

# JavaScript Program

## Basic Programs

1. JavaScript Program To Print Hello World
2. JavaScript Program to Add Two Numbers
3. JavaScript Program to Find the Square Root
4. JavaScript Program to Calculate the Area of a Triangle
5. JavaScript Program to Swap Two Variables
6. JavaScript Program to Solve Quadratic Equation
7. JavaScript Program to Convert Kilometers to Miles
8. Javascript Program to Convert Celsius to Fahrenheit
9. Javascript Program to Generate a Random Number
10. Javascript Program to Check if a number is Positive, Negative, or Zero
11. Javascript Program to Check if a Number is Odd or Even
12. JavaScript Program to Find the Largest Among Three Numbers
13. JavaScript Program to Check Prime Number
14. JavaScript Program to Print All Prime Numbers in an Interval
15. JavaScript Program to Find the Factorial of a Number
16. JavaScript Program to Display the Multiplication Table
17. JavaScript Program to Print the Fibonacci Sequence
18. JavaScript Program to Check Armstrong Number
19. JavaScript Program to Find Armstrong Number in an Interval
20. JavaScript Program to Make a Simple Calculator
21. JavaScript Program to Find the Sum of Natural Numbers
22. JavaScript Program to Check if the Numbers Have Same Last Digit
23. JavaScript Program to Find HCF or GCD
24. JavaScript Program to Find LCM
25. JavaScript Program to Find the Factors of a Number
26. JavaScript Program to Find Sum of Natural Numbers Using Recursion
27. JavaScript Program to Guess a Random Number
28. JavaScript Program to Shuffle Deck of Cards
29. JavaScript Program to Display Fibonacci Sequence Using Recursion
30. JavaScript Program to Find Factorial of Number Using Recursion
31. JavaScript Program to Convert Decimal to Binary
32. JavaScript Program to Find ASCII Value of Character
33. JavaScript Program to Check Whether a String is Palindrome or Not
34. JavaScript Program to Sort Words in Alphabetical Order
35. JavaScript Program to Replace Characters of a String
36. JavaScript Program to Reverse a String
37. JavaScript Program to Create Objects in Different Ways
38. JavaScript Program to Check the Number of Occurrences of a Character in the String
39. JavaScript Program to Convert the First Letter of a String into UpperCase
40. JavaScript Program to Count the Number of Vowels in a String
41. JavaScript Program to Remove a Property from an Object
42. JavaScript Program to Check Whether a String Starts and Ends With Certain Characters
43. JavaScript Program to Check if a Key Exists in an Object

44. JavaScript Program to Clone a JS Object
45. JavaScript Program to Loop Through an Object
46. JavaScript Program to Merge Property of Two Objects
47. JavaScript Program to Count the Number of Keys/Properties in an Object
48. JavaScript Program to Add Key/Value Pair to an Object
49. JavaScript Program to Replace All Occurrences of a String
50. JavaScript Program to Create Multiline Strings
51. JavaScript Program to Format Numbers as Currency Strings
52. JavaScript Program to Generate Random String
53. JavaScript Program to Check if a String Starts With Another String
54. JavaScript Program to Trim a String
55. JavaScript Program to Convert Objects to Strings
56. JavaScript Program to Check Whether a String Contains a Substring
57. JavaScript Program to Compare Two Strings
58. JavaScript Program to Encode a String to Base64
59. JavaScript Program to Replace all Instances of a Character in a String
60. JavaScript Program to Replace All Line Breaks with
61. JavaScript Program to Display Date and Time
62. JavaScript Program to Check Leap Year
63. JavaScript Program to Format the Date
64. Javascript Program to Display Current Date
65. JavaScript Program to Compare The Value of Two Dates
66. JavaScript Program to Create Countdown Timer
67. JavaScript Program to Remove Specific Item From an Array
68. JavaScript Program to Check if An Array Contains a Specified Value
69. JavaScript Program to Insert Item in an Array
70. JavaScript Program to Append an Object to An Array
71. JavaScript Program to Check if An Object is An Array
72. JavaScript Program to Empty an Array
73. JavaScript Program to Add Element to Start of an Array
74. JavaScript Program to Remove Duplicates From Array
75. JavaScript Program to Merge Two Arrays and Remove Duplicate Items
76. JavaScript Program to Sort Array of Objects by Property Values
77. JavaScript Program to Create Two Dimensional Array
78. JavaScript Program to Extract Given Property Values from Objects as Array
79. JavaScript Program to Compare Elements of Two Arrays
80. JavaScript Program to Get Random Item From an Array
81. JavaScript Program To Perform Intersection Between Two Arrays
82. JavaScript Program to Split Array into Smaller Chunks
83. JavaScript Program to Include a JS file in Another JS file
84. JavaScript Program to Get File Extension
85. JavaScript Program To Check If A Variable Is undefined or null
86. JavaScript Program to Set a Default Parameter Value For a Function
87. JavaScript Program to Illustrate Different Set Operations
88. Javascript Program to Generate a Random Number Between Two Numbers
89. JavaScript Program To Get The Current URL
90. JavaScript Program to Validate An Email Address
91. JavaScript Program to Check If a Variable is of Function Type

