src="/examples/images/marker-left.gif" alt="Symbol">');

});

});

<h1>Hello World</h1>

<hr>

<button type="button" class="insert-before">Insert Before</button>

<button type="button" class="insert-after">Insert After</button>

* [jQuery insert multiple HTML elements before and after the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=insert-multiple-elements-before-and-after-an-element)

$(document).ready(function(){

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

var newHeading = "<h2>Important Note:</h2>";

var newParagraph = document.createElement("p");

newParagraph.innerHTML = "<em>Lorem Ipsum is dummy text...</em>";

var newImage = $('<img src="/examples/images/smiley.png" alt="Symbol">');

$("p").before(newHeading, newParagraph, newImage);

});

});

<button type="button">Insert Contents</button>

* [jQuery wrap HTML around the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=wrap-html-around-an-element)

$(document).ready(function(){

// Wrap div container with another div on document ready

$(".container").wrap('<div class="wrapper"></div>');

// Wrap paragraph's content on button click

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

$("p").contents().wrap("<em><b></b></em>");

});

});

</script>

<style>

.wrapper{

padding: 20px;

background: #f0e68c;

margin: 10px 0;

}

.container{

padding: 15px;

background: #fff;

font-size: 24px;

}

<button type="button">Wrap Demo Text</button>

<div class="container">

<p>This is demo text.</p>

</div>

## jQuery Remove Elements & Attribute

* [jQuery remove the contents of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=remove-the-contents-of-an-element)

$(document).ready(function(){

// Empty container div on button click

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

$(".container").empty();

});

});

<div class="container">

<h1>Hello World!</h1>

<p class="hint"><strong>Note:</strong> If you click the following button it will remove all the contents of the container div including the button.</p>

<button type="button">Empty Container</button>

</div>

* [jQuery remove the HTML elements from the page](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=remove-the-elements-from-dom)

$(document).ready(function(){

// Removes paragraphs with class "hint" from DOM on button click

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

$("p.hint").remove();

});

});

<div class="container">

<h1>Hello World!</h1>

<p class="hint"><strong>Note:</strong> If you click the following button it will remove this paragraph.</p>

<button type="button">Remove Hint Paragraph</button>

</div>

* [jQuery remove the parent element of an HTML element from the page](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=remove-the-parents-of-the-elements-from-dom)

$(document).ready(function(){

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

$("h1").removeClass();

$("p").removeClass();

});

});

<h1 class="page-header">Demo Text</h1>

<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit...</p>

<p class="hint highlight"><strong>Tip:</strong> Lorem Ipsum is dummy text.</p>

<button type="button">Remove Class</button>

* [jQuery remove an attribute from the HTML elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=remove-an-attribute-from-the-elements)

$(document).ready(function(){

// Removes the hyperlink's href attribute on button click

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

$("a").removeAttr("href");

});

});

<div class="container">

<p>

<a href="https://www.tutorialrepublic.com/">Home</a>

<a href="https://www.tutorialrepublic.com/about-us.php">About</a>

<a href="https://www.tutorialrepublic.com/contact-us.php">Contact</a>

</p>

<button type="button">Remove Attribute</button> </div>

## jQuery Add and Remove CSS Classes

* [jQuery add a CSS class to the HTML elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=add-a-single-class-to-the-elements)

$(document).ready(function(){

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

$("h1").addClass("page-header");

$("p.hint").addClass("highlight");

});

});

<h1>Demo Text</h1>

<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit...</p>

<p class="hint"><strong>Tip:</strong> Lorem Ipsum is dummy text.</p>

<button type="button">Add Class</button>

* [jQuery add multiple CSS classes to the HTML elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=add-multiple-class-to-the-elements)

$(document).ready(function(){

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

$("h1").addClass("page-header highlight");

});

});

<h1>Hello World</h1>

<p>The quick brown fox jumps over the lazy dog.</p>

<button type="button">Add Class</button>

* [jQuery remove CSS classes from the HTML elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=remove-classes-from-the-elements)

$(document).ready(function(){

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

$("h1").removeClass("page-header");

$("p").removeClass("hint highlight");

});

});

<h1 class="page-header">Demo Text</h1>

<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit...</p>

<p class="hint highlight"><strong>Tip:</strong> Lorem Ipsum is dummy text.</p>

<button type="button">Remove Class</button>

* [jQuery remove all the CSS classes from the HTML elements at once](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=remove-all-the-classes-from-the-elements)

$(document).ready(function(){

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

$("h1").removeClass();

$("p").removeClass();

});

});

