

## Problem Statement

On the basis of some really concrete evidence, people believe that *Siddhant* is a special agent sent here to spy on us. *Yash* recently got hold of Siddhant's cellphone and being such a curious person that he is, he started going through some of his messages. The messages seemed absurd because they contained certain words with no meaning at all. As we all know, Yash loves to rush to conclusions. So he deduced that these strange words must be [Caesar ciphers](#) for some real words.

The Caesar cipher of a word can be formed by shifting all its letters to left or right by particular number. For example, the word **romeo** shifted to left by **2** characters gives **pmkcm**. This is obtained as follows:

**r** shifted left by 2 characters gives **p**

**o** shifted left by 2 characters gives **m**

**m** shifted left by 2 characters gives **k**

**e** shifted left by 2 characters gives **c**

**o** shifted left by 2 characters gives **m**

Hence, the Caesar Cipher of **romeo** is **pmkcm**

Yash has created a list of words from Siddhant's messages. For each word **E** in this list, he proposes a word **D** that could be the actual deciphered form of **E**. Unfortunately Yash doesn't have a lot of free time so he asks for your help in determining whether his assumptions are correct or not.

## Input Format

The first line contains **N**, the number of words in list. N lines follow, each of these lines have two words

The first word is the actual word **E** present in one of Siddhant's messages The second one the deciphered word **D** suggested by Yash

Both **E** and **D** contain only lowercase English alphabets and have the **same size**

## Constraints:

$1 \leq N \leq 50000$

$1 \leq |E|, |D| \leq 100$

## Output Format

For each line determine if first word is a Caesar Cipher of the second i.e. there exists a key by which each letter of **E** can be rotated to obtain **D**. If such a key exists print **"YES"** otherwise print **"NO"** in a different line

## Sample Input

```
2
jfpplk mission
main void
```

## Sample Output

YES

NO

### **Explanation**

In the first case the second word can be obtained by right shifting each letter in the first word by **3**.

In the second case no such key exists