
Role classification

P60296_en

Simulate a server of a role-playing game for two players. Each player has an “elo”, which is a value larger the better is the player. Everyone starts with 1200 points, and nobody ever gets a lower quantity, no matter how many games are lost. Whenever there is a match, the winner gets 10 elo points, and the loser loses 10 elo points (with the limitation above). The elo of a player is kept when he or she disconnects from the server.

We have these instructions:

- “LOGIN” j : The player j starts a session. Ignore it if the player is already connected.
- “LOGOUT” j : The player j closes the session. Ignore it if the player is not connected.
- “PLAY” $j_1 j_2$: Indicates that j_1 has beaten j_2 , with $j_1 \neq j_2$. Ignore it but print an error message if any of the two players is not connected.
- “GET_ELO” j : Print the player j (who was connected for sure previously, although now may be disconnected) with his or her current elo.

Input

Input consists of several instructions for at most 10^5 players. Each player’s name is different and made up of only lowercase letters.

Output

For every instruction “GET_ELO” (and perhaps “PLAY”) print the proper output. At the end, print an empty line, the word “RANKING”, and a ranking sorted in decreasing order by elo (if there is a tie, print first the alfabetically smallest name) with all the players ever connected to the server.

Sample input 1

```
LOGIN destello
LOGIN fxtr
PLAY destello fxtr
PLAY destello fxtr
LOGIN carokhan
GET_ELO destello
GET_ELO fxtr
LOGOUT destello
PLAY carokhan fxtr
LOGOUT fxtr
LOGIN cerebrus
LOGOUT cerebrus
LOGIN grassman
PLAY destello grassman
PLAY grassman destello
LOGIN cusell
```

Sample input 2

```
PLAY omer petit
LOGIN omer
PLAY omer petit
LOGIN omer
LOGOUT omer
GET_ELO omer
```

Problem information

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Sample output 1

```
destello 1220
fxtr 1200
player(s) not connected
player(s) not connected

RANKING
destello 1220
carokhan 1210
cerebrus 1200
cusell 1200
fxtr 1200
grassman 1200
```

Sample output 2

```
player(s) not connected
player(s) not connected
omer 1200

RANKING
omer 1200
```