Counter game

Louise and Richard have developed a numbers game. They pick a number and check to see if it is a power of 2. If it is, they divide it by 2. If not, they reduce it by the next lower number which is a power of 2. Whoever reduces the number to 1 wins the game. Louise always starts.

Given an initial value, determine who wins the game.

Example
$n = 132$

It's Louise's turn first. She determines that 132 is not a power of 2. The next lower power of 2 is 128, so she subtracts that from 132 and passes 4 to Richard. 4 is a power of 2, so Richard divides it by 2 and passes 2 to Louise. Likewise, 2 is a power so she divides it by 2 and reaches 1. She wins the game.

Update If they initially set counter to 1, Richard wins. Louise cannot make a move so she loses.

Function Description

Complete the *counterGame* function in the editor below.

counterGame has the following parameter(s):

- *int n:* the initial game counter value

Returns

- *string:* either `Richard` or `Louise`

Input Format

The first line contains an integer t, the number of testcases.
Each of the next t lines contains an integer n, the initial value for each game.

Constraints

- $1 \le t \le 10$
- $1 \le n \le 2^{64} - 1$

Sample Input 0

```
1
6
```

Sample Output 0

```
Richard
```

Explanation 0

- 6 is not a power of 2 so Louise reduces it by the largest power of 2 less than 6: $6 - 4 = 2$.

- 2 is a power of 2 so Richard divides by 2 to get 1 and wins the game.