Cycle?

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

You are given a directed graph, and your task is to find out if it contains a negative cycle.

Input

The first input line has two integers n and m: the number of nodes and edges ($1 \leq n \leq 2500$, $1 \leq m \leq 5000$). The nodes are numbered $1, 2, \ldots, n$.

After this, the input has m lines describing the edges. Each line has three integers a, b, and c: there is an edge from node a to node b whose length is c ($1 \leq a, b \leq n$, $-10^9 \leq c \leq 10^9$).

Output

If the graph contains a negative cycle, print "YES" (without quotes). If there are no negative cycles, print "NO".

Example

standard input	standard output
4 5 1 2 1 2 4 1 3 1 1 4 1 -3 4 3 -2	YES