

A Hug, Ay, Nap, Anya Guha

Filename: anya

Arup has discovered that his daughter Anya is incredibly smart. At 7 months she is already starting to read! Arup has come to realize that she particularly enjoys reading sentences that contain multiple palindromes, or entire sentences that are all one palindrome. Arup has come up with a list of sentences and needs help figuring out whether or not Anya will like them. Though she can read, at 7 months of age she doesn't have control of her vocal chords yet. Thus, whenever she reads a sentence she likes, she utters, "Ay", and when she reads one she doesn't like, which presumably puts her to sleep, she says, "Nap."

The Problem

Given a list of sentences, decide whether or not Anya likes each sentence. Anya will like the sentence if there are 2 or more words of three or more letters in it that are palindromes or if the entire sentence is a palindrome. When determining whether or not a sentence is a palindrome, all non-letter characters are ignored. (Thus, "madam im adam" is a palindrome.)

The Input

The first line of the input file will contain a number n indicating the number of sentences to be evaluated. The following n lines will each contain a sentence to be evaluated. Sentences will only contain lower case letters and spaces and words are defined to be a sequence of contiguous letters separated by spaces.

The Output

For each test case, if Anya likes the sentence, print out "Ay". If Anya doesn't like the sentence, print out "Nap" .

Sample Input

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3
hannah watched the racecar go fast around the track
joey likes to eat pizza
never odd or even
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Sample Output

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Ay
Nap
Ay
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