
Repetitions, conflicts and coincidences in a list of peopleX41925_en

Given a list of people described by an identifier and a name, you must count three things:

- Repetitions: number of pairs of persons with the same identifier and the same name.
- Conflicts: number of pairs of persons with the same identifier and different name.
- Coincidences: number of pairs of persons with a different identifier but the same name.

Input

The input consists of several cases. Each case starts with a positive natural n in a separate line, which is the number of people. After that come n lines, each one with a natural number and a string, which are the identifier and name of a person. At the end there is a blank line.

Output

For each case, the output has three natural numbers in one line, the number of repetitions, conflicts and coincidences in the list of people at the input.

Sample input 1

```
3
1 joel
1 joel
0 joel

11
0 anabel
4 maria
1 anabel
1 nestor
3 maria
4 anabel
2 anabel
4 maria
4 nestor
3 anabel
2 david

18
0 rosabel
2 robert
2 joan
1 silvia
5 rosabel
5 rosabel
3 silvia
1 silvia
5 silvia
5 silvia
1 silvia
4 joel

3 david
5 rosabel
5 joel
2 rosabel
3 joan
5 silvia

5
0 silvia
0 silvia
0 silvia
0 silvia
0 silvia

7
2 desi
4 desi
5 desi
6 desi
0 desi
1 desi
6 desi

3
0 anabel
0 sandra
0 silvia

2
0 nestor
1 nestor

13
```

0 ferran
2 aleix
0 maxtor
0 ferran
1 cesar
1 maxtor
2 maxtor
0 cesar
1 maxtor
2 maxtor
2 cesar
2 aleix
0 aleix

10

1 maria
0 maria
4 aleix
4 aleix
1 maria
0 maria
2 aleix
4 aleix
0 aleix
2 maria

14

0 nestor
1 nestor
2 nestor
2 nestor
0 silvia
2 marisa
1 marisa
0 silvia
2 marisa
0 nestor
2 marisa
1 silvia
0 nestor
1 nestor

16

2 robert
0 robert
2 laura
0 joan
1 joan
1 robert
1 laura
2 joan
0 joan
1 robert
2 joan
0 robert
1 robert
2 robert
0 joan
2 joan

7

1 rosabel
0 rosabel
0 rosabel
2 rosabel
0 rosabel
2 rosabel
1 rosabel

7

6 nuria
4 nuria
4 nuria
5 nuria
1 nuria
5 nuria
2 nuria

15

0 nestor
0 angels
2 david
2 angels
2 nestor
1 david
1 david
0 david
2 angels
0 angels
2 angels
1 david
1 nestor
0 robert
2 robert

19

16 sandra
16 robert
7 joel
10 joel
0 robert
4 robert
13 robert
11 marisa
2 robert
11 robert
7 marisa
7 marisa
13 joel
12 marisa
1 joel
13 marisa
9 sandra
12 marisa
10 marisa

6

0 david
0 david
0 david
0 david
0 david

0 david

4

0 oscar

0 oscar

0 oscar

0 oscar

16

5 nestor

3 oscar

5 robert

5 robert

5 robert

3 cesar

0 oscar

5 angels

4 robert

6 robert

7 oscar

2 angels

4 oscar

5 cesar

2 angels

0 cesar

11

2 robert

1 ferran

3 robert

3 robert

1 ferran

0 robert

0 robert

2 robert

1 ferran

2 robert

1 robert

11

4 arisa

5 arisa

3 oscar

7 oscar

7 arisa

1 arisa

6 oscar

3 arisa

4 oscar

9 oscar

0 oscar

Sample output 1

1 0 2

1 8 13

9 21 24

10 0 0

1 0 20

0 3 0

0 0 1

4 19 13

5 3 15

9 17 21

11 24 32

5 0 16

2 0 19

7 24 17

2 8 41

15 0 0

6 0 0

4 15 18

8 3 23

0 3 25

Observation

Evaluation over 10 points:

- Slow solution: 5 points.
- Fast solution: 10 points.

It is understood that a fast solution is correct, with $n \log(n)$ cost and passes all test cases, both public and private. A slow solution is defined as one that is not fast, but it is correct and passes the public test cases.

Problem information

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