

Median Person(s)

Find the person(s) with a median age in a data set of no more than 1000 records. Each record consists of the name and age of a person.

Median number of a sequence of numbers is the value separating the higher half from the lower half of a that sequence, e.g., median of 9 3 6 8 7 3 1 is 6, since after sorting them we get 1 3 3 **6** 7 8 9. Another situation is for the sequence of even length, e.g., for 6 3 2 9 5 1 8 4, the median is 4.5, since after sorting we get 1 2 3 **4 5** 6 8 9, and median is the average of **4** and **5**. More information you may find [here](#).

A *median person* (in case of odd number of records) or *median persons*, precisely two persons (in case of even number of records) for a set of records, we may find as follows. Sort all the records in a non-decreasing order by an age and in the case of the same age, sort the persons with the same age in a lexicographical order by names. You may assume that there are no two persons with the same name and age. Follow the example.

Gilbert 35
Anna 35
Anna 15
Mary 15
Joseph 40

After sorting (with the above rules) we get the following sequence.

Anna 15
Mary 15
Anna 35
Gilbert 35
Joseph 40

So your answer should be **Anna 35**. In case of even number of records, you have to write to the output two records. Follow the example.

Gilbert 35
Anna 35
Andrew 35
Anna 15
Mary 15
Joseph 40

After sorting (with the above rules) we get the following sequence.

Anna 15
Mary 15
Andrew 35
Anna 35
Gilbert 35
Joseph 40

So your answer should be both, Andrew and Anna, as follows:

Andrew 35
Anna 35

Input

There are given at most 1000 records, where each record is written in a separate line ending with newline character (even after the last line). Each record consists of a name (of length at most 25 characters) and age (the integer between 0 and 150), separated by whitespace and ending with a newline character.

Output

Median person or median persons, as explained above.

Examples

Input:

Gilbert 35
Anna 35
Anna 15
Mary 15
Joseph 40

Output:

Anna 35

Input:

Gilbert 35
Anna 35
Andrew 35
Anna 15
Mary 15
Joseph 40

Output:

Andrew 35
Anna 35