01. Cycle Detection

Condition:

You have a directed graph, represented as a list of vertices and edges. The vertices are numbered from 0 to n-1, where n is the number of vertices in the graph. You need to check whether the graph contains a cycle.

Input:

- On the first line we read the number n , which represents the number of vertices.
- On the second line we read the number m , which represents the number of edges.
- And on the next n lines we read the pairs of edges, which are written with a separator between each of the numbers , two per line.

Output:

- If the graph contains a cycle, return **True** .
- If the graph does not contain a cycle, return **False** .

Limitations:

The graph will not contain duplicate edges. The number of vertices and edges can be very large, but is limited by the available memory of the computer.

Examples:

Input	Output
4 4 0 1 1 2 2 0 2 3	True