Will It Stop?

Problem statement :

```c
#include<stdio.h>int main(){

  while(N>1)

  {

    if(N%2==0)

      N=N/2;

    else

      N=3N+3

  }

}
```

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For any n value as input analyse the above program and find whether the program terminates or fall into a infinite loop.

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Output as YES for terminates,No for infinite loop.

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Input Format

- The first line contains a single integer T the number of test cases. Then the test cases follow.

- The first line of each test case contains an integer N the length of the binary string SS.

Constraints

- 1 <= T < 100
- -10^3<= N <=10^6

Output Format

For each test case out "YES" if program will terminate at any point or print "NO" if the program falls under infinite loop.

NOTE : *The output is a case sensitive,i.e the outputs "YES", "yes" and "YeS" these are not same.*

- If the output is yes print "YES" for no print "NO" only.

Sample Input 0

```
10
1
2
3
4
5
6
7
8
9
10
```

Sample Output 0

```
YES
YES
NO
YES
```

NO

NO

NO

YES

NO

NO

Solution in C:

```c
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {

  int t;
  scanf("%d",&t);
  while(t--){
    int n ;
    scanf("%d",&n);
    if((((n-1)^n)&n)==n || n<=0){
      printf("YES\n");
    }else{
      printf("NO\n");
    }
  }
  return 0;
}
```

Solution in Python:

```python
test=int(input())
for tests in range(test):
  n=int(input())
  if(n<=0):
    print("YES")
  else:
    if((n&(n-1))==0):
      print("YES")
    else:
      print("NO")
```

Solution in Java:

```java
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

  public static void main(String[] args) {
    int t = s1.nextInt();
    while(t-->0){
      int n = s1.nextInt();
      if((((n-1)^n)&n)==n  || n<=0){
        System.out.println("YES");
      }else{
        System.out.println("NO");
```

```
            }
        }
    }
}
```