Code Test: Most Valuable Player

Estimated resolution time: 3-4 hours

Task

Tucan Tournament is a tournament where several players compete in several sports. Right now, the sports played are basketball and handball matches. They plan to add more sports in the future.

You have been contacted to create a program to calculate the Most Valuable Player (MVP) of the tournament.

You will receive a set of files, each one containing the stats of one match. Each file will start with a row indicating the sport it refers to.

Each player is assigned a unique nickname.

Each file represent a single match.

The MVP is the player with the most rating points, adding the rating points in all matches.

A player will receive 10 additional rating points if their team won the match. Every match must have a winner team. One player may play in different teams and positions in different matches, but not in the same match.

The program responsible of generating the files has a bug, that can be reflected in wrong files format. If one file is wrong, the whole set of files is considered to be wrong and the MVP won't be calculated.

Basketball:

Each row will represent one player stats, with the format:

player name;nickname;number;team name;position;scored points;rebounds;assists

This table details the rating points each player in a basketball match receives depending on his position:

	Scored point	Rebound	Assist
Guard (G)	2	3	1
Forward (F)	2	2	2
Center (C)	2	1	3

E.g. a player playing as center with 10 scored points, 5 rebounds and no assists will be granted 25 rating points (10*2 + 5*1 + 0*3).

The winner team is the one with more scored points.

Example:

BASKETBALL

player 1;nick1;4;Team A;G;10;2;7

player 2;nick2;8;Team A;F;0;10;0

player 3;nick3;15;Team A;C;15;10;4

player 4;nick4;16;Team B;G;20;0;0

player 5;nick5;23;Team B;F;4;7;7

player 6;nick6;42;Team B;C;8;10;0

Handball:

Each row will represent one player stats, with the format:

player name;nickname;number;team name;position;goals made;goals received

This table details the rating points each player in a handball match receives depending on his position:

	Initial rating points	Goal made	Goal received
Goalkeeper (G)	50	5	-2
Field player (F)	20	1	-1

E.g. a player playing as goalkeeper with 1 goals made and 10 received will be granted 35 rating points (50 + 1*5 - 10*2 = 35).

The winner team is the one with more goals made.

Example:

HANDBALL

player 1;nick1;4;Team A;G;0;20

player 2;nick2;8;Team A;F;15;20

player 3;nick3;15;Team A;F;10;20

player 4;nick4;16;Team B;G;1;25

player 5;nick5;23;Team B;F;12;25

player 6;nick6;42;Team B;F;8;25

What we look at

You have 4 hours to complete the test and you can use any programming language you want.

No UI or database access code is needed. It is not mandatory to read input from file system. It is acceptable to read from stdin, forms or any other source.

This task is designed to give us an idea of how you think when faced with a very limited amount of time to solve a task of significant complexity.

We are interested in how you structure your code so that it's easily extendable, complies with best practices for the language used, and is easy to modify /understand by others.

We are also interested in seeing how efficient the algorithm you implement is.

Hand in

Hand in your solution along with any notes, comments, and assumptions you have made while working on the solution via e-mail to the recruiter who sent you this test.

Usually, mail clients block executable files or with code, so, for sharing the code with the recruiter, a cloud tool should be used. We need a PUBLIC link (reviewers will download it) with the zip file. I you don’t have services like google drive, we recommend https://wetransfer.com/, with a couple of clicks you can get a public download URL with your ZIP file.

Do not publish the problem description or the solution you implement.