C. Extraordinarily Nice Numbers

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

The positive integer a is a divisor of the positive integer b if and only if there exists a positive integer c such that $a \times c = b$.

King Astyages thinks a positive integer x is extraordinarily nice if the number of its even divisors is equal to the number of its odd divisors.

For example 3 has two positive divisors 3 and 1, both of which are odd, so 3 is not extraordinarily nice. On the other hand 2 is only divisible by 2 and 1, so it has one odd and one even divisor. Therefore 2 is extraordinarily nice.

Given a positive integer x determine whether it's extraordinarily nice.

Input

The input contains only a single integer x ($1 \leq x \leq 10^3$).

Output

Write a single `yes` or `no`. Write `yes` if the number is extraordinarily nice and `no` otherwise.

You don't need to care about capital or small letters. The output is case-insensitive.

Examples

input
2
output
yes

input
3
output
no