HOMEWORK

JAVASCRIPT 01

CONTENTS

INTRODUCTION

Our academy believes that homework is an essential part of all students' education. The purpose of completing tasks at home is to support students in becoming independent learners and encouraging a deeper understanding of the subject studied. It also develops skills in personal organization and a sense of responsibility. Home learning is an essential part of the preparation for examinations and it is vital that students dedicate time to learning key information required for exam success.

Research shows that there is the potential for adding 5 months to the progress of each student through their academy with the setting of effective homework tasks. Evidence also suggests that how homework relates to learning during normal school time is important. In order to be most effective, homework should be an integral part of learning, rather than an add-on. To maximize impact, it is important that students are provided with high-quality feedback on their work.

The optimum amount of homework is between 1-2 hours per class Common home learning activities may be reading or preparing for work to be done in class, or practicing and completing tasks or activities already taught or started in lessons, but it may include more extended activities to develop inquiry skills or more directed and focused work such as revision for exams. Where extended tasks are set over a number of weeks, these should be broken into a series of smaller steps for students to complete.

The purpose of homework is to keep you practicing the material we learn and what we are about to learn in the course. If you don't know how to solve any of the exercises, please first see the solution if it has one and try to figure it out, and if you still don't know how to solve them, contact the instructor.

The best way to learn is to practice. Happy coding!

EXERCISES

1. Write a JavaScript program to display the current day and time in the following format. Go to the editor
Sample Output : Today is : Tuesday.
Current time is : 10 PM : 30 : 38
Click me to see the solution

2. Write a JavaScript program to print the contents of the current window. Go to the editor
Click me to see the solution

3. Write a JavaScript program to get the current date. Go to the editor
Expected Output :
mm-dd-yyyy, mm/dd/yyyy or dd-mm-yyyy, dd/mm/yyyy
Click me to see the solution

4. Write a JavaScript program to find the area of a triangle where lengths of the three of its sides are 5, 6, 7. Go to the editor
Click me to see the solution

5. Write a JavaScript program to rotate the string 'w3resource' in right direction by periodically removing one letter from the end of the string and attaching it to the front. Go to the editor
Click me to see the solution

6. Write a JavaScript program to determine whether a given year is a leap year in the Gregorian calendar. Go to the editor
Click me to see the solution

7. Write a JavaScript program to find 1st January is being a Sunday between 2014 and 2050. Go to the editor
Click me to see the solution

8. Write a JavaScript program where the program takes a random integer between 1 to 10, the user is then prompted to input a guess number. If the user input matches with guess number, the program will display a message "Good

Work" otherwise display a message "Not matched". Go to the editor
Click me to see the solution

9. Write a JavaScript program to calculate days left until next Christmas. Go to the editor
Click me to see the solution

10. Write a JavaScript program to calculate multiplication and division of two numbers (input from user). Go to the editor
Sample form :

1st Number : 12
2nd Number: 10
[Multiply] [Divide]

The Result Is :
120
Click me to see the solution

11. Write a JavaScript program to convert temperatures to and from Celsius, Fahrenheit. Go to the editor
[Formula : c/5 = (f-32)/9 [where c = temperature in Celsius and f = temperature in Fahrenheit]
Expected Output :
60°C is 140 °F
45°F is 7.222222222222222°C
Click me to see the solution

12. Write a JavaScript program to get the website URL (loading page). Go to the editor
Click me to see the solution

13. Write a JavaScript exercise to create a variable using a user-defined name. Go to the editor
Click me to see the solution

14. Write a JavaScript exercise to get the extension of a filename. Go to the editor
Click me to see the solution

15. Write a JavaScript program to get the difference between a given number and 13, if the number is greater than 13 return double the absolute difference. Go to the editor
Click me to see the solution

16. Write a JavaScript program to compute the sum of the two given integers. If the two values are same, then returns triple their sum. Go to the editor
Click me to see the solution

17. Write a JavaScript program to compute the absolute difference between a specified number and 19. Returns triple their absolute difference if the specified number is greater than 19. Go to the editor
Click me to see the solution

18. Write a JavaScript program to check two given numbers and return true if one of the number is 50 or if their sum is 50. Go to the editor
Click me to see the solution

