I Inquiry II

Time limit: 5s

For an undirected, simple graph $G = (V, E)$ we call a subset $V' \subseteq V$ an *independent set* if no two elements of V' are connected by an edge. An independent set of G is called a *maximum independent set* if there is no independent set in G with strictly more vertices. Given a specific kind of connected graph G, find the size of a maximum independent set of G.

Input

- The input starts with one line, containing integers n ($1 \leq n \leq 100$), the number of vertices in the graph, and m ($n - 1 \leq m \leq n + 15$), the number of edges in the graph.
- Then follow m lines, each containing integers a, b ($1 \leq a, b \leq n$) indicating that there is an edge between vertices a and b.

The graph given by this input is guaranteed to be both simple and connected: there is at most one edge between each pair of vertices, there are no loops, and there is a path between each pair of vertices.

Output

- Output the number of vertices in a maximum independent set of the input graph.

Sample Input 1	Sample Output 1
2 1 1 2	1

Sample Input 2	Sample Output 2
4 5 1 2 2 3 3 4 4 1 1 3	2

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