Prime Test

memory limit: `32 MB`
time limit: `1 s`

Write a program that read an integer n, and output if n is a prime number or not.

Input

The input has only one line containing one integer n, where $1 \leq n \leq 1,000,000,000$

Output

Your program should print `YES` if n is a prime, and print `NO` otherwise.

Example

Input	Output
19	YES

Input	Output
20	NO