

## A. Triangular numbers

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

A triangular number is the number of dots in an equilateral triangle uniformly filled with dots. For example, three dots can be arranged in a triangle; thus three is a triangular number. The  $n$ -th triangular number is the number of dots in a triangle with  $n$  dots on a side. . You can learn more about these numbers from Wikipedia ([http://en.wikipedia.org/wiki/Triangular\\_number](http://en.wikipedia.org/wiki/Triangular_number)).

Your task is to find out if a given integer is a triangular number.

### Input

The first line contains the single number  $n$  ( $1 \leq n \leq 500$ ) — the given integer.

### Output

If the given integer is a triangular number output YES, otherwise output NO.

### Examples

input
1
output
YES

input
2
output
NO

input
3
output
YES