



Similar Strings

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Tag(s): Advanced Algorithms, Algorithms, Convolution, FFT, Fast Fourier Transformations, Medium-Hard

PROBLEM

EDITORIAL

MY SUBMISSIONS

ANALYTICS

You are given three strings a , b and c each of length n consisting of lower case English letters. The difference between the three strings is defined as $\sum_{i=1}^n |a[i] - b[i]| + |a[i] - c[i]|$ where $|a[i] - b[i]|$ and $|a[i] - c[i]|$ are the absolute differences between ASCII values of the characters at the position i in strings a , b and a , c respectively. However, the string a can be rotated cyclically (for example the rotations of the string xyz are xyz , zxy , yza). There are a total of n possible rotations of a string of length n .

Print the maximum and minimum difference of the three strings for all the possible rotations of the string a .

Input format

First line: Single integer n (the length of the three strings)

Next three lines: Strings a , b and c respectively

Output Format:

Print two space-separated integers: the maximum and minimum difference of the three strings for all possible rotations of string a .

Constraints

$$1 \leq n \leq 100000$$

SAMPLE INPUT	SAMPLE OUTPUT
4 abaa aaba aaba	4 0

Explanation

The minimum difference is obtained when the first string is rotated cyclically once while the difference is maximum without any rotation.

Time Limit: 3.0 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded when all the testcases pass.

Allowed Languages: Bash, C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Swift-4.1, Visual Basic



BEST SUBMISSIONS

LANGUAGE: Bash

There is no solution for this language

[VIEW ALL SUBMISSION](#)

CONTRIBUTOR

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THIS PROBLEM WAS ASKED IN

CHALLENGE NAME
November Easy' 18

SOCIAL SHARE



CODE EDITOR

Enter your code or [Upload your code](#) as file.[Save](#)

Bash (GNU bash, version 4.3)



```
1 # Sample bash code
2
```



Press Ctrl+Command+Spacebar for autocomplete suggestions (accuracy dependent on connection stability).

☐ Provide custom input

COMPILE & TEST

SUBMIT

Your Rating:



PROGRAMMERS WHO SOLVED THIS PROBLEM ALSO SOLVED

Mojtaba And Construction ...

Attempted By: 207 / Accuracy: 82

☆☆☆☆☆ 0 Votes

Powerful Dishes

Attempted By: 141 / Accuracy: 73

★★★★☆ 7 Votes

Choose Items

Attempted By: 82 / Accuracy: 52

★★★★★ 9 Votes

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