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Balls and Boxes

Problem Code: **BALLBOX**

Submit (/START55D/submit-old/BALLBOX) ✔

Submission Ends In

1	54	13
Hrs	Min	Sec

You have N balls and K boxes. You want to divide the N balls into K boxes such that:

- Each box contains ≥ 1 balls.
- No two boxes contain the same number of balls.

Determine if it is possible to do so.

My Solutions
(/START55D/status/BALLBOX,abhinav_3254)

Other's Solutions
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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 and only line of each test case contains two space-separated integers N and K — the number of balls and the number of boxes respectively.

Successful Solutions +

Output Format

For each test case, output YES if it is possible to divide the N balls into K boxes such that the conditions are satisfied. Otherwise, output NO.

You may print each character of YES and NO in uppercase or lowercase (for example, yes, yEs, Yes will be considered identical).

Constraints

- $1 \leq T \leq 10^5$
- $1 \leq N \leq 10^9$
- $1 \leq K \leq 10^4$

Sample Input 1 ⧉

```
4
3 4
30 3
2 2
1 1
```

Sample Output 1 ⧉

```
NO
YES
NO
YES
```

Explanation

Test Case 1: It is not possible to divide the 3 balls into 4 boxes such that each box contains ≥ 1 balls.

Test Case 2: One way to divide the 30 balls into 3 boxes is the following: $[5, 9, 16]$.

Test Case 3: It is not possible to divide the 2 balls into 2 boxes such that no two boxes contain the same number of balls.

Test Case 4: We can divide 1 ball into 1 box.

Submit (/START55D/submit-old/BALLBOX)

Comments ▶

Important Links of our resources & information -

Programming Tools

Online IDE (https://www.codechef.com/ide)

Upcoming Coding Contests (https://www.codechef.com/contests#future-contests)

CodeChef Certifications (https://certifications.codechef.com)

Host Your Contest (https://www.codechef.com/hostyourcontest)

Problem Setting (https://www.codechef.com/problemsetting)

Learning Resources

Getting Started (https://www.codechef.com/getting-started)

Practice Problems (https://www.codechef.com/practice)

Prepare for DSA Certification (https://www.codechef.com/certification/data-structures-and-algorithms/prepare)

CodeChef Discuss (https://discuss.codechef.com)

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