<h1 class="page-header">Demo Text</h1>

<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit...</p>

<p class="hint highlight"><strong>Tip:</strong> Lorem Ipsum is dummy text.</p>

<button type="button">Remove Class</button>

* [jQuery toggle the CSS classes of the HTML elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=toggle-the-classes-for-elements)

$(document).ready(function(){

$("p").click(function(){

$(this).toggleClass("highlight");

});

});

<p>Click on me to toggle highlighting.</p>

<p class="highlight">Click on me to toggle highlighting.</p>

<p>Click on me to toggle highlighting.</p>

## jQuery Get and Set CSS Properties

* [jQuery get the value of a CSS property of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-the-value-of-a-css-property)

$(document).ready(function(){

$("div").click(function(){

var color = $(this).css("background-color");

$("#result").html(color);

});

});

<div style="background-color:orange;"></div>

<div style="background-color:#ee82ee;"></div>

<div style="background-color:rgb(139,205,50);"></div>

<div style="background-color:#f00;"></div>

* [jQuery set the value of a CSS property for the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-the-value-of-a-single-css-property)

$(document).ready(function(){

$(".box").click(function(){

$(this).css("background-color", "blue");

});

});

<div class="box"></div>

<div class="box"></div>

<div class="box"></div>

<div class="box"></div>

* [jQuery set the value of multiple CSS properties of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-the-value-of-multiple-css-properties)

$(document).ready(function(){

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

$("p").css({"background-color": "yellow", "padding": "20px"});

});

});

<h1>This is a heading</h1>

<p style="background-color:orange;">This a paragraph.</p>

<p style="background-color:#ee82ee;">This is another paragraph.</p>

<p style="background-color:rgb(139,205,50);">This is none more paragraph.</p>

<p>This is one last paragraph.</p>

<button type="button">Add CSS Styles</button>

## jQuery Dimensions

* [jQuery get width and height of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-width-and-height-of-an-element)

$(document).ready(function(){

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

var divWidth = $("#box").width();

var divHeight = $("#box").height();

$("#result").html("Width: " + divWidth + ", " + "Height: " + divHeight);

});

});

<button type="button">Get Width and Height</button>

<p id="result"></p>

* [jQuery set width and height of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-width-and-height-of-an-element)

$(document).ready(function(){

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

$("#box").width(400).height(300);

});

});

<div id="box">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam eu sem tempor, varius quam at, luctus dui malesuada ant.</div>

<button type="button">Set Width and Height</button>

* [jQuery get inner width and height of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-inner-width-and-height-of-an-element)

$(document).ready(function(){

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

var divWidth = $("#box").innerWidth();

var divHeight = $("#box").innerHeight();

$("#result").html("Inner Width: " + divWidth + ", " + "Inner Height: " + divHeight);

});

});

<button type="button">Get innerWidth and innerHeight</button>

<p id="result"></p>

* [jQuery set inner width and height of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-inner-width-and-height-of-an-element)

$(document).ready(function(){

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

$("#box").innerWidth(400).innerHeight(300);

});

});

<div id="box">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam eu sem tempor, varius quam at, luctus dui </div>

<button type="button">Set innerWidth and innerHeight</button>

* [jQuery get outer width and height of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-outer-width-and-height-of-an-element)

$(document).ready(function(){

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

var divWidth = $("#box").outerWidth();

var divHeight = $("#box").outerHeight();

$("#result").html("Outer Width: " + divWidth + ", " + "Outer Height: " + divHeight);

});

});

<button type="button">Get outerWidth and outerHeight</button>

<p id="result"></p>

* [jQuery get outer width and height of an element including margin area](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-outer-width-and-height-of-an-element-including-margin)

$(document).ready(function(){

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

var divWidth = $("#box").outerWidth(true);

var divHeight = $("#box").outerHeight(true);

$("#result").html("Outer Width: " + divWidth + ", " + "Outer Height: " + divHeight);

});

});

<button type="button">Get outerWidth and outerHeight with margin</button>

<p id="result"></p>

* [jQuery set outer width and height of the elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=set-outer-width-and-height-of-an-element)

$(document).ready(function(){

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

$("#box").outerWidth(400).outerHeight(300);

});

});

<div id="box">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam eu sem tempor, varius quam at, luctus dui. porta odio in fringilla non purus nisld Dapibus nec turpis vel, semper malesuada ant.</div>

<button type="button">Set outerWidth and outerHeight</button>

## jQuery Traversing

* [jQuery select the direct parent element of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-direct-parent-of-an-element)

