Deanonymizing Grades X93736_en

We are to receive a list of grades for several courses and students. However, for privacy, they are provided anonymized: students will appear there identified by an anonymous numeric code. Separately, we have as well the code corresponding to each student's name (assumed a single word for simplicity). We want to list the plain names and codes together with the average grade of each student. The list must have a line per student, start with the student's name, and then indicate the code and the average grade; and must be ordered according to the numeric code.

Input

First comes alone in a line the number of students n. Then come n pairs, each in a line, consisting of a student name and a numeric code, separated by a space. It is guaranteed that all the codes are different, and so are as well the names. Then comes the total number of grades m followed by m lines with grades: each line has, first, the numeric code of some student, then the mark of the student (a float) for one of the evaluable acivities of some course, also separated by a space.

Output

Output must not include students with no grades. As for the rest, output consists of as many lines as students. Each line starts with the name of the student, then the numeric code corresponding to the student, and the average grade of the student. Print all floats rounded to two decimal places. The lines must come ordered according to the numeric code. Inside each line, everything must come separated by single spaces. There should not be trailing spaces.

Sample input

```
10
Finley 2150
Skyler 154
Lennon 1159
Azariah 156
Sidney 2151
Denver 158
Campbell 1152
Jaidyn 3153
Brighton 4157
Kylar 155
25
2150 6.6
154 7.3
1159 5.0
156 8.8
2151 7.5
158 4.1
1152 2.3
3153 9.3
4157 6.7
155 7.7
2150 9.2
154 8.7
1159 8.5
156 5.0
2151 6.7
158 5.6
1152 8.2
3153 7.7
4157 8.9
155 5.1
154 9.9
1159 9.1
3153 4.4
4157 8.9
155 9.9
```

Sample output

```
Skyler 154 8.63
Kylar 155 7.57
Azariah 156 6.90
Denver 158 4.85
```

```
Campbell 1152 5.25
Lennon 1159 7.53
Finley 2150 7.90
Sidney 2151 7.10
Jaidyn 3153 7.13
Brighton 4157 8.17
```

Problem information

Author :
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