19. Write a JavaScript program to check whether a given integer is within 20 of 100 or 400. Go to the editor
Click me to see the solution

20. Write a JavaScript program to check from two given integers, whether one is positive and another one is negative. Go to the editor
Click me to see the solution

21. Write a JavaScript program to create a new string adding "Py" in front of a given string. If the given string begins with "Py" then return the original string. Go to the editor
Click me to see the solution

22. Write a JavaScript program to remove a character at the specified position of a given string and return the new string. Go to the editor
Click me to see the solution

23. Write a JavaScript program to create a new string from a given string changing the position of first and last characters. The string length must be greater than or equal to 1. Go to the editor
Click me to see the solution

24. Write a JavaScript program to create a new string from a given string with the first character of the given string added at the front and back. Go to the editor
Click me to see the solution

25. Write a JavaScript program to check whether a given positive number is a multiple of 3 or a multiple of 7. Go to the editor
Click me to see the solution

26. Write a JavaScript program to create a new string from a given string taking the last 3 characters and added at both the front and back. The string length must be 3 or more. Go to the editor
Click me to see the solution

27. Write a JavaScript program to check whether a string starts with 'Java' and false otherwise. Go to the editor
Click me to see the solution

28. Write a JavaScript program to check whether two given integer values are in the range 50..99 (inclusive). Return true if either of them are in the said range. Go to the editor
Click me to see the solution

29. Write a JavaScript program to check whether three given integer values are in the range 50..99 (inclusive). Return true if one or more of them are in the said range. Go to the editor
Click me to see the solution

30. Write a JavaScript program to check whether a string "Script" presents at 5th (index 4) position in a given string, if "Script" presents in the string return the string without "Script" otherwise return the original one. Go to the editor
Click me to see the solution

31. Write a JavaScript program to find the largest of three given integers. [Go to the editor](#)
[Click me to see the solution](#)

32. Write a JavaScript program to find a value which is nearest to 100 from two different given integer values. [Go to the editor](#)
[Click me to see the solution](#)

33. Write a JavaScript program to check whether two numbers are in range 40..60 or in the range 70..100 inclusive. [Go to the editor](#)
[Click me to see the solution](#)

34. Write a JavaScript program to find the larger number from the two given positive integers, the two numbers are in the range 40..60 inclusive. [Go to the editor](#)
[Click me to see the solution](#)

35. Write a program to check whether a specified character exists within the 2nd to 4th position in a given string. [Go to the editor](#)
[Click me to see the solution](#)

36. Write a JavaScript program to check whether the last digit of the three given positive integers is same. [Go to the editor](#)
[Click me to see the solution](#)

37. Write a JavaScript program to create new string with first 3 characters are in lower case from a given string. If the string length is less than 3 convert all the characters in upper case. [Go to the editor](#)
[Click me to see the solution](#)

38. Write a JavaScript program to check the total marks of a student in various examinations. The student will get A+ grade if the total marks are in the range 89..100 inclusive, if the examination is "Final-exam." the student will get A+ grade and total marks must be greater than or equal to 90. Return true if the student get A+ grade or false otherwise. [Go to the editor](#)
[Click me to see the solution](#)

39. Write a JavaScript program to compute the sum of the two given integers, If the sum is in the range 50..80 return 65 other wise return 80. Go to the editor
Click me to see the solution

40. Write a JavaScript program to check from two given integers whether one of them is 8 or their sum or difference is 8. Go to the editor
Click me to see the solution

41. Write a JavaScript program to check three given numbers, if the three numbers are same return 30 otherwise return 20 and if two numbers are same return 40. Go to the editor
Click me to see the solution

42. Write a JavaScript program to check whether three given numbers are increasing in strict mode or in soft mode. Go to the editor
Note: Strict mode -> 10, 15, 31 : Soft mode -> 24, 22, 31 or 22, 22, 31
Click me to see the solution

43. Write a JavaScript program to check from three given numbers (non negative integers) that two or all of them have the same rightmost digit. Go to the editor
Click me to see the solution

44. Write a JavaScript program to check from three given integers that whether a number is greater than or equal to 20 and less than one of the others. Go to the editor
Click me to see the solution

45. Write a JavaScript program to check two given integer values and return true if one of the number is 15 or if their sum or difference is 15. Go to the editor
Click me to see the solution

