

Title: Soccer***This question is graded for 1%.***Problem Statement:

Soccer season is here and you want to determine what are the rankings of your favourite teams. Each team starts off with a certain number of points P .

For each match, two teams will compete with each other, and the winning team will take the points off the losing team. If a team has 0 points or less after a match, they will be eliminated from the tournament.

The points to transfer from loser to winner is calculated by the difference in number of goals for both teams for that match. If there is a draw (the goals for both teams are the same), the points for both teams are not affected. The rank of a team is determined by the amount of points they currently have, and if tied, the team that was added first has the lower numbered rank.

There will be n commands throughout the season. Each command will be of the form:

Command	Description
ADD X P	Add a new team, with team name X and starting points of P into the tournament.
MATCH X Y A B	Starts a match between X and Y. A and B are the teams goals respectively. It is guaranteed that X and Y are currently in the tournament.
QUERY X	Find the current rank and points of team X.

(X, Y are unique strings between 5-20 characters, without whitespaces) ($0 \leq A, B \leq 2^{31} - 1$) ($1 \leq P \leq 2^{31} - 1$) ($1 \leq n \leq 10^6$).

Input:

An integer n in a single line, followed by n commands in the form of the table above. Each command is separated by a newline.

Output:

For each QUERY X, output the current rank R of team X, and their current points P in this format:

“Team X: P points, rank R”, in a newline.

If X is not inside the tournament anymore, output **“Team X is ELIMINATED”**.

Example:

Sample Input:

```
9
ADD ARSENAL 10
ADD BARCELONA 20
ADD CHELSEA 30
MATCH ARSENAL BARCELONA 0 7
MATCH BARCELONA CHELSEA 13 5
MATCH ARSENAL CHELSEA 4 9
QUERY ARSENAL
QUERY BARCELONA
QUERY CHELSEA
```

Sample Output:

```
Team ARSENAL is ELIMINATED
Team BARCELONA: 35 points, rank 1
Team CHELSEA: 27 points, rank 2
```

Explanation:

At first, ARSENAL, BARCELONA and CHELSEA has 10, 20, 30 points each.

After the first match, ARSENAL now has 3 points, BARCELONA now has 27 points.

After the second match, BARCELONA now has 35 points, CHELSEA now has 22 points.

After the third match, ARSENAL has less than 0 points, and gets eliminated. CHELSEA now has 27 points.

Since BARCELONA has more points than CHELSEA, BARCELONA is rank 1, while CHELSEA is rank 2.

**Hint: AVLTree.java may be useful for this question*