Superpowers

Science has done it! We unlocked the secret of superpowers! In fact, it is rather easy. Using the patented DNA-Resequencer, we can rewrite the DNA of one lucky person so that he will develop either super strength or the ability to telepathically talk to tomatoes (depending on prior genetic makeup).

To find out which one will happen, the scientists have to count the number of times a specific sequence (which differs for each person) occurs in the subjects DNA. Can you help them with that?

Input

The first line of the input contains an integer t. t test cases follow.

Each test case consists of two lines. The first line contains w, the DNA of a potential subject. The second line contains p, the specific sequence that influences the superpower.

Output

For each test case, print a line containing "Case #i: x" where i is its number, starting at 1 and x is the amount of times p occurs in w. Each line of the output should end with a line break.

Constraints

- $1 \leq t \leq 20$
- $1 \leq |p| \leq |w| \leq 50000$
- Both p and w consist only of the letters "A", "C", "G" and "T"

Sample Input 1	Sample Output 1
3 ACTGACTGAT TGA ATTATATAGT TATA CATTACTCATTACTCAT CAT	Case #1: 2 Case #2: 2 Case #3: 3