46. Write a JavaScript program to check two given non-negative integers that whether one of the number (not both) is multiple of 7 or 11. Go to the editor
Click me to see the solution

47. Write a JavaScript program to check whether a given number is presents in the range 40..10000. Go to the editor

For example 40 presents in 40 and 4000
Click me to see the solution

48. Write a JavaScript program to reverse a given string. Go to the editor
Click me to see the solution

49. Write a JavaScript program to replace every character in a given string with the character following it in the alphabet. Go to the editor
Click me to see the solution

50. Write a JavaScript program to capitalize the first letter of each word of a given string. Go to the editor
Click me to see the solution

51. Write a JavaScript program to convert a given number to hours and minutes. Go to the editor
Click me to see the solution

52. Write a JavaScript program to convert the letters of a given string in alphabetical order. Go to the editor
Click me to see the solution

53. Write a JavaScript program to check whether the characters a and b are separated by exactly 3 places anywhere (at least once) in a given string. Go to the editor
Click me to see the solution

54. Write a JavaScript program to count the number of vowels in a given string. Go to the editor
Click me to see the solution

55. Write a JavaScript program to check whether a given string contains equal number of p's and t's. Go to the editor
Click me to see the solution

56. Write a JavaScript program to divide two positive numbers and return a string with properly formatted commas. Go to the editor
Click me to see the solution

57. Write a JavaScript program to create a new string of specified copies (positive number) of a given string. Go to the editor
Click me to see the solution

58. Write a JavaScript program to create a new string of 4 copies of the last 3 characters of a given original string. The length of the given string must be 3 and above. Go to the editor
Click me to see the solution

59. Write a JavaScript program to extract the first half of a string of even length. Go to the editor
Click me to see the solution

60. Write a JavaScript program to create a new string without the first and last character of a given string. Go to the editor
Click me to see the solution

61. Write a JavaScript program to concatenate two strings except their first character. Go to the editor
Click me to see the solution

62. Write a JavaScript program to move last three character to the start of a given string. The string length must be greater or equal to three. Go to the editor
Click me to see the solution

63. Write a JavaScript program to create a string using the middle three characters of a given string of odd length. The string length must be greater or equal to three. Go to the editor
Click me to see the solution

64. Write a JavaScript program to concatenate two strings and return the result. If the length of the strings are not same then remove the characters from the longer string. Go to the editor
Click me to see the solution

65. Write a JavaScript program to test whether a string end with "Script". The string length must be greater or equal to 6. Go to the editor
Click me to see the solution

66. Write a JavaScript program to display the city name if the string begins with "Los" or "New" otherwise return blank. Go to the editor
Click me to see the solution

67. Write a JavaScript program to create a new string from a given string, removing the first and last characters of the string if the first or last character are 'P'. Return the original string if the condition is not satisfied. Go to the editor
Click me to see the solution

68. Write a JavaScript program to create a new string using the first and last n characters from a given sting. The string length must be greater or equal to n. Go to the editor
Click me to see the solution

69. Write a JavaScript program to compute the sum of three elements of a given array of integers of length 3. Go to the editor
Click me to see the solution

70. Write a JavaScript program to rotate the elements left of a given array of integers of length 3. Go to the editor
Click me to see the solution

71. Write a JavaScript program to check whether 1 appears in first or last position of a given array of integers. The array length must be greater or equal to 1. Go to the editor
Click me to see the solution

72. Write a JavaScript program to check whether the first and last elements are equal of a given array of integers length 3. Go to the editor
Click me to see the solution

73. Write a JavaScript program to reverse the elements of a given array of integers length 3. Go to the editor
Click me to see the solution

74. Write a JavaScript program to find the larger value between the first or last and set all the other elements with that value. Display the new array. Go to the

editor
Click me to see the solution

75. Write a JavaScript program to create a new array taking the middle elements of the two arrays of integer and each length 3. Go to the editor
Click me to see the solution

76. Write a JavaScript program to create a new array taking the first and last elements from a given array of integers and length must be greater or equal to 1. Go to the editor
Click me to see the solution

77. Write a JavaScript program to test whether an array of integers of length 2 contains 1 or a 3. Go to the editor
Click me to see the solution

