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Google's Online Challenge for 2021 Intern (India) Experience

- Difficulty Level : [Medium](#)
- Last Updated : 20 Jul, 2021

I saw a job posting on Google's career page so I applied for the **Google internship** but without any hope, as I am from a tier 3 colleges. But after some days I got an email regarding the test link and other credentials.

So, let's talk about the coding test.

The coding test was held on **HackerEarth**, it consists of **2 questions** one was easy and the other one was a little tricky. We had **60 minutes** to solve these questions. I solved both questions. So, the questions were like this:

Question 1: Unspecified Words

Problem Statement: There are N words in a dictionary such that each word is of fixed length M and consists only of lowercase English letters, that is (`a`, `b`, `c`, `...`, `z`).

A query word is denoted by Q . The length of a query word is M . These words contain lowercase English letters but at some places instead of a letter between `a`, `b`, `c`, `...`, `z` there is `?`. Refer to the **Sample Input** section to understand this case.

A match count of Q , denoted by `match_count(Q)`, is the count of words that are in the dictionary and contain the same English letters (excluding a letter that can be in the position of `?`) in the same position as the letters are there in the query word Q . In other words, a word in the dictionary can contain any letters at the position of `?` but the remaining alphabets must match with the query word.

You are given a query word Q and you have required to compute `match_count`.

Input format:

- The first line contains two space-separated integers N and M denoting the number of words in the dictionary and length of each word respectively
- The next N lines contain one word each from the dictionary.
- The next line contains an integer Q denoting the number of query words for which you have to compute `match_count`,
- The next Q lines contain one query word each.

Output format: For each query word print `match_count` for a specific word in a new line.

Constraints:

$$1 \leq N \leq 5 \times 10^4 \quad 1 \leq M \leq 7 \quad 1 \leq Q \leq 10^5$$

Sample Input:

5 3 \ncat \nmap \nbat\nman\npen\n4\n?at\nma?\n?a?\n??n

Sample Output:

2\n2\n4\n2

Question 2: XOR query

Problem Statement: I didn't remember the actual statement but it was something like we are given an array with a single element i.e 0 and after that, we have some queries which are of 2 types :

1. **Type 1:** Insert the given element into the array
2. **Type 2:** XOR all the elements present in the array with the given element.

Input format:

- An integer **Q** which represent the count of queries that are going to be asked
- **Q** lines having two integers **n** and **m**
- **n** represents the type of operation i.e **1** or **2**
- **m** represents the element that will be used to do operation according to the given type of operation.

Output format: Print the final array after all the given queries in sorted order.

Constraints

$1 \leq Q \leq 10^7$ \n n = 1 or 2 \n $1 \leq m \leq 10^9$

Sample Input:

6\n1 3\n1 5 \n2 5\n1 6\n1 7\n2 6

Sample Output:

0 0 1 6

It was such an amazing experience, now I am waiting for some good news.

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