Find a Cycle

Find a Cycle

2.0/2.0 points (graded)

Input file:	cycle.in
Output file:	cycle.out
Time limit:	2 seconds
Memory limit:	256 megabytes

The input file contains a description of an unweighted directed graph. You are asked to determine whether this graph contains a cycle. If it does, print any of them.

Input

The first line of the input file contains two integers N and M ($1 \leq N \leq 100\,000, M \leq 100\,000$), the number of vertices and edges in the graph, correspondingly. The following M lines contain descriptions of edges of the graph. Each edge is described by a pair of integers – the indices of the source and target vertex, respectively.

All indices are one-based. The graph may contain loops and multiple edges between the same ordered pair of vertices.

Output

If the graph does not contain a cycle, print “NO”.

Otherwise, print “YES”. In the next line print the vertices which consitute a cycle, in the order along this cycle.

Example

cycle.in	cycle.out
2 2 1 2 2 1	YES 2 1

2 2 1 2 1 2	NO

Choose Files No file chosen

Accepted

Submit You have used 3 of 200 attempts

Discussion
Topic: 08: 4th Week Problems / Find a Cycle

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