78. Write a JavaScript program to test whether an array of integers of length 2 does not contain 1 or a 3. Go to the editor
Click me to see the solution

79. Write a JavaScript program to test whether a given array of integers contains 30 and 40 twice. The array length should be 0, 1, or 2. Go to the editor
Click me to see the solution

80. Write a JavaScript program to swap the first and last elements of a given array of integers. The array length should be at least 1. Go to the editor
Click me to see the solution

81. Write a JavaScript program to add two digits of a given positive integer of length two. Go to the editor
Click me to see the solution

82. Write a JavaScript to add two positive integers without carry. Go to the editor
Click me to see the solution

83. Write a JavaScript to find the longest string from a given array of strings. Go to the editor
Click me to see the solution

84. Write a JavaScript to replace each character of a given string by the next one in the English alphabet. Go to the editor

Note: 'a' will be replace by 'b' or 'z' would be replaced by 'a'.

Click me to see the solution

85. Write a JavaScript code to divide a given array of positive integers into two parts. First element goes to first part, second element goes to second part, and third element goes to first part and so on. Now compute the sum of two parts and store into an array of size two. Go to the editor

Click me to see the solution

86. Write a JavaScript program to find the types of a given angle. Go to the editor

Types of angles:

- Acute angle: An angle between 0 and 90 degrees.

- Right angle: An 90 degree angle.

- Obtuse angle: An angle between 90 and 180 degrees.

- Straight angle: A 180 degree angle.

Click me to see the solution

87. Write a JavaScript program to check whether two arrays of integers of same length are similar or not. The arrays will be similar if one array can be obtained from another array by swapping at most one pair of elements. Go to the editor

Click me to see the solution

88. Write a JavaScript program to check whether two given integers are similar or not, if a given divisor divides both integers and it does not divide either. Go to the editor

Click me to see the solution

89. Write a JavaScript program to check whether it is possible to replace $ in a given expression x $ y = z with one of the four signs +, -, * or / to obtain a correct expression. Go to the editor

For example x = 10, y = 30 and z = 300, we can replace $ with a multiple

operator (*) to obtain x * y = z
Click me to see the solution

90. Write a JavaScript program to find the kth greatest element of a given array of integers Go to the editor
Click me to see the solution

91. Write a JavaScript program to find the maximum possible sum of some of its k consecutive numbers (numbers that follow each other in order.) of a given array of positive integers. Go to the editor
Click me to see the solution

92. Write a JavaScript program to find the maximal difference between any two adjacent elements of a given array of integers. Go to the editor
Click me to see the solution

93. Write a JavaScript program to find the maximal difference among all possible pairs of a given array of integers. Go to the editor
Click me to see the solution

94. Write a JavaScript program to find the number which appears most in a given array of integers. Go to the editor
Click me to see the solution

95. Write a JavaScript program to replace all the numbers with a specified number of a given array of integers. Go to the editor
Click me to see the solution

96. Write a JavaScript program to compute the sum of absolute differences of consecutive numbers of a given array of integers. Go to the editor
Click me to see the solution

97. Write a JavaScript program to find the shortest possible string which can create a string to make it a palindrome by adding characters to the end of it. Go to the editor
Click me to see the solution

98. Write a JavaScript program to switch case of the minimum possible number of letters to make a given string written in the upper case or in the lower case. Go to the editor
Fox example "Write" will be write and "PHp" will be "PHP"
Click me to see the solution

99. Write a JavaScript program to check whether it is possible to rearrange characters of a given string in such way that it will become equal to another given string. Go to the editor
Click me to see the solution

100. Write a JavaScript program to check whether there is at least one element which occurs in two given sorted arrays of integers. Go to the editor
Click me to see the solution

101. Write a JavaScript program to check whether a given string contains only Latin letters and no two uppercase and no two lowercase letters are in adjacent positions. Go to the editor
Click me to see the solution

102. Write a JavaScript program to find the number of inversions of a given array of integers. Go to the editor
Note: Two elements of the array a stored at positions i and j form an inversion if a[i] > a[j] and i < j.
Click me to see the solution

103. Write a JavaScript program to find the maximal number from a given positive integer by deleting exactly one digit of the given number. Go to the editor
Click me to see the solution

