

## Problem K. T-primes

**Time limit** 2000 ms  
**Mem limit** 262144 kB  
**Input file** `stdin`  
**Output file** `stdout`

We know that prime numbers are positive integers that have exactly two distinct positive divisors. Similarly, we'll call a positive integer  $t$  T-prime, if  $t$  has exactly three distinct positive divisors.

You are given an array of  $n$  positive integers. For each of them determine whether it is T-prime or not.

### Input

The first line contains a single positive integer,  $n$  ( $1 \leq n \leq 10^5$ ), showing how many numbers are in the array. The next line contains  $n$  space-separated integers  $x_i$  ( $1 \leq x_i \leq 10^{12}$ ).

Please, do not use the `%lld` specifier to read or write 64-bit integers in C++. It is advised to use the `cin`, `cout` streams or the `%I64d` specifier.

### Output

Print  $n$  lines: the  $i$ -th line should contain "YES" (without the quotes), if number  $x_i$  is T-prime, and "NO" (without the quotes), if it isn't.

### Examples

Input	Output
3 4 5 6	YES NO NO

### Note

The given test has three numbers. The first number 4 has exactly three divisors — 1, 2 and 4, thus the answer for this number is "YES". The second number 5 has two divisors (1 and 5), and the third number 6 has four divisors (1, 2, 3, 6), hence the answer for them is "NO".