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## Nursery school

P24730\_en

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In the nursery school El Peixet the learning motivation and the didactic interaction are encouraged with paradigmatic pedagogical techniques. In particular, each time that a teacher ask a question, the first student that answers (whatever) is given a carrot. and, if the answer is absurd enough, instead of a carrot he is given a sweet.

Write a program that reads a list with the given presents, and prints the sorted list of the teachers, from best to worst. Is considered the best teacher who have given more sweets. In a event of a tie, wins who have given more carrots. If there still is a tie, the name of the teacher is used to break the tie: the shortest wins and, in a event of a tie, the smallest alphabetically.

### Input

Input consists of a natural  $n$  followed by an empty line and of  $n$  cases, separated by lines in white. Each case consists of a natural  $t \geq 1$  that indicates the number of teachers.  $t$  lines follow, each one with the name of the teacher, the number of given sweets, and the number of given carrots. All the names of the same case are different.

### Output

For each case, print the sorted list of the teachers, from best to worst. It must print each name in a different line, and an empty line at the end of each case.

#### Sample input

```
2
8
John 3 7
Peter 4 2
Mark 2 9
Frank 1 9
Anna 2 9
Joseph 2 9
Tom 2 9
Michael 3 8

2
Generous 100 100
Stingy 0 0
```

#### Sample output

```
Peter
Michael
John
Tom
Anna
Mark
Joseph
Frank

Generous
Stingy
```

### Problem information

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