

Prime or not

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[English version](#)

[Deutsche Fassung](#)

Your task is to check whether x is prime.

Input

There is unknown number of tests. Each test consist of one integer x ($x \leq 2 \cdot 10^9$).

Output

For each test print *YES* if x is prime or *NO* otherwise.

Example

Input:

1
2
3
4
5

Output:

NO
YES
YES
NO
YES