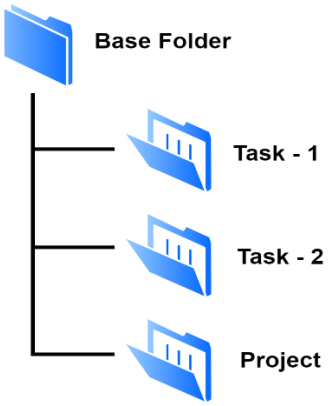
JavaScript – Assessment Questions

Note:

Create a base folder with folder name as your name. Inside the base folder create a separate folder for each task with the folder names as Task-1, Task-2, …, Task-12 and Project.

Sample Folder structure:



Set 1:

1. Write a JavaScript program to calculate the factorial of a given non-negative integer.
   Sample Input: (5);
   Sample Output: 120
2. Write a JavaScript function to find the maximum element in an array.
   Sample Input: ([5, 2, 9, 1, 7]);
   Sample output: 9
3. Write a JavaScript program to remove a specific element from an array.
   Sample Input: ([1, 2, 3, 4, 5], 3);
   Sample Output: [1, 2, 4, 5]
4. Write a JavaScript program to find the second smallest element in an array.
   Sample Input: ([5, 2, 9, 1, 7]);
   Sample Output: 2
5. Write a JavaScript function to check if two arrays are equal (contain the same elements in the same order).
   Sample Input: ([1, 2, 3], [1, 2, 3]);

Sample output: true

6. Write a JavaScript program to find the maximum sum subarray within a given array of numbers.

   Sample Input: ([-2, 1, -3, 4, -1, 2, 1, -5, 4]);

   Sample Ouput: 6

7. Write a JavaScript function to calculate the power of a number recursively.
   Sample Input: (2, 4);
   Sample Output: 16
8. Write a JavaScript function to sort an array of numbers in ascending order.
   Sample Input:5,2,9,1,8
   Sample Ouput:1,2,5,8,9
9. Write a JavaScript function to find the number of occurrences of a substring in a given string.
   Sample Input: ("Hello, hello, hello", "hello");
   Sample Output: 3
10. Write a JavaScript function to find the intersection of two arrays without duplicates.
    Sample Input: ([1, 2, 2, 3], [2, 3, 4]);
    Sample Output: [2, 3]

Set 2:

1. Write a JavaScript program to find the length of a given string.
   Sample Input: Hello;
   Sample Output: 5
2. Write a JavaScript function to concatenate two arrays.
   Sample Input: ([1, 2, 3], [4, 5, 6]);
   Sample Output: [1, 2, 3, 4, 5, 6]
3. Write a JavaScript program to swap the values of two variables.
   Sample Input: x = 5, y = 10;
   Sample Output: [10, 5]
4. Write a JavaScript program to calculate the average of an array of numbers.

Sample Input: ([1, 2, 3, 4, 5]);

Sample Ouput: 3

5. Write a JavaScript function to find the largest and smallest elements in an array.

   Sample Input: ([1, 2, 3, 4, 5]);

   Sample Output: [1, 5]

6. Write a JavaScript function to find the index of the first occurrence of a given element in an array.

   Sample Input: ([1, 2, 3, 4, 5], 3);

   Sample Output: 2

7. Write a JavaScript function to check if a given string is a valid email address.

   Sample Input: ("test@example.com");

   Sample Output: true

8. Write a JavaScript program to count the number of occurrences of each element in an array.

   Sample Input: ([1, 2, 2, 3, 3, 3]);

   Sample Output: {1: 1, 2: 2, 3: 3}

9. Write a JavaScript function to implement a binary search algorithm on a sorted array.

   Sample Input: ([1, 2, 3, 4, 5], 4);

   Sample output: 3

10. Write a JavaScript program to find the intersection of two arrays (common elements).

    Sample Input: ([1, 2, 3], [2, 3, 4]);

    Sample Output: [2, 3]

Set 3:

1. Write a JavaScript program to check if a given number is prime.

   Sample Input: (7);

   Sample Output: true

2. Write a JavaScript function to calculate the factorial of a given non-negative integer using recursion.

   Sample Input: (5);

