Ungraded Test Quiz

Topics: sorting, searching

1. **Missing Number: 268. Problem from Leetcode**

   Given an array `nums` containing `n` distinct numbers in the range `[0, n]`, return the only number in the range that is missing from the array.

   Example 1:

   ```
   Input: nums = [3,0,1]
   Output: 2
   Explanation: n = 3 since there are 3 numbers, so all
   numbers are in the range [0,3]. 2 is the missing
   number in the range since it does not appear in nums.
   ```

   Example 2:

   ```
   Input: nums = [0,1]
   Output: 2
   Explanation: n = 2 since there are 2 numbers, so all
   numbers are in the range [0,2]. 2 is the missing
   number in the range since it does not appear in nums.
   ```

   Example 3:

   ```
   Input: nums = [9,6,4,2,3,5,7,0,1]
   Output: 8
   Explanation: n = 9 since there are 9 numbers, so all
   numbers are in the range [0,9]. 8 is the missing
   number in the range since it does not appear in nums.
   ```

   Constraints:

   - $n == nums.length$
   - $1 <= n <= 104$
   - $0 <= nums[i] <= n$
   - All the numbers of `nums` are unique.

2. **Compare Strings by Frequency of the Smallest Character: 1170. Problem from Leetcode**

   Let the function `f(s)` be the frequency of the lexicographically smallest character in a non-empty string `s`. For example, if `s = "dcce"` then `f(s) = 2` because the lexicographically smallest character is `'c'`, which has a frequency of 2.

   You are given an array `words` of string words and another array `queries` of string queries. For each query `queries[i]`, count the number of words in `words` such that `f(queries[i]) < f(W)` for each `W` in `words`.

   Return *an integer array* `answer`, where each `answer[i]` is the answer to the `ith` query.

   Example 1:

   ```
   Input: queries = ["cbd"], words = ["zaaaz"]
   Output: [1]
   Explanation: On the first query we have f("cbd") = 1,
   f("zaaaz") = 3 so f("cbd") < f("zaaaz").
   ```

   Example 2:

   ```
   Input: queries = ["bbb","cc"], words =
   ["a","aa","aaa","aaaa"]
   Output: [1,2]
   Explanation: On the first query only f("bbb") < f("aaaa").
   On the second query both f("aaa") and f("aaaa") are both >
   f("cc").
   ```

   Constraints:

   - $1 <= queries.length <= 2000$
   - $1 <= words.length <= 2000$
   - $1 <= queries[i].length, words[i].length <= 10$
   - $queries[i][j], words[i][j]$ consist of lowercase English letters.

Important Notes

1. Because this assignment is ungraded, you will not submit over `https://submit.cs.hacettepe.edu.tr` this time.
2. You must use this **this starter code**.
3. You should try your code over **TUR^{6}BO** grader.