

Air Conditioner Temperature Evaluation Report

Problem Description

A research team conducted performance evaluations for several air conditioners under different temperature settings. Each setting has a score, which can be:

- Positive: the air conditioner performs well under that temperature.
- Negative: it performs poorly or causes discomfort.

Because the experiment was conducted by two independent groups (Report A and Report B), you now have two reports, each containing a list of **(score, temperature)** pairs sorted from the highest temperature to the lowest.

Your task is to consolidate these two reports into a single evaluation report.

1. Insert all terms of Report A and Report B into singly linked lists. The input is already given in descending order of temperature, and the provided **insert()** function will simply append nodes to the list. It does **not** merge nodes with the same temperature.
2. Implement the function **mergeReport(Node *reportA, Node *reportB)** to merge two sorted linked lists into one. If a certain temperature appears in both lists, their scores should be added.
3. After merging, you must also combine any consecutive nodes with the same temperature in the resulting list and remove any node whose score becomes 0.
4. The final result must be a single linked list, sorted in descending order of temperature, containing **no duplicate temperatures** and **no zero scores**.

You may refer to the template here: <https://hackmd.io/@XOEVUAM9STuKzO4FxRdWTA/yay>

Input Format

- The first line contains two integers m and n , representing the number of terms in Report A and Report B.
- The next m lines each contain two integers **score temperature**, describing one record of Report A.

- The following n lines each contain two integers **score** **temperature**, describing one record of Report B.
- The input records are guaranteed to be in descending order of temperature, but duplicate temperatures may still appear within the same report. For example, the input may contain (3, 4), (6, 4), and (2, 4), which represent three different records for the same temperature.

Output Format

- Print each temperature and its total score on a separate line, with the **score** **printed first**, followed by a space, and then the **temperature**.
- If the final list is empty, print **0**.

Constraints

- $0 \leq m, n \leq 10^6$
- $-10^9 \leq score, temperature \leq 10^9$

Example Test Case

Sample Input 1

```
1 2
5 3
6 3
-1 -7
```

Sample Output 1

```
11 3
-1 -7
```

Explanation of Sample 1

The pair (score, temperature) of report A is (5, 3) and report B is (6, 3) → (-1, -7). Their sum is (11, 3) → (-1, -7).

Sample Input 2

```
2 3
-9 8
-7 0
2 1
7 0
2 0
```

Sample Output 2

```
-9 8
2 1
2 0
```

Explanation of Sample 2

The pair (score, temperature) of report A is $(-9, 8) \rightarrow (-7, 0)$ and report B is $(2, 1) \rightarrow (7, 0) \rightarrow (2, 0)$. Their sum is $(-9, 8) \rightarrow (2, 1) \rightarrow (2, 0)$.

Sample Input 3

```
1 1  
-1 0  
1 0
```

Sample Output 3

```
0
```