

# Square-Free Product (Hard)

Integer  $X$  is Square-Free if and only if  $p^2$  ( $p$  is prime) does not divide it. For example, 15 is a square-free number but 12 isn't, because  $2^2 = 4$  is one of its divisors.

Write a program that outputs whether the product of two numbers is a square-free number.

## Input

The first line contains  $T$  ( $1 \leq T \leq 100$ ), the number of test cases.  $T$  lines follow, one per test case. Each of these lines contain two integers  $a$  and  $b$  ( $1 \leq a, b \leq 10^{18}$ ).  **$a$  and  $b$  are NOT necessarily square-free.**

## Output

Per test case:

- Output a single line containing "YES" if the product of  $a$  and  $b$  is square-free, or "NO" otherwise. In any case, do not include quotes in your output.

## Sample cases

Input
4 1 1 6 13 10 2 12 1
Output
YES YES NO NO