CSE221

CLASS PERFORMANCE EVALUATION

In the vibrant month of Ramadan, Puran Dhaka comes alive with festive cheer as locals and visitors alike flock to indulge in its rich culinary delights. With friends eager to savor the diverse array of flavors our city has to offer, you embark on a special tour with your friends, hopping from one iconic food spot to another.

As you plan this flavorful adventure, you find yourself seeking assistance to ensure a memorable experience for your guests. In the heart of Puran Dhaka lies a network of unexplored alleys and bustling streets(edges), each node representing a delectable destination waiting to be discovered.

Your task is to determine, for each node in the city's culinary map, whether it is feasible to navigate a "special tour" starting from that point, where the journey begins and ends at the same mouth-watering locale.

Formally, a special tour is path s, s_1, s_2, s_3, ……, s_i, ……, s where s_i are distinct and not equal to s for all i.

Constraints

You are allowed to calculate Strongly Connected Components only once.

Input Format

The first line contains two integers separated by space denoting number of nodes **N**, and number of edges **M** respectively.

The next **M** lines will contain two integers **u, v** separated by space denoting a directed edge in the graph from node **u** to node **v**.

Output Format

Print N integers, separated by space, where i_{th} integer can be 1 or 0 depicting whether it is possible for a special tour starting from node i or not.

Sample Input	Sample Output
5 5 1 2 2 3 3 4 4 5 4 2	Node 1 No Node 2 Yes Node 3 Yes Node 4 Yes Node 5 No

Explanation:

The graph in the sample input had just one directed cycle: 2→ 3→ 4→ 2.