9/21/24, 11:06 PM Problem - B - Codeforces





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Please read the new rule regarding the restriction on the use of AI tools.

>

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# B. Robin Hood and the Major Oak

time limit per test: 1 second memory limit per test: 256 megabytes

In Sherwood, the trees are our shelter, and we are all children of the forest.

The Major Oak in Sherwood is known for its majestic foliage, which provided shelter to Robin Hood and his band of merry men and women.

The Major Oak grows  $i^i$  new leaves in the i-th year. It starts with 1 leaf in year 1.

Leaves last for k years on the tree. In other words, leaves grown in year i last between years i and i+k-1 inclusive.

Robin considers even numbers lucky. Help Robin determine whether the Major Oak will have an even number of leaves in year n.

#### Input

The first line of the input contains a single integer t ( $1 \le t \le 10^4$ ) — the number of test cases.

Each test case consists of two integers n, k ( $1 \le n \le 10^9$ ,  $1 \le k \le n$ ) — the requested year and the number of years during which the leaves remain.

### Output

For each test case, output one line, "YES" if in year n the Major Oak will have an even number of leaves and "NO" otherwise.

You can output the answer in any case (upper or lower). For example, the strings "yEs", "yes", "yes", and "yEs" will be recognized as positive responses.

#### Example

input	Сору
5	
1 1	
2 1	
2 2	
3 2	
4 4	
output	Сору
NO	
YES	
NO	
NO	
YES	

#### Note

In the first test case, there is only 1 leaf.

In the second test case, k=1, so in the 2-nd year there will be  $2^2=4$  leaves.

In the third test case, k=2, so in the 2-nd year there will be  $1+2^2=5$  leaves.

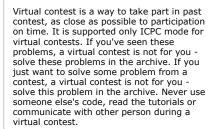
# Codeforces Round 974 (Div. 3)

# **Finished**

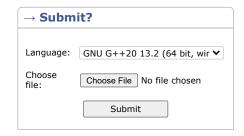
## Practice



## → Virtual participation



Start virtual contest



→ Last submissions		
Submission	Time	Verdict
282274596	Sep/21/2024 18:13	Time limit exceeded on test 3
282263376	Sep/21/2024 18:06	Time limit exceeded on test 3



In the fourth test case, k=2, so in the 3-rd year there will be  $2^2+3^3=4+27=31$  leaves.

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