Changing Bits

by HackerRank

Let A and B be two N bit numbers (MSB to the left). You are given initial values for A and B, and you have to write a program which processes three kinds of queries:

- set_a idx x: Set A[idx] to x, where 0 <= idx < N, where A[idx] is idx'th least significant bit of A.
- set_b idx x: Set B[idx] to x, where 0 <= idx < N, where B[idx] is idx'th least significant bit of B.
- get_c idx: Print C[idx], where C=A+B, and 0<=idx

Input Format

First line of input contains two integers N and Q consecutively (1 <= N <= 100000, 1<= Q <= 500000). Second line is an N-bit binary number which denotes initial value of A, and the third line is an N-bit binary number denoting initial value of B. Q lines follow, each containing a query as described above.

Output Format

For each query of the type get_c, output a single digit 0 or 1. Output must be placed in a single line.

Sample Input

```
5 5
00000
11111
set_a 0 1
get_c 5
get_c 1
set_b 2 0
get_c 5
```

Sample Output

```
100
```

Explanation

- set_a 0 1 sets 00000 to 00001
- C = A + B = 00001 + 11111 = 100000, so get_c[5] = 1
- from the above computation get_c[1] = 0
- set_b 2 0 sets 11111 to 11011
- C = A + B = 00001 + 11011 = 011100, so get_c[5] = 0

The output is hence concatenation of 1, 0 and 0 = 100

Submissions:2559

Max Score:70
Difficulty: Advanced

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Current Buffer (saved locally, editable)

Java 7

```
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