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Dashboard > Algorithms > Bit Manipulation > Hamming Distance

Badge Progress (Details)

Points: 126   Rank: 270332

Hamming Distance 🔖

by **zxqfd555**

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You are given a string S, consisting of N small latin letters 'a' and 'b'. You are also given M queries to process. The queries are as follows:

- C l r ch: all the symbols in the string, starting at the lth, ending at the rth become equal to ch;

- S l_1 r_1 l_2 r_2: swap two consecutive fragments of the string, where the first is denoted by a substring starting from l_1 ending at r_1 and the second is denoted by a substring starting at l_2 ending at r_2;

- R l r: reverse the fragment of the string that starts at the lth symbol and ends at the rth one;

- W l r: output the substring of the string that starts at the lth symbol and ends at the rth one;

- H l_1 l_2 len: output the *Hamming distance* between the consecutive substrings that starts at l_1 and l_2 respectively and have the length of len.

Everything is 1-indexed here.

Input Format

The first line of input contains a single integer N — the length of the string.
The second line contains the initial string S itself.
The third line of input contains a single integer M — the number of queries.
Then, there are M lines, each denotes a query of one of the types above.

Constraints

$1 \le N \le 50000$
$1 \le M \le 75000$
Total number of characters printed in W-type queries will not exceed $2 \cdot 10^6$
For C-type, R-type, W-type queries: $1 \le l \le r \le N$; ch equals either a, or b
For S-type queries: $1 \le l_1 \le r_1 < l_2 \le r_2 \le N$
For H-type queries: $1 \le l_1, l_2 \le N$; $l_i + len - 1 \le N$; $1 \le len \le N$.

Output Format

For each query of the type W or the type H output an answer on the separate line of output.

Sample Input

```
10
aabbbabbab
10
R 1 5
W 3 8
C 4 4 a
H 2 1 9
S 5 9 10 10
H 1 2 9
C 3 3 b
H 7 8 2
C 2 9 a
S 7 9 10 10
```

Sample Output

```
baaabb
4
5
1
```

 f   y   in

Submissions:967

Max Score:150
Difficulty: Expert

Rate This Challenge:

☆ ☆ ☆ ☆ ☆

More

Current Buffer (saved locally, editable) ⑂ 🕓	Java 7 ⌄ ⛶ ⚙

```java
 1 ▾ import java.io.*;
 2   import java.util.*;
 3   import java.text.*;
 4   import java.math.*;
 5   import java.util.regex.*;
 6
 7 ▾ public class Solution {
 8
 9 ▾     public static void main(String[] args) {
10 ▾         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11           }
12   }
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input

Run Code   Submit Code

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