Plus Xor

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	1024 megabytes

Given integers a, b, c, you can perform one of the following operations each time:

- $a \leftarrow a + b$
- $a \leftarrow a \oplus b$

where $\oplus$ represents the binary XOR operation.

You can perform any number of operations, and you want to know if you can ultimately make a equal to c.

Input

A single test case contains multiple data sets.

The first line of the input is the number of data sets T ($1 \leq T \leq 10^3$), representing the number of data sets in this test case.

For each data set, there is a line with three integers a, b, c ($0 \leq a, c \leq 10^{18}, 1 \leq b \leq 1000$).

It is guaranteed that in a single test case, $\sum b^2 \leq 10^6$.

Output

For each data set, if it is possible to ultimately make a equal to c, output "YES"; otherwise, output "NO".

Example

standard input	standard output
5 1 6 7 7 5 13 8 3 16 7 6 17 2 7 8	YES NO YES YES NO