Ford’s algorithm

Cost: 6 | Solved: 65

Memory limit: 256 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

You are given a directed weighted (each weight is integer) graph. The graph can contain multiple edges and loops. It is guaranteed that the graph doesn’t have negative cycles.

Find the shortest paths from the vertex with the index 1 to all other vertexes, using Bellman-Ford's algorithm.

Input:

The first line contains a natural ***n*** (1 ≤ ***n*** ≤ 100) – the quantity of the graph’s vertexes, and an integer ***m*** (0 ≤ ***m*** ≤ 10000) – the quantity of edges.

The next ***m*** lines contain three number each: firstly, the initial vertex of an edge, secondly – the last vertex of an edge, thirdly – the edge’s weight (-100 ≤ weight ≤ 100).

Output:

n numbers – the shortest paths from the vertex with the index 1 to all other vertexes.

If it’s impossible to reach a vertex, write “No”.

Example:

Input	Output

6 4 1 2 10 2 3 10 1 3100 4 5 -10	0 10 20 No No No