General Assessment Question

[15]

Please answer the following question.
1. What will be your top 3 priorities for this year?
2. What action steps will you take to achieve your top 3 priorities?
3. What challenges do you anticipate to successfully achieve your top 3 priorities?

Technical Skill Assessment Question

1) Design web service to handle the following activities: **[10]**
- List items with basic details
- Customers can select items from the list and place order

2) Develop an api for login with username and password with necessary **[10]**
security handing like token verification(static) etc.

3) Design schema for storing authors, articles and comments in mongodb.
[20]
a) Write a query to find the total number of comments for the article.
b) Write a query to fetch article detail and its comment including commentator details.
c) Write a query to fetch articles having one or more than one comments.
d) Write a query to fetch an array of article Id, that are written by an author.

4) **String Reduction** **[20]**

Have the function `StringReduction(str)` take the `str` parameter being passed and return the smallest number you can get through the following reduction method. The method is: Only the letters a, b, and c will be given in `str` and you must take two different adjacent characters and replace it with the third. For example "ac" can be replaced with "b" but "aa" cannot be replaced with anything. This method is done repeatedly until the string cannot be further reduced, and the length of the resulting string is to be outputted.

For example: if `str` is "cab", then "ca" can be reduced to "b" and you get "bb" (you can also reduce it to "cc"). The reduction is done so the output should be **2**. If `str` is "bcab", "bc" reduces to "a", so you have "aab", then "ab" reduces to "c", and the final string "ac" is reduced to "b" so the output should be **1**.

Examples
Input: "abcabc"
Output: 2

Input: "cccc"
Output: 4

5) Given an array of numbers, find the subset of the array with the most consecutive increasing numbers. For example, in the array [2, 4, 3, 5, 6], the answer would be [3, 5, 6].   **[10]**

6. Create rest web api   [20]

   1. Import the provided csv file to mongodb.
   2. Group them in 10 days duration according to created_at field and count the cars and also append all the emails that are in that duration F.e.
      {
           #other fields
           #date
           "count":40,
           "emails":[array of emails of date in that 10 days duration]
      }
   3. Sort them by count in ascending order.

7. How do you find the missing number in a given integer array of 1 to 100? [5]
8. How are duplicate nodes removed in an unsorted linked list?   [5]
9. How do you check if two rectangles overlap with each other?   [5]
10. How do you design a vending machine? (Pseudocode only)   [10]