Dickinson 2014: Dr. Macarena's Robot Dance

Dr. Macarena is trying to teach his robot how to dance. For his first attempt, he instructs the robot that a legal dance is one in which moves occur on the beat, and the sequence of moves during a fixed number of beats must return the robot to its starting position. Your job is to write a program to determine if a certain sequence of moves is a legal dance.

Input Format

The input begins with an integer *n*, 0< *n* <= 1000, which indicates the number of beats in the dance sequence. This line is followed by *n* lines equal containing the movement that occurs on a beat. The movements will be specified as follows:

```
[Part] [Direction] [Degrees]
```

where

`[Part]` indicates which part of the robot is moving, and is chosen from the following possibilities: {`LeftArm`, `RightArm`, `Base`}.

`[Direction]` is a single character that indicates the direction of movement, either uppercase `C` for clockwise or lowercase `c` for counterclockwise.

`[Degrees]` is an integer in the range [0,360] which indicates the number of degrees in the movement.

For example, the following line indicates that the robot will move its left arm 45 degrees in the clockwise direction:

```
LeftArm C 45
```

Output Format

The output of the program should either be `yes` if the robot returns to its original configuration after the sequence of moves, or `no` otherwise. A robot is in its original configuration if, before and after the sequence of moves, it is facing the same direction and each of its arms is in the same position.

Sample Input

```
8
LeftArm C 90
Base c 240
Base c 0
Base c 240
Base c 0
Base c 240
Base c 0
LeftArm c 90
```

Sample Output

```
yes
```

Explanation

In the first dance, Dr. Macarena has taught his robot the sprinkler dance.

The second test case, which you can see if you run your program, is inspired by the hokey pokey.