

Sasha and Sticks

time limit 1 seconds

memory limit 256 MB

input: standard input

output: standard output

It's one more school day now. Sasha doesn't like classes and is always bored at them. So, each day he invents some game and plays in it alone or with friends.

Today he invented one simple game to play with Lena, with whom he shares a desk. The rules are simple. Sasha draws n sticks in a row. After that the players take turns crossing out exactly k sticks from left or right in each turn. Sasha moves first, because he is the inventor of the game. If there are less than k sticks on the paper before some turn, the game ends. Sasha wins if he makes strictly more moves than Lena. Sasha wants to know the result of the game before playing, you are to help him.

Input

The first line contains test case T ($1 \leq T \leq 15$). The next T line contain two integers n and k ($1 \leq n, k \leq 10^{18}$, $k \leq n$) the number of sticks drawn by Sasha and the number k the number of sticks to be crossed out on each turn.

Output

For each test case. If Sasha wins, print "YES" (without quotes), otherwise print "NO" (without quotes). You can print each letter in arbitrary case (upper or lower)

Sample Input

```
2
1 1
10 4
```

Sample output

```
YES
NO
```

Note

In the first example Sasha crosses out 1 stick, and then there are no sticks. So Lena can't make a move, and Sasha wins.

In the second example Sasha crosses out 4 sticks, then Lena crosses out 4 sticks, and after that there are only 2 sticks left. Sasha can't make a move. The players make equal number of moves, so Sasha doesn't win.