C. Crazy Search

Input File: C.txt
Run Time Limit: 3 sec

Problem

Many people like to solve hard puzzles some of which may lead them to madness. Well, it's almost Halloween!

Your task is to write a program that, given a String S, and the size N of a valid substring, determines the number of different substrings of size N that appear in S. A substring of S is a contiguous subsequence of the characters in S

As an example, consider N=3 and S = "daababac". The different substrings of size 3 that can be found in this text are: "daa"; "aab"; "aba"; "bab"; "bac". Therefore, the answer is 5.

Input

The input begins with the number of test cases to follow. Each test case takes up one line containing the number N, then a space, and then the string S. S will only contain lower-case alphabetical characters. You may assume that the number of substrings will not exceed 16 Million.

Output

For each test case the program should output a line beginning with the String "Case number X: " followed by an integer corresponding to the number of different substrings of size N found in the given text. X begins at 1 and progresses upward by one for each test case.

Sample Input	Output for Sample Input
2 3 daababac 2 yabadabadoo	Case 1: 5 Case 2: 7