92. JavaScript Program To Work With Constants
93. JavaScript Program to Pass Parameter to a setTimeout() Function
94. JavaScript Program to Generate a Range of Numbers and Characters
95. JavaScript Program to Perform Function Overloading
96. JavaScript Program to Implement a Stack
97. JavaScript Program to Implement a Queue
98. JavaScript Program to Check if a Number is Float or Integer
99. JavaScript Program to Pass a Function as Parameter
100. JavaScript Program to Get the Dimensions of an Image
101. JavaScript Program to Remove All Whitespaces From a Text
102. JavaScript Program to Write to Console
103. JavaScript Program to Convert Date to Number

## **Javascript fundamentals**

1. Write a function that takes two numbers (a and b) as argument. Sum a and b. Return the result
2. Write a function that takes two values, say a and b, as arguments. Return true if the two values are equal and of the same type
3. Write a function that takes a value as argument. Return the type of the value.
4. Write a function that takes a string (a) and a number (n) as argument. Return the nth character of 'a'.
5. Write a function that takes a string (a) as argument. Remove the first 3 characters of a. Return the result
6. Write a function that takes a string as argument. Extract the last 3 characters from the string. Return the result
7. Write a function that takes a string as argument. The string contains the substring 'is'. Return the index of 'is'.

8. Write a function that takes a string (a) as argument. Extract the first half  
a. Return the result
9. Write a function that takes two strings (a and b) as arguments. If a contains b, append b to the beginning of a. If not, append it to the end. Return the concatenation
10. Write a function that takes a number as argument. If the number is even, return true. Otherwise, return false
11. Write a function that takes a number (a) as argument. If a is a whole number (has no decimal place), return true. Otherwise, return false.
12. Write a function that takes two numbers (a and b) as arguments. If a is smaller than b, divide a by b. Otherwise, multiply both numbers. Return the resulting value
13. Write a function that takes a number (a) as argument. Round a to the 2nd digit after the decimal point. Return the rounded number
14. Write a function that takes a number (a) as argument. Split a into its individual digits and return them in an array. Tipp: you might want to change the type of the number for the splitting
15. It seems like something happened to these strings. Can you figure out how to clear up the chaos? Write a function that joins these strings together such that they form the following words: 'Javascript', 'Countryside', and 'Downtown'. You might want to apply basic JS string methods such as `replace()`, `split()`, `slice()` etc.

16. This challenge is a little bit more complex. Write a function that takes a number (a) as argument. If a is prime, return a. If not, return the next higher prime number.
17. Write a function that takes two numbers, say x and y, as arguments. Check if x is divisible by y. If yes, return x. If not, return the next higher natural number that is divisible by y
18. Write a function that takes a string as argument. As it is, the string has no meaning. Increment each letter to the next letter in the alphabet. Return the correct word
19. Write a function that takes two strings (a and b) as arguments. Beginning at the end of 'a', insert 'b' after every 3rd character of 'a'. Return the resulting string.

