



30

MotoHP

16 points

Introduction

The organizers of the MotoHP championship have suffered a short-circuit in their data centers and have lost the program to elaborate the classifications after the races. They did not have a backup of the algorithm, so they are counting on you to create a script that prints the results of the championship, taking the riders info and the race results as inputs.

The MotoHP season consists of three competitions: one for riders, another one for the teams, and one more for the brands of the motorbikes. This means that there are three different charts. As they would like to use your script for future seasons, the number of riders, teams and brands can't be known in advance.

The MotoHP races are very exciting, with many overtakes and lots of adrenaline on the track. Only the first 7 riders get points, according to the following table:

1 st	10p
2 nd	8p
3 rd	6p
4 th	4p
5 th	3p
6 th	2p
7 th	1p
8 th to last	0p



The points are assigned to the rider, but also for their team and the brand of their motorbike. For example, the rider in 2nd position gets 8 points, as well as their team (which might also get points for other riders of that team) and the brand (which might also get points from other riders/teams using that brand).

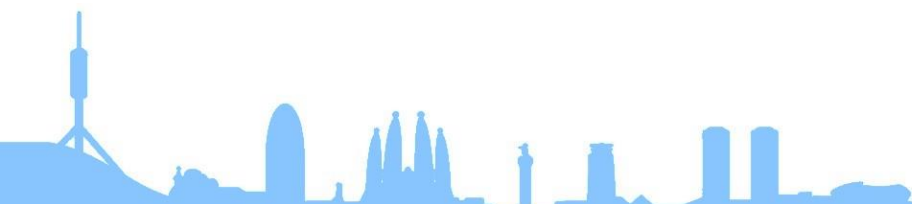
In order to promote speed on the track, the organization also awards the fastest lap rider with 1 extra point. This point also goes for their team and brand.

In the most exciting seasons, there have been ties for first place in any of the three championships. In these cases, the rider/team/brand with more wins along the season takes the first place, without any modification in the points count.

Input

The input will consist of two parts.

- 1) The first part shows lines describing each rider, with their name (a three-letter abbreviation, usually from their last name), the name of their team and the brand of motorbike.
- 2) A line containing “#” as separator.





- 3) The second part describes the results of the races in the championship. Each line is one race, and it shows a list of the riders sorted by position (starting with the winner), separated by “_” characters, and at the end a “|” separator and the name of the fastest lap rider
- 4) A final line containing “#”

Assumptions:

- There will always be at least 3 riders, 3 teams and 3 brands.
- A rider will only belong to one team during the entire season.
- A team will use one single motorbike brand for all its riders during the entire season.
- The number of race finishers is variable. This means that there can be races where there are many riders that get 0 points, as well as races where there are so few finishers that some point-awarded positions are empty.
- Only ties for 1st position must be solved. There can't be ties for the 2nd or 3rd position.
- The fastest lap rider can only redeem their extra point if they have finished the race (regardless of position).

Output

As mentioned before, the output must consist of three classifications, each showing the top 3 riders/teams/brands with most points, along with the number of points and wins, using the following structure:

Riders Classification:

1 - (rider name) - (rider points) pts - (rider wins) wins

2 - (rider name) - (rider points) pts - (rider wins) wins

3 - (rider name) - (rider points) pts - (rider wins) wins

Teams Classification:

1 - (team name) - (team points) pts - (team wins) wins

2 - (team name) - (team points) pts - (team wins) wins

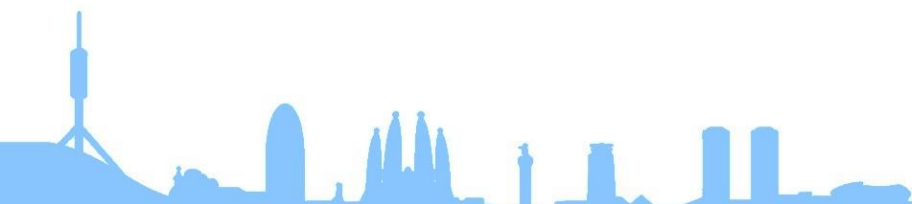
3 - (team name) - (team points) pts - (team wins) wins

Brands Classification:

1 - (brand name) - (brand points) pts - (brand wins) wins

2 - (brand name) - (brand points) pts - (brand wins) wins

3 - (brand name) - (brand points) pts - (brand wins) wins





Example 1

Input

```
AAA SuperTeam Hondamm
BBB SuperTeam Hondamm
CCC MegaTeam Hondamm
DDD MegaTeam Hondamm
EEE UltraTeam YeahMaha
FFF UltraTeam YeahMaha
GGG NotSoGoodTeam Tuzuki
HHH NotSoGoodTeam Tuzuki
#
DDD_CCC_BBB_AAA_EEE_FFF_GGG_HHH|BBB
FFF_EEE_CCC_BBB_AAA_DDD_GGG_HHH|EEE
DDD_CCC_BBB_AAA_EEE_FFF_GGG_HHH|HHH
#
```



HINT: Note that there will be a tie in points for the first place of the Riders championship between riders DDD and CCC. However, DDD won 2 races and CCC 0.

Output

```
Riders Classification:
1 - DDD - 22 pts - 2 wins
2 - CCC - 22 pts - 0 wins
3 - BBB - 17 pts - 0 wins
Teams Classification:
1 - MegaTeam - 44 pts - 2 wins
2 - UltraTeam - 29 pts - 1 wins
3 - SuperTeam - 28 pts - 0 wins
Brands Classification:
1 - Hondamm - 72 pts - 2 wins
2 - YeahMaha - 29 pts - 1 wins
3 - Tuzuki - 4 pts - 0 wins
```

