

Divisible by 4 Spanning Tree

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 256 megabytes

A tree T is **special** if the number of vertices with an odd degree (with respect to T) is a multiple of 4. You are given a connected graph with n vertices and m edges. Determine if there is a **special** spanning tree in this graph.

As a reminder, a spanning tree of a graph is a subset of the edges of the graph that forms a tree.

Input

The first line of the input contains a single integer t ($1 \leq t \leq 10\,000$). The description of the test cases follows.

The first line of each test case contains two integers n and m ($2 \leq n \leq 200\,000$, $n - 1 \leq m \leq 200\,000$) — the numbers of nodes and edges correspondingly. The i -th of the following m lines contains two integers u_i, v_i ($1 \leq u_i, v_i \leq n$, $u_i \neq v_i$), indicating that there is an edge between nodes u_i and v_i .

No edge will appear multiple times inside a test case. The sum of n over all test cases won't exceed 200000. The sum of m over all test cases won't exceed 400000.

Output

For each test case, output if YES, if such spanning tree exists, and NO otherwise.

Example

standard input	standard output
4	NO
3 2	YES
1 2	YES
2 3	NO
4 3	
1 2	
1 3	
1 4	
7 7	
1 3	
2 3	
3 4	
4 5	
5 6	
6 7	
7 4	
8 8	
1 2	
2 3	
3 4	
4 1	
1 5	
2 6	
3 7	
4 8	