

Rainbow Cats

This question is graded for 0.5%!

Statement

Fluffy has recently mastered a colour changing spell for cats.

Fluffy has a row of N cats in front of him, numbered from 0 to $N - 1$. Initially, all the cats have red fur. Fluffy will perform Q of the following two types of operations on the cats:

- A *colour change* operation, with the input format `1 a b c`. This means that Fluffy will change the fur colour of all cats from numbered a to b (inclusive) to colour c . c will be one of `R`, `Y`, `B`, `G`, representing red, yellow, blue, green respectively.
- A *query* operation, with the input format `2 a`. This means that Fluffy wants to know the fur colour of the cat numbered a .

Help Fluffy predict what the colours of his cats will be, by answering all the query operations correctly.

Constraints

- $1 \leq N \leq 10^9$
- $1 \leq Q \leq 3 \cdot 10^5$
- $0 \leq a, b \leq N - 1$
- $c \in \{ \text{R}, \text{Y}, \text{B}, \text{G} \}$

Input

The first line of input will contain two integers N and Q .

The next Q lines of input will each contain one operation as defined above.

Output

There should be one line of output for every query operation, containing a single character (one of `R`, `Y`, `B`, `G`), denoting the colour of the cat.

Examples

Sample Input	Expected Output
5 4 1 1 3 Y 1 2 4 G 2 2 2 0	G R

Notes

1. A skeleton file has been given to help you. You should not create a new file or rename the file provided. You should develop your program using this skeleton file.
2. You are free to define your own helper methods and classes (or remove existing ones) if it is suitable but you must put all the new classes, if any, in the same skeleton file provided.

Skeleton File

You are given the skeleton file `Cats.java`. You should see the following contents when you open the file:

```
/**
 * Name      :
 * Matric. No :
 */

import java.util.*;

public class Cats {
    private void run() {

    }

    public static void main(String args[]) {
        Cats runner = new Cats();
        runner.run();
    }
}
```