$(document).ready(function(){

$("li").parent().addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the ancestor elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-ancestors-of-an-element)

$(document).ready(function(){

$("li").parents().addClass("frame");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select the specific ancestor elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-specific-ancestors-of-an-element)

$(document).ready(function(){

$("li").parents("div").addClass("frame");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the ancestor elements between two elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-ancestors-between-two-elements)

$(document).ready(function(){

$("li").parentsUntil("html").addClass("frame");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select the direct children element of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-direct-children-of-an-element)

$(document).ready(function(){

$("ul").children().addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select the specific descendant elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-specific-descendants-of-an-element)

$(document).ready(function(){

$("div").find("li").addClass("frame");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the descendant elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-the-descendants-of-an-element)

$(document).ready(function(){

$("div").find("\*").addClass("frame");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the sibling elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-the-siblings-of-an-element)

$(document).ready(function(){

$("p").siblings().addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select specific sibling elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-specific-siblings-of-an-element)

$(document).ready(function(){

$("p").siblings("ul").addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select the next sibling element of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-the-next-sibling-of-an-element)

$(document).ready(function(){

$("p").next().addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the next sibling elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-the-siblings-next-to-an-element)

$(document).ready(function(){

$("p").next().addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the following sibling elements between two elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-the-following-siblings-between-two-elements)

$(document).ready(function(){

$("h1").nextUntil("ul").addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<p>This is another paragraph.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select the previous sibling element of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-the-previous-sibling-of-an-element)

$(document).ready(function(){

$("ul").prev().addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<p>This is another paragraph.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the previous sibling elements of an element](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-the-siblings-previous-to-an-element)

$(document).ready(function(){

$("ul").prevAll().addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<p>This is another paragraph.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

* [jQuery select all the preceding sibling elements between two elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=get-all-the-preceding-siblings-between-two-elements)

$(document).ready(function(){

$("ul").prevUntil("h1").addClass("highlight");

});

<div class="container">

<h1>Hello World</h1>

<p>This is a <em>simple paragraph</em>.</p>

<p>This is another paragraph.</p>

<ul>

<li>Item One</li>

<li>Item Two</li>

</ul>

</div>

## jQuery Filtering

* [jQuery select the first element only](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-only-the-first-element)

$(document).ready(function(){

$("ul li").first().addClass("highlight");

});

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery select the last element only](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-only-the-last-element)

$(document).ready(function(){

$("ul li").last().addClass("highlight");

});

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery select an element by index](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-element-by-index)

$(document).ready(function(){

$("ul li").eq(1).addClass("highlight");

});

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery select an element by negative index](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-element-by-negative-index)

$(document).ready(function(){

$("ul li").eq(-2).addClass("highlight");

});

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery filter the selection of elements via selectors](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=filter-elements-selection-via-selectors)

$(document).ready(function(){

$("ul li").filter(":even").addClass("highlight");

});

<h2>Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

<hr>

<h2>Another Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery filter the selection of elements through a custom function](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=filter-elements-selection-through-a-custom-function)

$(document).ready(function(){

$("ul li").filter(function(index){

return index % 2 !== 0;

}).addClass("highlight");

});

<h2>Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

<hr>

<h2>Another Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery select the elements that has specific child elements](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-elements-that-has-certain-child-elements)

$(document).ready(function(){

$("ul li").has("ul").addClass("highlight");

});

<ul>

<li>Section 1</li>

<li>Section 2</li>

<li>

<ul>

<li>Section 2.1</li>

<li>Section 2.2</li>

<li>Section 2.3</li>

</ul>

</li>

<li>Section 4</li>

</ul>

* [jQuery select the elements that does not match certain condition](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-elements-that-does-not-match-certain-condition)

$(document).ready(function(){

$("ul li").not(":even").addClass("highlight");

});

<h2>Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

<hr>

<h2>Another Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery select the elements that did not pass certain function test](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-elements-that-did-not-pass-certain-function-test)

$(document).ready(function(){

$("ul li").not(function(index){

return index % 2 !== 0;

}).addClass("highlight");

});

<h2>Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

<hr>

<h2>Another Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery select the elements by range of indices](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-elements-by-range-of-indices)

$(document).ready(function(){

$("ul li").slice(0, 2).addClass("highlight");

});

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

* [jQuery select the elements by range of negative indices](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=select-elements-by-range-of-negative-indices)

$(document).ready(function(){

$("ul li").slice(-2, -1).addClass("highlight");

});

