**Java Hashset**

<https://www.hackerrank.com/challenges/java-hashset/problem>

In computer science, a set is an abstract data type that can store certain values, without any particular order, and no repeated values (Wikipedia). *{1,2,3}* is an example of a set, but *{1,2,2}* is not a set. Today you will learn how to use sets in java by solving this problem.

You are given *n* pairs of strings. Two pairs *(a,b)* and *(c,d)* are identical if *a = c* and *b = d*. That also implies *(a,b)* is *not* same as *(b,a)*. After taking each pair as input, you need to print number of unique pairs you currently have.

Complete the code in the editor to solve this problem.

**Input Format**

In the first line, there will be an integer *T* denoting number of pairs. Each of the next *T* lines will contain two strings separated by a single space.

**Constraints:**

* *1 <= T <= 100000*
* *Length of each string is atmost 5 and will consist lower case letters only.*

**Output Format**

Print *T* lines. In the *ith* line, print number of unique pairs you have after taking *ith* pair as input.

**Sample Input**

5

john tom

john mary

john tom

mary anna

mary anna

**Sample Output**

1

2

2

3

3

**Explanation**

* After taking the first input, you have only one pair: (john,tom)
* After taking the second input, you have two pairs: (john, tom) and (john, mary)
* After taking the third input, you still have two unique pairs.
* After taking the fourth input, you have three unique pairs: (john,tom), (john, mary) and (mary, anna)
* After taking the fifth input, you still have three unique pairs.