

Prof. Dr. Friedrich, Dr. Lenzner, Boockmeyer, Neumann, Stangl  
Sommersemester 2017

## Woche 01 – (Adv.) Competitive Programming

Abgabe 24.04.2017 17:00 Uhr, über das Judge-Interface

**Aufgabe 1** (homework- $\{e,m,h\}$ ). (100 Points – 1 second timelimit)

Paula had a hard day at her school but her teacher had no mercy and gave her lots of homework. One of her tasks is to check, if there are two classmates with similar names. Two names  $a$  and  $b$  are similar when, if you change to order of the letters of  $a$ ,  $a$  is equals to  $b$ .

Please help her with a algorithm, that checks for a given list of pairs, if the two names are similar.

**Input** The input will begin with  $p$  ( $1 \leq p \leq 2000$ ), the number of pairs. Each pair has two lines, where the first line is  $a$  and the second line is  $b$  ( $1 \leq \text{len}(a), \text{len}(b) \leq 8000$ ). Each letter is a lower case letter between a and z.

**Output** Print for each pair, if the two lines are similar (1) or not (0)

**Points** There are three groups of test sets:

- *e(asy)*: For the first group worth 30 Points, you can assume, that  $p \leq 500$  and  $\text{len}(a), \text{len}(b) \leq 1000$ .
- *m(edium)*: For the second group worth 50 Points, you can assume, that  $p \leq 1500$  and  $\text{len}(a), \text{len}(b) \leq 5000$ .
- *h(ard)*: For the third group of test sets worth 20 Points, there are no additional assumptions.

**Sample Input**

```
2
otto
toto
anne
```

emma

**Sample Output**

```
1
0
```