

## D. Product of Binary Decimals

time limit per test: 3 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Let's call a number a *binary decimal* if it is a positive integer and all digits in its decimal notation are either 0 or 1. For example, 1 010 111 is a binary decimal, while 10 201 and 787 788 are not.

Given a number  $n$ , you are asked whether or not it is possible to represent  $n$  as a product of some (not necessarily distinct) binary decimals.

### Input

The first line contains a single integer  $t$  ( $1 \leq t \leq 5 \cdot 10^4$ ) — the number of test cases.

The only line of each test case contains a single integer  $n$  ( $1 \leq n \leq 10^5$ ).

### Output

For each test case, output "YES" (without quotes) if  $n$  can be represented as a product of binary decimals, and "NO" (without quotes) otherwise.

You can output "YES" and "NO" in any case (for example, strings "yES", "yes", and "Yes" will be recognized as a positive response).

### Example

input	Copy
11 121 1 14641 12221 10110 100000 99 112 2024 12421 1001	
output	Copy
YES YES YES YES YES NO NO NO NO YES	

### Note

The first five test cases can be represented as a product of binary decimals as follows:

- $121 = 11 \times 11$ .
- $1 = 1$  is already a binary decimal.
- $14\,641 = 11 \times 11 \times 11 \times 11$ .
- $12\,221 = 11 \times 11 \times 101$ .
- $10\,110 = 10\,110$  is already a binary decimal.

Codeforces Round 937 (Div. 4)

Finished

Practice



→ Virtual participation

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: 

PyPy 3.9.10 (7.3.9, 64bit)

Choose file: 

Choose File

 No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
<a href="#">253799878</a>	Mar/28/2024 19:27	Accepted
<a href="#">253762791</a>	Mar/28/2024 18:49	Wrong answer on test 2

→ Problem tags

brute force

dp

implementation

number theory

No tag edit access

→ Contest materials

Announcement (en)

Tutorial (en)

[Codeforces](#) (c) Copyright 2010-2024 Mike Mirzayanov  
The only programming contests Web 2.0 platform  
Server time: Mar/29/2024 20:38:51<sup>UTC+5.5</sup> (11).  
Desktop version, switch to [mobile version](#).  
[Privacy Policy](#)

Supported by



ITMO UNIVERSITY