Problem G: Genius Gamer

Time limit: 1 second

The unique solution to Sample Input 4.

Having had a very interesting day watching this year's Road Cycling Finals, you and your friends want to enjoy the evening in the lobby of your hotel. Unfortunately, nobody brought any games to pass the time. You hope that the hotel provides some games and indeed that's the case. In a rack besides many others, you find a copy of the game Rummikub and you decide with your friends to give it a try.

This game is played with tiles where each tile has a number written in one of four colours. In the hotel's version, there are no jokers and every two tiles either differ in their colour or numerical value. Each player has a set of hidden tiles and there are tiles in a common area. The goal of each player is to place all their tiles into the common area.

In the common area, tiles have to be combined to form groups or runs. A group is composed of at least 3 tiles that all have the same numerical value, but different colours. A run is a combination of at least 3 tiles of the same colour, that have consecutive numerical values. Note that in your version of the game, 1 does not follow 13. So the tiles 12, 13 and 1 in red would not form a valid run.

In each turn players can place their hidden tiles into the common area and combine them with existing groups and runs. To make it more interesting, they can even rearrange the common area freely – without removing any tiles of course. The only restriction is that after the move, the common area should be organized into groups and runs again.

It is your turn now. You ask yourself whether you can place all your hidden tiles into the common area this turn. Write a computer program to help you.

Input

The input consists of:

- One line with an integer n ($1 \leq n \leq 52$), the number of tiles at your disposal.
- n lines, each containing a string c and an integer v ($c \in \{$"`Red`", "`Yellow`", "`Blue`", "`Black`"$\}$, $1 \leq v \leq 13$), indicating that you have the tile with value v and colour c at your disposal.

No combination of colour and value appears more than once in the input.

Output

Output "`possible`" if you can place all your tiles into the common area in this round and "`impossible`" otherwise.

Sample Input 1	Sample Output 1

`3`
`Red 1`
`Black 1`
`Yellow 1`
	`possible`

Sample Input 2

```
8
Red 3
Blue 3
Red 1
Red 2
Black 3
Red 4
Red 5
Yellow 3
```

Sample Output 2

```
possible
```

Sample Input 3

```
7
Red 3
Blue 3
Red 1
Red 2
Black 3
Red 4
Red 5
```

Sample Output 3

```
impossible
```

Sample Input 4

```
21
Red 1
Red 2
Red 3
Red 4
Red 8
Blue 3
Blue 4
Blue 5
Blue 7
Yellow 3
Yellow 4
Yellow 5
Yellow 6
Yellow 7
Yellow 8
Black 3
Black 4
Black 5
Black 6
Black 7
Black 8
```

Sample Output 4

```
possible
```

Sample Note: The unique solution to Sample Input 4 is depicted in the image of the story.