Matrix Representation

Time Limit 1 sec/Memory Limit 256 MB

Given a directed connected weighted graph with n vertices and m edges.
You need to use **Matrix** to represent this graph.
Also, you need to output the indegree and outdegree of all vertices.

Input Format

- The first line of the input contains two integer n, m. Representing the vertices and edges of the graph.
- The following m lines each line contain two number u_i, v_i, w_i, which implies that there is a directed edge from u_i to v_i and its weights is w_i.

Output format

- Output the Matrix representation of the graph.
- And output n lines. For this n lines, output two integers. The first integers represent indegree of vertex i, the second integers represent outdegree of vertex i

Constraints

- $n \leq 1000$
- $0 \leq m \leq n^2$
- $1 \leq u_i, v_i \leq n$
- $|w_i| \leq 10^9$
- No duplicate edges

sample input #1	sample output #1
3 4 1 2 8 1 1 9 2 1 6 3 1 1	9 8 0 6 0 0 1 0 0 3 2 1 1 0 1