Chips (`chips`)

William is crazy about cosmic poker! In this game, coins of three colors (r, g, b) are used instead of cards. The game is simple, the casino defines two numbers A and C as coefficients for calculating bets, and the player's win is calculated with the formula:

$$A \cdot \left(r^2 + g^2 + b^2 \right) + C \cdot \min \{r, g, b\}$$

where r, g, b are the number of red, green and blue chips in the game.

Figure 1: A bunch of cosmic poker chips.

William is facing the following task: there are already r red, g green and b blue chips on the table, but with **one last move**, he can add on the table **exactly one chip** of any color. Help him choose a colour to maximize his win.

Moreover, William wants to solve this problem for T different game configurations.

☞ Among the attachments of this task you may find a template file `chips.*` with a sample incomplete implementation.

Input

The first line contains the only integer T, the number of games to solve. Each of the following T lines represents one game configuration and is formed by 5 integers: A, C, r, g and b.

Output

You need to write T lines, each of them should contain the color that William should choose for the corresponding game; in other words, each line should be one of the following string: RED, GREEN or BLUE.

Constraints

- $1 \leq T \leq 10\,000$.
- $1 \leq A, C \leq 10$.
- $0 \leq r, g, b \leq 15$.
- The solution is unique.

Scoring

Your program will be tested against several test cases. Your score is proportional to the number of correctly solved test cases.

Examples

input	output
3 2 10 2 4 4 1 2 3 4 5 4 2 7 7 7	RED BLUE GREEN

Explanation

In **the first scenario** it's better to add a red chip, the calculated winning is 112.