

B. T-primes

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

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	Copy
<pre>3 4 5 6</pre>	
output	Copy
<pre>YES NO NO</pre>	

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".