

B. Diameter of Graph

time limit per test: 1 second
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

CQXYM wants to create a connected undirected graph with n nodes and m edges, and the diameter of the graph must be strictly less than $k - 1$. Also, CQXYM doesn't want a graph that contains self-loops or multiple edges (i.e. each edge connects two different vertices and between each pair of vertices there is at most one edge).

The diameter of a graph is the maximum distance between any two nodes.

The distance between two nodes is the minimum number of the edges on the path which endpoints are the two nodes.

CQXYM wonders whether it is possible to create such a graph.

Input

The input consists of multiple test cases.

The first line contains an integer t ($1 \leq t \leq 10^5$) — the number of test cases. The description of the test cases follows.

Only one line of each test case contains three integers n ($1 \leq n \leq 10^9$), m , k ($0 \leq m, k \leq 10^9$).

Output

For each test case, print YES if it is possible to create the graph, or print NO if it is impossible. You can print each letter in any case (upper or lower).

Example

input	Copy
5 1 0 3 4 5 3 4 6 3 5 4 1 2 1 1	
output	Copy
YES NO YES NO NO	

Note

In the first test case, the graph's diameter equal to 0.

In the second test case, the graph's diameter can only be 2.

In the third test case, the graph's diameter can only be 1.

Codeforces Round #745 (Div. 2)

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU GCC C11 5.1.0

Choose file: 未选择文件。

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

→ Problem tags

greedy math

No tag edit access

→ Contest materials

- Announcement (en) 