Helping grandpa Laino

[Due to SPOJ restrictions, this problem has been modified with respect to the original version used in the Argentinian Programming Tournament of 2016 in order to have multiple test cases per input file. The original version of this problem (in Spanish) can be found at http://torneoprogramacion.com.ar/wp-content/uploads/2016/09/tap2016.pdf]

We don't really know why, but grandpa Laino doesn't like one of the five vowels. Maybe it's hard for him to pronounce it, certainly stuttering was badly seen in past times. In any case, fortunately this vowel is not present in the words "grandfather" or "soup", so his grandsons and granddaughters have no trouble requesting their favorite dish when they visit him every Sunday.

Grandpa Laino worked without rest for decades, so now he is preparing to take a well-deserved break of his duties. In this time, he wishes to undertake an adventure crossing the countryside faraway, for which he is currently packing his bag. Grandpa Laino doesn't want to take in his bag any object whose name contains the vowel he dislikes so much, so that he doesn't risk thinking about it during his holiday. Your job is to help him in this task, telling him which of the objects he possesses he can pack in his bag.

Input

There are multiple test cases in the input file. Each test case consists of one line containing a non-empty string of at most **20** characters from 'a' to 'z', representing the name of an object in grandpa Laino's possession.

Output

For each test case print one line containing one character, representing whether grandpa Laino can pack the object whose name appears in the corresponding input line. The character should be an 'S' if he can do so, and an 'N' otherwise.

Example

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Input:
remera
camisa
buey
i
abuelo
estenoporquetienelai
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Output: