Crew Reunion

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

A certain pirate crew is stranded on the Sabaody Archipelago, and they wish to reunite with each other. The Archipelago is an island divided into n zones, with m directed passages between the zones, and each passage being of a certain colour, from k possible colours. For each zone, all the outgoing passages are of distinct colours. A crew member is present in each of the n zones.

To reunite, they decide on a colour sequence, $c_1, c_2, ..., c_l$. Each of them will follow this colour sequence from their initial positions, and this colour sequence should be such that they all end up at the same zone. If at any point while following the colour sequence they don't have an outgoing passage of some specific colour, then they remain at the same zone.

Your job is to help this pirate crew by finding such a colour sequence of length less than or equal to n^3, or letting them know that no such colour sequence exists.

There are 5 subtasks.
Note that N here is the sum of n across all testcases, M is the sum of m across all testcases, and K is the sum of k across all testcases.

Subtask 1 (7 points): $K = 1$
Subtask 2 (11 points): $2 \leq N \leq 9, 1 \leq M \leq 81, 1 \leq K \leq 9$
Subtask 3 (15 points): All edges have distinct colours
Subtask 4 (28 points): $2 \leq N \leq 30, 1 \leq M \leq 900, 1 \leq K \leq 30$
Subtask 5 (39 points): $2 \leq N \leq 100, 1 \leq M \leq 100000, 1 \leq K \leq 1000$

Input

The first line contains t, the number of testcases.

Below is the description of the input format for each testcase. The first line of each testcase contains n, m and k ($2 \leq n \leq 100, 1 \leq m \leq 100000, 1 \leq k \leq 1000$). Each of the next m lines contain three integers u, v, c ($1 \leq u, v \leq n, u \neq v$) – indicating there is a passage from u to v with colour c.

The sum of n across all testcases ≤ 100

The sum of m across all testcases ≤ 100000

The sum of k across all testcases ≤ 1000

Output

For each testcase, output the following:

If there does not exist an answer, print "NO" in one line

Otherwise, print "YES" in one line, and in the next line print l c_1 c_2 c_3 ... c_l where l is the length of the colour sequence as space-separated integers, $1 \leq c_i \leq k$. While you **do not** need to minimize l, it should be ensured that $l \leq n^3$; it can be proved that if an answer exists, there exists one with $l \leq n^3$.

Examples

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