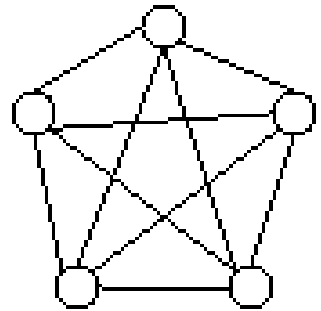


Let  $V(G)$  be the vertex set of a simple graph and  $E(G)$  its edge set. An isomorphism from a simple graph  $G$  to a simple graph  $H$  is a bijection  $f : V(G) \rightarrow V(H)$  such that  $uv \in E(G)$  if and only if  $f(u)f(v) \in E(H)$ . We say,  $G$  is isomorphic to  $H$  if there is an 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 and 'NO' otherwise.

## Constraints

- $n < 100$

## Sample Input

```
4
5
0
```

## Sample Output

```
YES
NO
```