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Google SWE Internship 2021 Interview Experience

- Difficulty Level :\nMedium
- Last Updated :\n25 Aug, 2020

Hi Geeks, I have applied for Google SWE Internship 2021 (India) and I have been selected and invited for Google\xe2\x80\x99s Online Challenge Round \xc2\xa0

Application: I have applied through LinkedIn, it is really a great platform for opportunities and I received mail from Google on 12 Aug 2020 and it was a great experience for me.\xc2\xa0

I am here to share questions that have been asked in coding challenges. I hope I will help you.\xc2\xa0

Round 1:
\xc2\xa0

Question 1: Array queries: You are given an array of integers whose length is N, you must perform the following five types of query on the given array :\xc2\xa0

1. **Left:** Perform one cyclic left rotation.
2. **Right:** Perform one cyclic right rotation.
3. **Update Pos Value:** Update the value at index **Pos** of the array by ***Val***.
4. **Increment Pos:** Increment value at index **Pos** of the array by 1.
5. **Pos:** Print the current value at index **Pos.**

All the queries are performed considering 1-based indexing.\xc2\xa0

Note:\xc2\xa0\xc2\xa0

- One cyclic left rotation changes ($arr_1, arr_2, arr_3, \ldots, arr_{N-1}, arr_N$) to ($arr_2, arr_3, \ldots arr_{N-1}, arr_N, arr_1$).
- One cyclic right rotation changes ($arr_1, arr_2, arr_3, \ldots, arr_{N-1}, arr_N$) to ($arr_N, arr_1, arr_2, arr_3, \ldots arr_{N-1}$).

Input format\xc2\xa0

- The first line contains an integer ***N*** denoting the length of the array.
- The second line contains ***N*** space-separated integers denoting the elements of the array.
- The third line contains an integer ***Q*** denoting the number of queries.
- Next, ***Q*** lines contain the described type of query.

Output format: For each query of type **5**, print the output in a new line.

Constraints

2 \xe2\x89\xa4 N \xe2\x89\xa4 5 x 10^5\r\n2 \xe2\x89\xa4 Q \xe2\x89\xa4 5 x 10^5\r\n1 \xe2\x89\xa4 Pos \xe2\x89\xa4 N\r\n

It is guaranteed that at least one query is of type **5**.

Sample Input 1

```
10\r\n0 3 3 8 0 6 9 3 2 8\r\n10\r\nIncrement 3\r\nIncrement 1\r\nLeft\r\nIncrement 5\r\nLeft\r\n? 9\r\nRight\r\n\r\n
```

Sample Output 1

```
1\r\n9\r\n\r\n
```

Question 2: There are N-words in a dictionary such that each word is of fixed length M and consists of only lowercase English letters that are (*\xe2\x80\x98a\xe2\x80\x99, \xe2\x80\x98b\xe2\x80\x99, \xe2\x80\xa6\xe2\x80\xa6. \xe2\x80\x98z\xe2\x80\x99*).

A query word denoted by Q. The length of query word in M. These words contain lowercase English letters but at some places instead of a letter between \xe2\x80\x98a\xe2\x80\x99, \xe2\x80\x98b\xe2\x80\x99, \xe2\x80\xa6\xe2\x80\xa6. \xe2\x80\x98z\xe2\x80\x99 there is \xe2\x80\x98?\xe2\x80\x99 .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 is 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 are in the query word Q.

In other words, a word in the dictionary can contain any letters at the position \xe2\x80\x98?\xe2\x80\x99 but the remaining alphabets must match with the query word.

You are given a query word Q and you are required to compute **match_count(Q).**

Input format

- First-line contains two space-separated integers **M** and\xc2\xa0 **N** 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 u have to compute match_count()
- The next **Q** lines contain one query word each.

Output format

For each query word, print **match_count** for specific words in a new line.

Constraints

```
1 \xe2\x89\xa4 N \xe2\x89\xa4 5 x 104\r\n1 \xe2\x89\xa4 M \xe2\x89\xa4 7\r\n1 \xe2\x89\xa4 Q \xe2\x89\xa4 105
```

Sample Input\xc2\xa0

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

Sample Output

2\r\n2\r\n4\r\n2

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