GLOBUSSOFT
TECHNOLOGY AHEAD OF TIME

Javascript

SET 2

Time : 3 Hours

Guidelines for the Test

1. Carefully read problem instructions, and code using the specified language.
2. Thoroughly test your code with sample cases before submitting.
3. Avoid plagiarism and unauthorized collaboration; maintain integrity.
4. Manage your time wisely among questions and monitor the clock.
5. Ensure you answer the respective Set assigned to you
6. Submit your solutions before the deadline, and remember to follow any offline instructions provided.

Good luck!

Checklist

1. Code structure
2. Coding Level
3. Optimization Levels
4. Imaginary skills
5. And Time of Completion

Important Note:

All the Questions are compulsory to solve.

Question - 1

You are given an array of numbers. Your task is to implement a function that finds the sum of all even numbers in the array using various ES6 features. Implement the following:

a. sumOfEvenNumbers function: This function takes an array of numbers as input and returns the sum of all even numbers in the array.

b. Example Usage: After calling the sumOfEvenNumbers function, provide an example usage where you pass an array to demonstrate the function's functionality.

c. Show at least 3 ways to find sumOfEvenNumbers.

Requirements:

- Utilize multiple ES6 features, such as arrow functions, the spread operator, destructuring, and the reduce method, to solve the problem.
- Ensure that the function works efficiently for different arrays of numbers.

Question - 2

You are working on a task management application. You have an array of tasks, and your task is to implement a function to rearrange these tasks based on their priority. Each task is represented as an object with a name and a priority property. Implement the following:

a. rearrangeTasks function: This function takes an array of task objects and reorders them based on their priority. The higher the priority value, the earlier the task should appear in the rearranged array.

b. Example Usage: After calling the rearrangeTasks function, provide an example usage where you pass an array of tasks to demonstrate the function's functionality.

Requirements:

- Utilise the slice and splice methods to rearrange the tasks.
- Ensure that the function works efficiently for different arrays of tasks.

Question - 3

You are working on a task management application. You have an array of tasks, and your task is to implement a function to filter, map, and reduce these tasks to generate a summary report. Each task is represented as an object with a name, priority, and completed property. Implement the following:

a. generateTaskSummary function: This function takes an array of task objects as input and generates a summary report.

- Filter: Filter the tasks to include only those that are marked as completed (completed: true).
- Map: Map the filtered tasks to an array of strings containing task names.
- Reduce: Calculate the total number of completed tasks and the total priority value of those tasks.

b. Example Usage: After calling the generateTaskSummary function, provide an example usage where you pass an array of tasks to demonstrate the function's functionality.

Requirements:

- Utilize the filter, map, and reduce methods to generate the task summary.
- Ensure that the function works efficiently for different arrays of tasks.

Question - 4

Write a JavaScript function called *findLongestSubstring* that takes a string as input and returns the length of the longest substring without repeating characters.

Input Format: The input will be a string.

Constraints:

The string may contain uppercase and lowercase letters, digits,

symbols, or spaces.

The string can have both single and multiple words.

Output Format: The output will be an integer representing the length

of the longest substring without repeating characters.

Sample Input: abcabcbb

Sample Output: 3