

Bipartite

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 1024 MB

You are given an undirected graph with N nodes and a list of edges of size M . You are asked to partition the given list of edges into minimum number of contiguous and disjoint subsequences such that every subsequence describes a bipartite graph. Please note, the graphs formed by different subsequences are completely independent.

Input

The first line of the input contains the integers N ($2 \leq N \leq 200000$) and M ($1 \leq M \leq 200000$), denoting the number of nodes and the size of the edge list.

Each of the following M lines contains 2 positive integers, denoting an edge between nodes x and y ($1 \leq x, y \leq N, x \neq y$).

Output

On a single line, print the minimum number of subsequences to partition the given list of edges such that every graph inside a subsequence is bipartite.

Example

standard input	standard output
3 3 1 3 1 2 2 3	2