Hiring the crew

Task: `sailor`	Day: `Tuesday`
Time limit: `4 s`	Memory limit: `64 MB`

Ever since George was little he had a dream: to sail around the world in a raft. He has bought a raft and enough supplies and took courses in swimming and self-defence (against sharks) – it seems that this summer, his dream will come true.

Just before he was going to leave, he realised that he doesn't have any sense of orientation. It is endurable in a city, but on an open sea? He wouldn't be able to stop and ask for directions, that's for sure...

As a result, he is now helplessly standing in the middle of the local inn – and a quite stinky one – and trying to hire an experienced sailor as a navigator. Unfortunately, sailors are quite sociable fellows – each one has a few friends he won't sail without.

Task

George chatted with all the sailors and determined, who wouldn't sail without whom. As it turned out, the relationship is not necessarily mutual – for example, Cripple Jack owes Lazy-eyed Tom a case of undisclosed alcoholic beverage. Thus, Lazy-eyed Tom demands to have Cripple Jack with him, while Cripple Jack would happily sail without Lazy-eyed Tom.

The raft can only carry so many sailors and George needs at least one as a navigator. Your task is to determine the minimal number of sailors which George has to hire while still fulfilling their demands.

Input

The first line consists of integers N and M separated by a space. N ($1 \leq N \leq 100\,000$) represents the number of available sailors and M ($1 \leq M \leq 1\,000\,000$) the number of demands. The sailors are numbered 1 through N.

The second part of the input consists of M rows having the form a b ($1 \leq a, b \leq N, a \neq b$). Each row represents one demand: sailor a won't accept the job unless you also hire sailor b.

Output

Output one line consisting of a single positive integer – the smallest possible number of sailors George must hire.

Example

input	output
5 6 1 2 2 4 4 3 3 2 5 1 5 4	3