



CONCURSUL PLURIDISCIPLINAR PROSOFT@NT  
martie 2016

**TASK**  
**programming team competition**

**Problem - cameleoni**

**100 points**

Zeylanicus chameleons are famous for their behavior. If you touch such a chameleon then he changes its color from red to green or from green to red.

On her birthday, Cami got as gift four chameleons of this type. To study their behavior, she aligned them on a table and she observed that at the beginning all are red. Then she started touching them randomly.

After  $n$  touches, Cami looked at the chameleon colors and she asks herself this question: in how many ways I could touch the chameleons to reach that state?

**Task**

Write a program that for a given number of touches,  $n$ , and for a state of the four chameleons, computes the number of ways (modulo **666013**) in which one can get to that state, after exactly  $n$  touches.

**Input data**

Input file **cameleoni.in** contains on the first line the number  $n$  of touches and on the second line four letters, separated by spaces, that encode the colors of the four chameleons, from left to right, after  $n$  touches.







**Output data**

Output file **cameleoni.out** contains on the first line the number of ways (modulo **666013**) in which one can get to the desired state after exactly  $n$  touches.

**Constraints**

- $1 \leq n \leq 2000000000$
- Colors are encoded by: **R** for Red and **G** for Green.
- Initial state of the chameleons is R R R R

**Examples**

cameleoni.in	cameleoni.out	Clarification
2 R R R R	4	There are four ways to get to the desired state:  1) R R R R -> G R R R ->R R R R 2) R R R R -> R G R R ->R R R R 3) R R R R -> R R G R ->R R R R 4) R R R R -> R R R G ->R R R R
2 G R R G	2	There are two ways:  1) R R R R -> G R R R ->G R R G  ->  ->  2) R R R R -> R R R G ->G R R G  ->  -> 

**Time limit /test: 0.5 seconds**

**Total memorie disponibilă: 64 MB**