

Collatz Conjecture

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 1024 megabytes

Lynk is studying the Collatz conjecture recently. The Collatz conjecture is a mathematical conjecture that states the following:

- Start with any positive integer n . Then, perform the following steps:
 - If n is even, divide it by 2: $n \rightarrow \frac{n}{2}$.
 - If n is odd, multiply it by 3 and add 1: $n \rightarrow 3n + 1$.
- Repeat the process indefinitely. The conjecture claims that regardless of the initial value of n , the sequence will eventually reach 1.

Lynk quickly solved the Collatz conjecture and decided to study a variant. In this problem, there are two coprime parameters: A and B .

- Start with any positive integer n . Then, perform the following steps:
 - If n is a multiple of A , divide it by A : $n \rightarrow \frac{n}{A}$;
 - Otherwise, add B to it: $n \rightarrow n + B$.

He discovered that in this problem, not all numbers will eventually become 1. In his experiments, some numbers grow quickly in the first few steps, and some eventually enter a cycle. Based on his observations, he conjectured that certain integers satisfying specific conditions would return to themselves. For a given positive integer n , he sought to determine whether it would eventually return to itself after a finite number of steps.

Input

The input consists of multiple test cases. The first line contains an integer T ($1 \leq T \leq 10^5$), the number of test cases. For each test case:

The first line contains three integers A, B, n ($2 \leq A \leq 10^9, 1 \leq B \leq 10^9, 1 \leq n \leq 10^{18}$). It's guaranteed that A and B are coprime.

Output

For each test case:

- Output **Yes** if n will return to itself after a finite number of steps.
- Otherwise, output **No** in a single line.

Example

standard input	standard output
7	Yes
2 1 1	Yes
2 1 2	No
2 1 3	No
2 1 100	Yes
314 159 265	Yes
314 159 2653	No
314 159 26535	