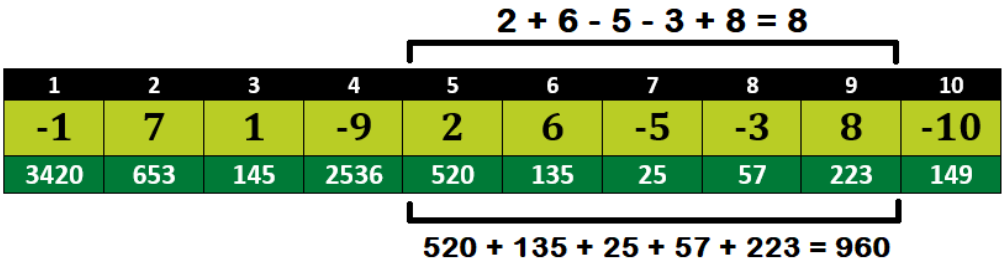
The Celebration

Author:
Time limit: 1 second
Memory limit: 256 megabytes

IIUC Programming Club built a hall consisting of ***n*** rooms for ***n*** students who practice competitive programming. The rooms are numbered from ***1*** to ***n***.
Today, the scores of their recently held programming contest have been published serially according to their room numbers $\mathbf{a_1, a_2, a_3, \ldots, a_n}$.
A group of students with adjacent rooms with the maximum total score wants to celebrate their victory by buying a cake with their total pocket money.
Your task is to find the maximum total score and the total price of the cake.
If there are multiple groups with the same maximum score, find the one with the maximum total money.



Input

The first line contains the number of test cases ***t (1 ≤ t ≤ 10)***. Description of the test cases follows.
The first line of each test case contains an integer ***n (1 <= n <= 10^5)***, the number of rooms and students.
The next ***n*** lines contain two integers ***s (-10^9 <= s <= 10^9)*** *and* ***m (1 <= m <= 10^9)***, the scores and the pocket money of the students respectively.
It is guaranteed that the sum of ***n*** over all test cases does not exceed ***10^5***.

Output

For each test case, print two integers ***a*** and ***b***, the highest total score, and the total price of the cake with a space in between.

Example

Input	Output
1 10 -1 3420 7 653 1 145 -9 2536 2 520 6 135 -5 25 -3 57 8 223 -10 149	8 960