

# Marbles

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	256 megabytes

Busy Beaver lines up  $N$  marbles numbered 1 through  $N$ , where the  $i$ -th marble shows a number  $p_i \neq i$ , and every number from 1 to  $N$  appears exactly once among  $p_1, \dots, p_N$  (more formally,  $p$  is a permutation over  $1, \dots, N$  such that  $p_i \neq i$ ).

He wants to paint the marbles so that each marble  $i$  has a different color from marble  $p_i$ . However, he only has three colors: red, green, and blue. Help him find any valid painting.

## Input

The first line contains a single integer  $T$  ( $1 \leq T \leq 10^4$ ) — the number of test cases.

The first line of each test case contains one integer  $N$  ( $2 \leq N \leq 10^5$ ) — the number of marbles.

The second line of each test case contains  $N$  integers  $p_1, p_2, \dots, p_N$  ( $1 \leq p_i \leq N$ ;  $p_i \neq i$ ) — the numbers on the marbles. These numbers form a rearrangement of the numbers  $1, \dots, N$  in some order.

The sum of  $N$  over all test cases does not exceed  $10^5$ .

## Output

For each test case, output a string of length  $N$  containing the characters R, G, and B, where the  $i$ -th character denotes the color (red, green, or blue, respectively) of the  $i$ -th marble, satisfying the constraints.

If there are multiple possible answers, you can output any of them. We have a proof that under these constraints, an answer always exists.

## Example

standard input	standard output
5	GBBGR
5	BGGRRB
2 1 5 3 4	RBRBG
6	RGB
2 1 4 3 6 5	BRGG
5	
2 3 4 5 1	
3	
3 1 2	
4	
4 3 2 1	

## Note

In the first test case, the coloring GBBGR works as follows:

- Marble 1 is colored green and has the number 2 written on it; marble 2 is colored blue, and since green is not blue, the constraint is satisfied.
- Marble 2 is colored blue and has the number 1 written on it; marble 1 is colored green, and since blue is not green, the constraint is satisfied.
- Marble 3 is colored blue and has the number 5 written on it; marble 5 is colored red, and since blue is not red, the constraint is satisfied.

- Marble 4 is colored green and has the number 3 written on it; marble 3 is colored blue, and since green is not blue, the constraint is satisfied.
- Marble 5 is colored red and has the number 4 written on it; marble 4 is colored green, and since red is not green, the constraint is satisfied.