Problem A. King of String Comparison

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

You are given two strings s, t of length n. Find the number of pairs (l, r) of integers such that $1 \le l \le r \le n$ and the substring $s_l s_{l+1} s_{l+2} \dots s_r$ is **lexicographically smaller** than $t_l t_{l+1} t_{l+2} \dots t_r$.

A string a is lexicographically smaller than a string b if and only if one of the following holds:

- a is a prefix of b, but $a \neq b$;
- in the first position where a and b differ, the string a has a letter that appears earlier in the alphabet than the corresponding letter in b.

Input

The first line of the input contains a single integer n ($1 \le n \le 200\,000$).

The second and the third lines of the input contain strings s, t of length n correspondingly, each consisting only of lowercase Latin letters.

Output

Output a single integer — the number of pairs (l, r) of integers such that $1 \le l \le r \le n$ and the substring $s_l s_{l+1} s_{l+2} \dots s_r$ is **lexicographically smaller** than $t_l t_{l+1} t_{l+2} \dots t_r$.

Examples

standard input	standard output
3 aab aba	4
4 icpc cool	4
4 zyzz life	0
7 trivial problem	16
18 goodluckandhavefun letthestrongestwin	112

Note

In the first sample, there are 4 such pairs: $(1, 2), (1, 3), (2, 2), (2, 3)$.