## Power of 2

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## English version

Your task is to print whether given number $\mathbf{n}$ is a power of 2 or not.

## Input

The first line of the standard input contains one integer $\mathbf{t}(\mathrm{t}<10001)$ which is the number of test cases.

In each of the next $\mathbf{t}$ lines there is an integer $\mathbf{n}\left(0<n<=2^{*} 10^{\wedge} 9\right)$.

## Output

Print YES if number $\mathbf{n}$ is a power of 2 or NO if it is not.

## Example

Input:
4
1
2
3
4
Output:
YES
YES
NO
YES

