

New Typing Problem

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

This is a typing problem. Here Alice wants to type a string X which only consists of letters 'A','B' and 'C'. Now to make the problem interesting you can only type letters 'A' and 'B' from your left hand and letters 'A' and 'C' from your right hand . You can start from any hand of your choice to type, Now let $f(Z)$ denotes the minimum number of times you need to switch your hands in order to type Z , Now Alice wants to find the sum of $f(Y)$ over all substrings Y of X , Now Alice is pretty dumb and can't calculate this value on her own, So can you help her by solving this problem, Since the value can be large you need to print it modulo 1000000007.

Input

The first line contains T ($1 \leq T \leq 75$) denoting the number of test cases. For each Test case : The first line of each testcase contains integer number n ($1 \leq n \leq 8 \cdot 10^4$). The second line of each testcase contains string X The sum of n over all test cases doesn't exceed $4 \cdot 10^6$.

Output

You need to find the sum of $f(Y)$ over all substrings Y of string X and print it modulo 1000000007.

Example

standard input	standard output
4	0
1	1
C	0
3	36
BAC	
5	
AACAA	
10	
ABBABACCBA	

Note

In the 2nd testcase: The possible substrings are: 'B','A','C','BA','AC','BAC'. Now $f('BAC')=1$ as we can start typing from left hand and type 'B','A' using it and to type character 'C' we need to use our right hand So $f('BAC')=1$ (as we need to switch our hand only once). The value of f on other substrings will be 0 as we can type them using one hand So sum over all substrings = $0+0+0+0+0+1=1$