

Anagram verifier

An [anagram](#) is a rearrangement of the letters of an existing phrase to create a new phrase. For example, an anagram of "Tom Marvolo Riddle" is "I Am Lord Voldemort".

Given two phrases, answer whether they are anagrams. The phrases will be given in the lowercase letters a-z with spaces removed.

(Note: For this problem, every phrase is considered to be an anagram of itself.)

Input

The first line is an integer T (between 1 to 20, inclusive), which is the number of supposed anagram pairs to follow.

On the next T lines will be two sequences of lowercase letters. These are the two phrases. Neither will exceed 10000 characters.

Output

For each supposed anagram pair, print a line with "true" if they are anagrams and "false" otherwise.

Example

Input:

3

tommarvoloriddle iamlordvoldemort

aaa aba

iamaweakishspeller williamshakespeare

Output:

true

false

true