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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, 10101111is 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

Input

The first line contains a single integer t ($1 \le t \le 5 \cdot 10^4$) — 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)

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 11 121 14641 12221 10110 100000 99 112 2024 12421 1001 output Сору 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:

- $121 = 11 \times 11$.

- $\begin{array}{l} \bullet \ 12 = 11 \times 1. \\ \bullet \ 1 = 1 \ \text{is already a binary decimal.} \\ \bullet \ 14641 = 11 \times 11 \times 11 \times 11. \\ \bullet \ 12221 = 11 \times 11 \times 101. \\ \bullet \ 10110 = 10110 \ \text{is already a binary decimal.} \end{array}$

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