<h2>Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

<hr>

<h2>Another Unordered List</h2>

<ul>

<li>First list item</li>

<li>Second list item</li>

<li>Third list item</li>

<li>Fourth list item</li>

</ul>

## jQuery Ajax

* [jQuery load content inside an element from a file](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=load-content-inside-an-element-from-a-file)

$(document).ready(function(){

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

$("#box").load("/examples/html/test-content.html");

});

});

* [jQuery execute code based upon load request response](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=execute-code-based-upon-load-request-response)

$(document).ready(function(){

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

$("#box").load("/examples/html/test-content.html", function(responseTxt, statusTxt, jqXHR){

if(statusTxt == "success"){

alert("New content loaded successfully!");

}

if(statusTxt == "error"){

alert("Error: " + jqXHR.status + " " + jqXHR.statusText);

}

});

});

});

* [jQuery load content of selected element from a file](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=load-content-of-selected-element-from-a-file)

$(document).ready(function(){

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

$("#box").load("/examples/html/test-content.html #hint");

});

});

* [jQuery make ajax request using HTTP get method](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=make-ajax-request-using-get-method)

$(document).ready(function(){

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

$.get("/examples/php/date-time.php", function(data){

// Display the returned data in browser

$("#result").html(data);

});

});

});

* [jQuery send data with ajax using HTTP get method](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=send-data-with-ajax-using-get-method)

$(document).ready(function(){

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

// Get value from input element on the page

var numValue = $("#num").val();

// Send the input data to the server using get

$.get("/examples/php/create-table.php", {number: numValue} , function(data){

// Display the returned data in browser

$("#result").html(data);

});

});

});

* [jQuery submit form data with ajax using HTTP post method](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=submit-form-data-with-ajax-using-post-method)

$(document).ready(function(){

$("form").submit(function(event){

// Stop form from submitting normally

event.preventDefault();

// Get action URL

var actionFile = $(this).attr("action");

/\* Serialize the submitted form control values to be sent to the web server with the request \*/

var formValues = $(this).serialize();

// Send the form data using post

$.post(actionFile, formValues, function(data){

// Display the returned data in browser

$("#result").html(data);

});

});

});

## jQuery No-Conflict Mode

* [Putting the jQuery into no-conflict mode](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=noconflict)

// Defining the new alias for jQuery

var $j = jQuery.noConflict();

$j(document).ready(function(){

// Display an alert message when the element with ID foo is clicked

$j("#foo").click(function(){

alert("jQuery is working well with prototype.");

});

});

// Some prototype framework code

document.observe("dom:loaded", function(){

// Display an alert message when the element with ID bar is clicked

$(bar).observe('click', function(event){

alert("Prototype is working well with jQuery.");

});

});

* [Prevent conflict between jQuery and other JavaScript libraries](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=avoiding-conflicts-between-javascript-libraries)

jQuery.noConflict();

jQuery(document).ready(function($){

// The dollar sign in here work as an alias to jQuery

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

alert("jQuery is working well with prototype.");

});

});

// Some prototype framework code

document.observe("dom:loaded", function(){

// The dollar sign in the global scope refer to prototype

$(bar).observe('click', function(event){

alert("Prototype is working well with jQuery.");

});

});

<p>Click these buttons to check whether the jQuery and Prototype JavaScript libraries are working without any conflict or not.</p>

<button type="button" id="foo">Run jQuery Code</button>

<button type="button" id="bar">Run Prototype Code</button>

* [Avoid conflict when including the jQuery before other JavaScript libraries](https://www.tutorialrepublic.com/codelab.php?topic=jquery&file=including-jquery-before-other-javascript-library)

jQuery(document).ready(function($){

// Use full jQuery function name to reference jQuery

jQuery("#foo").click(function(){

alert("jQuery is working well with prototype.");

});

});

// Some prototype framework code

document.observe("dom:loaded", function(){

// The dollar sign here will have the meaning defined in prototype

$(bar).observe('click', function(event){

alert("Prototype is working well with jQuery.");

});

});

<p>Click these buttons to check whether the jQuery and Prototype JavaScript libraries are working without any conflict or not.</p>

<button type="button" id="foo">Run jQuery Code</button>

<button type="button" id="bar">Run Prototype Code</button>

object-oriented when it provides programmers with at least four basic capabilities to develop:

* **Encapsulation**: It is the capability for storing related information, whether data or methods, mutually in a single object.
* **Aggregation**: It is the ability to store one object inside another.
* **Inheritance**: A class can depend upon another class or number of classes and inherit their variables and methods for some specific use.
* **Polymorphism**: It is the potential of the concept of OOP for writing one function or method which works in a variety of different ways.