## Javascript Array

1. Write a function that takes an array (a) and a value (n) as argument. Return the nth element of 'a'
2. Write a function that takes an array (a) as argument. Remove the first 3 elements of 'a'. Return the result
4. Write a function that takes an array (a) as argument. Extract the last 3 elements of 'a'. Return the resulting array
6. Write a function that takes an array (a) as argument. Extract the first 3 elements of a. Return the resulting array
8. Write a function that takes an array (a) and a number (n) as arguments. It should return the last n elements of a.

10. Write a function that takes an array of numbers as argument. Return the number of negative values in the array.
12. Write a function that takes an array of strings as argument. Sort the array elements alphabetically. Return the result.
14. Write a function that takes an array of numbers as argument. It should return an array with the numbers sorted in descending order.
16. Write a function that takes an array of numbers as argument. It should return the sum of the numbers.
18. Write a function that takes an array of numbers as argument. It should return the average of the numbers.
20. Write a function that takes an array of strings as argument. Return the longest string.
22. Write a function that takes an array as argument. It should return true if all elements in the array are equal. It should return false otherwise.
24. Write a function that takes arguments an arbitrary number of arrays. It should return an array containing the values of all arrays.
26. Write a function that takes an array (a) and a number (b) as arguments. Sum up all array elements with a value greater than b. Return the sum
27. Write a function that takes two numbers (min and max) as arguments. Return an array of numbers in the range min to max
28. Write a function that takes an array of strings as argument. Group those strings by their first letter. Return an object that contains properties with keys representing first letters. The values should be arrays of strings containing only the corresponding strings. For example, the array ['Alf', 'Alice', 'Ben'] should be transformed to. { a: ['Alf', 'Alice'], b: ['Ben']}
29. Write a function that takes an array with arbitrary elements and a number as arguments. Return a new array, the first element

should be either the given number itself. or zero if the number is smaller than 6. The other elements should be the elements of the original array. Try not to mutate the original array

30. Write a function that takes an array (a) and a value (n) as arguments. Save every nth element in a new array. Return the new array

## Javascript dates

1. Write a function that takes two date instances as arguments. It should return true if the dates are equal. It should return false otherwise.
3. Write a function that takes two date instances as argument. It should return the number of days that lies between those dates.
5. Write a function that takes two date instances as argument. It should return true if they fall on the exact same day. It should return false otherwise.
7. Write a function that takes two date instances as argument. It should return true if the difference between the dates is less than or equal to 1 hour. It should return false otherwise.
9. Write a function that takes two date instances (a and b) as arguments. It should return true if a is earlier than b. It should return false otherwise.
11. Write a function that takes as argument a date instance (a) and a number (b). It should add b days to a and return the number of milliseconds since January 1, 1970, 00:00:00 UTC.
12. This is a more difficult challenge. Write a function that takes two date instances as arguments. It should return an object with the properties 'hrs', 'min', and 'sec'. The corresponding values should display the absolute difference between the two dates in hours, minutes, and seconds.

13. Write a function that takes a Date instance as argument. It should return the next nearest quarter hour in minutes. For example, if the given date has the time 10:01 the function should return 15

## JavaScript Sets

1. Write a function that takes a Set and a value as arguments. Check if the value is present in the Set
3. Write a function that takes a Set as argument. Convert the Set to an Array. Return the Array
5. Write a function that takes two Sets as arguments. Create the union of the two sets. Return the result. Tipp: try not to switch to Arrays, this would slow down your code
7. Write a function that takes three elements of any type as arguments. Create a Set from those elements. Return the result
9. Write a function that takes a Set and a value as argument. If existing in the Set, remove the value from the Set. Return the result
11. Write a function that takes a Set and an array as arguments. If not already existing, add each element in the array to the Set. Return the modified Set
12. Write a function that takes two sets (a and b) as arguments. Get the intersection of the sets. In other words, return a set containing all elements that are both in a as well as b