

Lesson Attendance

You are given an attendance list of a class. Suppose that there are some students attend all lessons, and every student joined at least one lessons.

Your task is to write a program to print out class's start time, attendance rate.

Input

- The first line contains an integer M – attendance list size ($1 \leq M \leq 10^5$).
- Each line in the next M lines represents 3 integers: class's start time (in milliseconds format), student ID and class ID followed by a boolean isCheckin (0 - absence or 1 - present) . All integers don't exceed 10^{18} .

Output

The required sorted list. Each line in the output contains class's start time, attendance rate (rounded to 2 decimal places, *String.format("%.2f",...)*). The list should be sorted in descending order of attendance rate and ascending order of class's start time.

Sample

Input	Output
5	1656894600000 1.00
1656894600000 001 0001 1	1657153800000 0.50
1656894600000 002 0001 1	1657499400000 0.50
1657153800000 001 0001 1	
1657499400000 001 0001 1	
1657499400000 002 0001 0	