Result Sheet

You are given the student IDs of N students. These student IDs are all distinct. For each student, his obtained marks in 4 courses, CSE-2321, CSE-2322, CSE-2323 and CSE-2324 are also given. Now you have to print the student IDs and total marks of these students in sorted order according to the following rule: Between every two students, one will come first in the sorted order if his total obtained marks in 4 subjects is higher than the other one. If both of their total marks are the same, then the one with lexicographically smaller student ID will come first in the sorted order.

Input Format

The first line will contain an integer N, representing the number of students. On each of the following N lines, there will be a string in the form “Cxxxxxx” (0 <= x <= 9) followed by 4 space separated positive integer values <= 100. The string represents the student ID of a student and the following 4 values represent the obtained marks in each of the four courses.

Constraints

- 1 <= N <= 100000

Output Format

Print the student IDs and total obtained marks of the students in sorted manner (according to the given rule). For better understanding see the examples.

Sample Input 0

```
3
C191005 90 90 90 80
C191006 100 100 100 100
C191001 100 100 100 100
```

Sample Output 0

```
C191001 400
C191006 400
C191005 350
```