LEVEL 5

**Corpo:**

The way to the top is full of tears, crushed dreams and pain. Not yours of course, but everyone around.

...

What do you mean that's not humane? Wake up, rookie, we're not in Kansas. This is corporate life. Humane is oldschool, machine-like is the new norm. Numbers, not faces, profit, not stability, that's what it is all about.



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**Corpo:**

Disagree about it all you want. This isn't a meta-social commentary about the current state of things, it's reality. You either gobble up SOMA to forget about it or learn to live with it and stand by it.

We're nearly there, rookie - 2 more to go.

## Task for Level 5:

Calculate the ELO of players in teams!

- Games will now be **playable in teams**.
- Team size will be given as an input parameter.
- You will be given a list of matches and need to output the rating of all players after them.
- A team wins if the **sum of the points** obtained by its players is more than the sum of the points obtained by the other team's players.
- In case there are players with the **same amount of points**, the one with the **lowest player id** comes before the others.



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- When calculating the rating update, **the opponent's rating is considered to be the sum of the opponents' ratings minus the sum of your teammates' ratings.**
- For example, if the first team has players A (1200), B(1220), C(1215) and the second team has players D(1300), E(1180), F(1200), then the rating of the opponent of A is considered to be D + E + F - B - C = 1245



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| | Input | Output |
|---|---|---|
| **Format** | gameCount playerCount **playersPerTeam**<br>**$pId_0$ $pS_0$ $pId_1$ $pS_1$ $pId_2$ $pS_2$ … $pId_{n-1}$ $pS_{n-1}$**<br>*… repeated for each game...*<br>**$pId_0$ $pS_0$ $pId_1$ $pS_1$ $pId_2$ $pS_2$ … $pId_{n-1}$ $pS_{n-1}$** | playerId **rating**<br>playerId **rating**<br>… repeated for all players sorted in descending order by **rating** …<br>playerId **rating** |
| **Types** | gameCount - Integer. Represents the number of games played for this test case<br>playerCount - Integer. Represents the number of players involved in this test case.<br>**playersPerTeam - Integer. Amount of players in one team**<br>**n - Integer. Amount of players in one game. 2*playersPerTeam**<br>**$pId_i$ - Integer. Id of the i-th player from one game. If i < playersPerTeam then the player is in the first team, otherwise in the second team.**<br>**$pS_i$ - Integer. The score obtained by the i-th player.** | playerId - Integer.<br>**rating - Integer. ELO rating of the player** |
| **Example** | *9 10 2*<br>*2 8815 3 13997 6 4316 9 4545*<br>*2 9038 6 12056 7 12167 8 20846*<br>*2 4902 3 7784 4 1839 8 2586*<br>*0 12817 1 10553 5 4892 9 5265*<br>*0 3671 2 2908 3 1738 9 1537*<br>*1 7630 3 11658 6 15166 7 11231*<br>*2 6634 5 8656 7 3959 8 6783*<br>*1 11290 2 10865 3 7027 8 7490*<br>*1 6022 3 9201 6 20384 7 15095* | *2 1059*<br>*7 1032*<br>*0 1029*<br>*6 1001*<br>*5 1000*<br>*1 993*<br>*4 984*<br>*8 969*<br>*3 968*<br>*9 953* |



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PLAY
TO
WIN
MOBA
MATCHMAKING
GOOD LUCK