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The Virtual Learning Environment for Computer Programming

## Counting suffixes

Vintè Concurs de Programació de la UPC - Semifinal (2021-06-15)
Please implement a data structure $D$ to efficiently support four operations:

- I $s$ : Inserts the string $s$ into $D$. No changes are made if $s$ is already in $D$.
- E $s$ : Erases the string $s$ from $D$. No changes are made if $s$ is not in $D$.
- C s: Counts the number of strings in $D$ that end with the suffix $s$.
- R: Resets $D$, that is, removes all strings from $D$.


## Input

Input consists of several operations over an initially empty $D$. Assume that each $s$ is made up of between 1 and 100 lowercase letters. At no moment the sum of the sizes of the strings stored in $D$ will be larger than $10^{6}$.

## Output

Print the result of each C s operation, and three dashes for each R operation.

| Sample input | Sample output |
| :--- | :--- |
| E a | 1 |
| I abba | 1 |
| C a | 1 |
| I cba | 1 |
| C cba | 2 |
| C abba | 2 |
| C a | 2 |
| C ba | 0 |
| I abba | 1 |
| C ba | 1 |
| E cba | 1 |
| C cba | 0 |
| C a |  |
| E ba | 2 |
| C ba | 1 |
| R ba |  |
| C ba |  |
| I eggs |  |
| I zzeggs |  |
| C eggs |  |
| E eggs |  |
| C eggs |  |
| egg |  |

## Problem information

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