Problem D: Forests

If a tree falls in the forest, and there's nobody there to hear, does it make a sound? This classic conundrum was coined by George Berkeley (1685-1753), the Bishop and influential Irish philosopher whose primary philosophical achievement is the advancement of what has come to be called *subjective idealism*. He wrote a number of works, of which the most widely-read are *Treatise Concerning the Principles of Human Knowledge* (1710) and *Three Dialogues between Hylas and Philonous* (1713) (Philonous, the "lover of the mind," representing Berkeley himself).

A forest contains T trees numbered from 1 to T and P people numbered from 1 to P. Standard input consists of a line containing T and P followed by several lines, containing a pair of integers i and j, indicating that person i has heard tree j fall. People may have different opinions as to which trees, according to Berkeley, have made a sound. How many different opinions are represented in the input? Two people hold the same opinion only if they hear exactly the same set of trees. You may assume that $P < 100$ and $T < 100$.

Sample Input

```
3 4
1 2
3 3
1 3
2 2
3 2
2 4
```

Output for Sample Input

```
2
```