

IIUC ONLINE CONTEST 2008

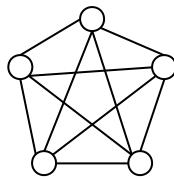
Problem I: Tri-Isomorphism

Input: standard input

Output: standard output

Let $V(G)$ be the vertex set of a simple graph & $E(G)$ its edge set. An Isomorphism from a simple graph G to a simple graph H is a bijection $f: V(G) \rightarrow V(H)$ such that $uv \in E(G)$ if & only if $f(u)f(v) \in E(H)$. We say, G is isomorphic to H if there is an isomorphism from G to H .

A complete graph is a simple graph whose vertices are pairwise adjacent: the unlabeled complete graph with n vertices is denoted K_n . For example, the following figure shows K_5 .



Finally, a decomposition of a graph is a list of subgraphs such that each edge appears in exactly one subgraph in the list.

Now, given a positive integer n , you are to determine if K_n decomposes into three pairwise-isomorphic subgraphs.

Input

First line of each test case consists of a positive integer n ($n \leq 100$). The end of input will be indicated by a case where $n=0$. This case should not be processed.

Output

For each test case, print **YES** if K_n can be decomposed into three pairwise-isomorphic subgraphs & **NO** otherwise.

Constraints

- $n < 100$

Sample Input	Output for Sample Input
4	YES
5	NO
0	

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