104. Write a JavaScript program to find two elements of the array such that their absolute difference is not greater than a given integer but is as close to the said integer. Go to the editor
Click me to see the solution

105. Write a JavaScript program to find the number of times to replace a given number with the sum of its digits until it convert to a single digit number. Go to

the editor
Click me to see the solution

106. Write a JavaScript program to divide an integer by another integer as long as the result is an integer and return the result. Go to the editor
Click me to see the solution

107. Write a JavaScript program to find the number of sorted pairs formed by its elements of a given array of integers such that one element in the pair is divisible by the other one. Go to the editor
For example - The output of [1, 3, 2] ->2 - (1,3), (1,2).
The output of [2, 4, 6] -> 2 - (2,4), (2,6)
The output of [2, 4, 16] -> 3 - (2,4), (2,16), (4,16)
Click me to see the solution

108. Write a JavaScript program to create the dot products of two given 3D vectors. Go to the editor
Note: The dot product is the sum of the products of the corresponding entries of the two sequences of numbers.
Click me to see the solution

109. Write a JavaScript program to sort an array of all prime numbers between 1 and a given integer. Go to the editor
Click me to see the solution

110. Write a JavaScript program to find the number of even values in sequence before the first occurrence of a given number. Go to the editor
Click me to see the solution

111. Write a JavaScript program to check a number from three given numbers where two numbers are equal, find the third one. Go to the editor
Click me to see the solution

112. Write a JavaScript program to find the number of trailing zeros in the decimal representation of the factorial of a given number. Go to the editor
Click me to see the solution

113. Write a JavaScript program to calculate the sum of n + n/2 + n/4 + n/8 + ... where n is a positive integer and all divisions are integer. Go to the editor
Click me to see the solution

114. Write a JavaScript program to check whether a given string represents a correct sentence or not. A string is considered correct sentence if it starts with the capital letter and ends with a full stop (.). Go to the editor
Click me to see the solution

115. Write a JavaScript program to check whether a matrix is a diagonal matrix or not. In linear algebra, a diagonal matrix is a matrix in which the entries outside the main diagonal are all zero (the diagonal from the upper left to the lower right). Go to the editor
Example:
[1, 0, 0], [0, 2, 0], [0, 0, 3]]) = true
[1, 0, 0], [0, 2, 3], [0, 0, 3]]) = false
Click me to see the solution

116. Write a JavaScript program to find all the possible options to replace the hash in a string (Consists of digits and one hash (#)) with a digit to produce an integer divisible by 3. Go to the editor
For a string "2*0", the output should be : ["210", "240", "270"]
Click me to see the solution

117. Write a JavaScript program to check whether a given matrix is an identity matrix. Go to the editor
Note: In linear algebra, the identity matrix, or sometimes ambiguously called a unit matrix, of size n is the n ? n square matrix with ones on the main diagonal and zeros elsewhere.
[[1, 0, 0], [0, 1, 0], [0, 0, 1]] -> true
[[1, 0, 0], [0, 1, 0], [1, 0, 1]] -> false
Click me to see the solution

118. Write a JavaScript program to check whether a given number is in a given range. Go to the editor
Click me to see the solution

119. Write a JavaScript program to check whether a given integer has an increasing digits sequence. Go to the editor
Click me to see the solution

120. Write a JavaScript program to check whether a point lies strictly inside a given circle. Go to the editor
Input:
Center of the circle (x, y)
Radius of circle: r
Point inside a circle (a, b)
Click me to see the solution

121. Write a JavaScript program to check whether a given matrix is lower triangular or not. Go to the editor
Note: A square matrix is called lower triangular if all the entries above the main diagonal are zero.
Click me to see the solution

122. Write a JavaScript program to check whether a given array of integers represents either a strictly increasing or a strictly decreasing sequence. Go to the editor
Click me to see the solution

123. Write a JavaScript program to find whether the members of a given array of integers is a permutation of numbers from 1 to a given integer. Go to the editor
Click me to see the solution

124. Write a JavaScript program to create the value of NOR of two given booleans. Go to the editor
Note: In boolean logic, logical nor or joint denial is a truth-functional operator which produces a result that is the negation of logical or. That is, a sentence of the form (p NOR q) is true precisely when neither p nor q is true - i.e. when both of p and q are false
Sample Example:
For x = true and y = false, the output should be logical_Nor(x, y) = false; For x = false and y = false, the output should be logical_Nor(x, y) = true.