   Sample Output: 120

3. Write a JavaScript program to reverse the order of words in a given sentence.
   Sample Input:("Hello World");
   Sample Output: "World Hello"
4. Write a JavaScript function to find the sum of all numbers in an array.
   Sample Input: ([1, 2, 3, 4, 5]);
   Sample Output: 15
5. Write a JavaScript program to find the largest sum of any two numbers in an array.
   Sample Input: ([1, 2, 3, 4, 5]);
   Sample Output: 9
6. Write a JavaScript function to check if a given string is a valid URL.
   Sample Input: ("https://www.example.com");
   Sample Output:true
7. Write a JavaScript program to sort an array of objects based on a specific property value.
   Sample Input: const data = [
   { name: "John", age: 30 },
   { name: "Alice", age: 25 },
   { name: "Bob", age: 35 }
   ];

   sortObjectsByProperty(data, "age");
   Sample Output: [
   { name: "Alice", age: 25 },
   { name: "John", age: 30 },
   { name: "Bob", age: 35 }
   ]
8. Write a JavaScript function to calculate the sum of digits in a given number until it becomes a single-digit number.
   Sample Input: (12345);
   Sample Output: 6
9. Write a JavaScript program to implement a stack data structure using an array.
   Sample Input: const stack = new Stack();
   stack.push(1);
   stack.push(2);
   stack.pop();

Sample Output: [1]

10. Write a JavaScript function to find the median of an unsorted array of numbers.
    Sample Input: ([5, 2, 9, 1, 7]);
    Sample Output: 5

Set 4:

1. Write a JavaScript program to check if a given number is positive, negative, or zero.
   Sample Input:5
   Sample Output:Positive.
2. Write a JavaScript program to calculate the sum of two numbers entered by the user.
   Sample Input:5,10
   Sample output:15
3. Write a JavaScript function to check if a given number is even or odd.
   Sample Input:10
   Sample output:even
4. Write a JavaScript program to find the largest number among three numbers entered by the user.
   Sample Input:5,10,3
   Sample output:10
5. Write a JavaScript program to find the sum of all multiples of 3 or 5 below a given number.
   Sample Input:10
   Sample output:23
6. Write a JavaScript function to check if a given string is a valid URL.
   Sample Input: ("https://www.example.com");
   Sample Output:true

7. Write a JavaScript program to find the longest word in a sentence.
   Sample Input: The quick brown fox jumps over the lazy dog.

Sample Output:quick.

8. Write a JavaScript function to reverse the order of words in a sentence while maintaining the order of punctuation marks.
   Sample Input: Hello, world!
   Sample Ouput: world, Hello!
9. Write a JavaScript program to find the number of possible combinations given a set of numbers and a target sum.
   Sample Input:(2, 4, 6, 8], 10);
   Sample Ouput: 3
10. Write a JavaScript program to implement a queue data structure using an array.
    Sample Input: const queue = new Queue();
    queue.enqueue(1);
    queue.enqueue(2);
    queue.dequeue();
    Sample Output:[2]

Projects

1. S. Santhosh - Attendance table - https://648be0747c8ac926c4057711--singular-panda-8b635c.netlify.app/
2. K. Ajay - Notes maker- https://648be18a8ac0f126ec6ecbb2--singular-panda-8b635c.netlify.app/
3. Manoj Bharathi - Captcha generator - https://648be28f4f8e7d24b6ff3ee0--singular-panda-8b635c.netlify.app/
4. Utharasamy - Type writer effect - https://648be2dfd178c4270e2ce9ec--singular-panda-8b635c.netlify.app/
5. Bharani Logesh - Personal Assistant - https://648be31b63785e258a0ac470--singular-panda-8b635c.netlify.app/
6. Rajkumar - Resume Builder- https://648be39d4f8e7d24faff3f78--singular-panda-8b635c.netlify.app/
7. Dinesh - Password strength checker - https://648be3cefe48242544979a96--singular-panda-8b635c.netlify.app/
8. Ezhilvendhan - Number guess game - https://648be4604f8e7d254cff3e72--singular-panda-8b635c.netlify.app/
9. - Word scramble game - https://648be4b48fa46927aff3b447--singular-panda-8b635c.netlify.app/
10. - Library management - https://648be7ba1ebecc2becdd5e20--playful-yeot-06566f.netlify.app/
11. - Photo editor - https://648be80f8b318629f48e8df0--playful-yeot-06566f.netlify.app/
12. - Country details - https://648be8f60a37172bcd0bd7d5--playful-yeot-06566f.netlify.app/
    (API Link - https://restcountries.com/v2/all).