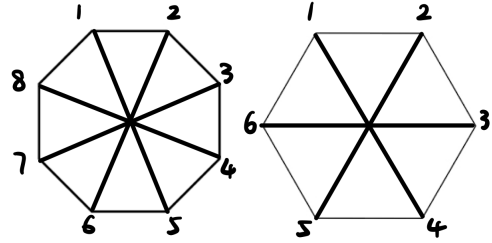


Peach Powder Polygon

Problem ID: peachpowderpolygon



After rescuing Prince Mario, Peach finds herself trapped in a polygonal world consisting of many castles. She knows that even though she defeated Bowser, Bowser's unknown cousin Powder is coming after her. Peach runs from castle 1 to castle 2 as fast as she can, and as she reaches castle 2, Powder realizes the captives are gone and comes out of castle 1 to look for them. Each hour, they (Peach and Powder) travel from one castle to an adjacent castle through either a dirt path on the edge of the world or a bridge directly across the world (the bridges don't intersect with each other though). Unfortunately, Peach can only move randomly because she does not know Powder's location. Powder, on the other hand, controls the local satellite network and knows Peach's location at all times. If Powder manages to arrive at the same castle as Peach at the same time, he can catch Peach. However, since Powder always sleeps in his car, he cannot catch Peach when they cross each other en route.

There are N castles in this polygonal world, where N is even. Determine whether Peach will be guaranteed to be safe forever.

Input

The first line of input contains a single integer N ($4 \leq N \leq 10\,000$ and N is even) representing the number of castles in the world.

Output

Print "Yes" if Peach will be guaranteed to be safe forever and "No" otherwise.

Sample Input 1	Sample Output 1
6	Yes
Sample Input 2	Sample Output 2
8	No