Click me to see the solution

125. Write a JavaScript program to find the longest string from a given array. Go to the editor
Click me to see the solution

126. Write a JavaScript program to get the largest even number from an array of integers. Go to the editor
Click me to see the solution

127. Write a JavaScript program to reverse the order of the bits in a given integer. Go to the editor
56 -> 111000 after reverse 7 -> 111
234 -> 11101010 after reverse 87 -> 1010111
Click me to see the solution

128. Write a JavaScript program to find the smallest round number that is not less than a given value. Go to the editor
Note: A round number is informally considered to be an integer that ends with one or more zeros.[3] So, 590 is rounder than 592, but 590 is less round than 600.
Click me to see the solution

129. Write a JavaScript program to find the smallest prime number strictly greater than a given number. Go to the editor
Click me to see the solution

130. Write a JavaScript program to find the number of even digits in a given integer. Go to the editor
Click me to see the solution

131. Write a JavaScript program to create an array of prefix sums of the given array. Go to the editor
In computer science, the prefix sum, cumulative sum, inclusive scan, or simply scan of a sequence of numbers x0, x1, x2, ... is a second sequence of numbers y0, y1, y2, ..., the sums of prefixes of the input sequence:
y0 = x0
y1 = x0 + x1

$y2 = x0 + x1 + x2$

...

Click me to see the solution

132. Write a JavaScript program to find all distinct prime factors of a given integer. Go to the editor

Click me to see the solution

133. Write a JavaScript program to check whether a given fraction is proper or not. Go to the editor

Note: There are two types of common fractions, proper or improper. When the numerator and the denominator are both positive, the fraction is called proper if the numerator is less than the denominator, and improper otherwise.

Click me to see the solution

134. Write a JavaScript program to change the characters (lower case) in a string where a turns into z, b turns into y, c turns into x, ..., n turns into m, m turns into n, ..., z turns into a. Go to the editor

Click me to see the solution

135. Write a JavaScript program to remove all characters from a given string that appear more than once. Go to the editor

Click me to see the solution

136. Write a JavaScript program to replace the first digit in a string (should contains at least digit) with $ character. Go to the editor

Click me to see the solution

137. Write a JavaScript program to test whether a given integer is greater than 15 return the given number, otherwise return 15. Go to the editor

Click me to see the solution

138. Write a JavaScript program to reverse the bits of a given 16 bits unsigned short integer. Go to the editor

Click me to see the solution

139. Write a JavaScript program to find the position of a rightmost round number in an array of integers. Returns 0 if there are no round number. Go to the editor

Note: A round number is informally considered to be an integer that ends with one or more zeros.
Click me to see the solution

140. Write a JavaScript program to check whether all the digits in a given number are the same or not. Go to the editor
Click me to see the solution

141. Write a JavaScript program to find the number of elements which presents in both of the given arrays. Go to the editor
Click me to see the solution

142. Write a JavaScript program to simplify a given absolute path for a file in Unix-style. Go to the editor
Click me to see the solution

143. Write a JavaScript program to sort the strings of a given array of strings in the order of increasing lengths. Go to the editor
Note: Do not change the order if the lengths of two string are same.
Click me to see the solution

144. Write a JavaScript program to break an address of an url and put it's part into an array. Go to the editor
Note: url structure : ://.org[/] and there may be no part in the address.
Click me to see the solution

145. Write a JavaScript program to find the maximum integer n such that 1 + 2 + ... + n <= a given integer. Go to the editor
Click me to see the solution

146. Write a JavaScript program to compute the sum of cubes of all integer from 1 to a given integer. Go to the editor
Click me to see the solution

147. Write a JavaScript program to compute the sum of all digits that occur in a given string. Go to the editor
Click me to see the solution

148. Write a JavaScript program to swap two halves of a given array of integers of even length. Go to the editor
Click me to see the solution

149. Write a JavaScript program to change the capitalization of all letters in a given string. Go to the editor
Click me to see the solution

150. Write a JavaScript program to swap pairs of adjacent digits of a given integer of even length. Go to the editor
Click me to see the solution