SWITCH TO EDITOR

Given the text of the book, count the number of different lucky fragments that
the book gets old and she needs to buy another one. Two fragments are co
they start or end at different positions in the text, even if the fragments read
different lucky fragments may overlap.

Input

The first line of the input gives the number of test cases **T**. **T** lines follow, each containing a single string **S** consisting of upper case English letters only.

Output

For each test case, output one line containing `Case #x: y`, where x is the test case number (starting from 1) and y is the number of different lucky fragments in the text of this test case.

Limits

Memory limit: 1 GB.
$1 \leq \mathbf{T} \leq 100$.
S consists of upper-case English letters only.

Test Set 1

Time limit: 20 seconds.
$1 \leq |\mathbf{S}| \leq 1000$.

Test Set 2

Time limit: 40 seconds.
$1 \leq |\mathbf{S}| \leq 10^5$.

Sample

Input	Output
3 AKICKSTARTPROBLEMNAMEDKICKSTART STARTUNLUCKYKICK KICKXKICKXSTARTXKICKXSTART	Case #1: 3 Case #2: 0 Case #3: 5

There are three lucky fragments in the first test case, namely, KICKSTARTPROBLEMNAMEDKICKSTART and two occurrences of KICKSTART. The text in the second test case has no lucky fragments at all.