Components

Given a graph, determine the number of connected components.

Input

The first line of the input contains the number N, the number of nodes and the number M, the number of edges. Each of the following M lines, describe one of the edges.

Output

Output a single number, the number of connected components.

Limits

There are 4 test groups, each worth 25 points.

- In group 1, it holds $1 \leq N \leq 10$, $0 \leq M \leq 10$.
- In group 2, it holds $1 \leq N \leq 100$, $0 \leq M \leq 100$.
- In group 3, it holds $1 \leq N \leq 1\,000$, $0 \leq M \leq 1\,000$.
- In group 4, it holds $1 \leq N \leq 100\,000$, $0 \leq M \leq 100\,000$.

Examples

Input	Output
4 2 0 1 2 3	2

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

Input	Output
8 8 0 1 2 3 4 6 5 7 0 2 1 3 4 5 6 7	2