note @143 139 views

PA3 - 3001 Discussion Thread

Be the President

Description

Long, long ago, there were many cities stay on a continent. A great leader decided to lead some of these cities to form a new and stable country. There may be dependencies between any two cities. The stability of the new country depends on which cities are chosen as the new country. If two cities that have a dependency relationship are selected for the new country at the same time, then the new country's stability will be increase by 1. If two cities that have a dependency relationship are not selected for the new country at the same time, then the new country's stability will decrease by 1. Besides, because a huge country is hard to manage, each city being selected as a new country will result in a country's stability of -1. Of course, in some cases, the stability of the newly formed country is less than 0. At this time, the country cannot be formed because it is too unstable. The stability of the new country formed at this time is 0 (in fact, the formation of the new country failed). Please help the great leader to determine the maximum degree of stability of the new country formed.

Input

- First line has two integer n, m, denoting the number of cities and the number of dependencies.
- Next m lines, each line contains two integer a, b, denoting city a, b have dependencies.

20%, n, m $\leq$ 10

60%, n $\leq$ 1000, m $\leq$ 50000

100%, 1 $\leq$ n $\leq$ 1e5, 0 $\leq$ m $\leq$ 2e6

Output

A single integer, denoting the maximum stability of the new country.

programming

Updated 20 days ago by Yining She (佘以宁)

followup discussions *for lingering questions and comments*

Resolved Unresolved

龚 可 20 days ago
Note that two cities “not selected for the new country at the same time” means one is selected and that the other is not. It does not include the case where none of the two cities are selected. (And I think the problem description should make this more clear.)

helpful! | 0

屠珈东 20 days ago
We have added this clarification in the problem description.

good comment | 0

Resolved Unresolved

刘翊航 20 days ago
Moved to @142_f1.

helpful! | 0

Resolved Unresolved

魏昊天 17 days ago Can we have an example explaining “each city being selected as a new country will result in a country’s stability of -1”? It gets difficult sometimes when neither the one presenting nor the one receiving the idea uses English as their first language.

helpful! | 0

迟择恩 17 days ago The clearer explanation is "each city being included in the new country will decrease the overall stability by 1", i.e, you need to select a subset of cities to form a new country, and once an arbitrary city is included, the stability of the whole country should minus 1.

helpful! | 1

Resolved Unresolved

Anonymous Scale 16 days ago
will the dependency exists twice?(i.e. suppose we already have 1,2,will 1,2 or 2,1 exists again in the input?)

helpful! | 0

Resolved Unresolved

Anonymous Poet 13 days ago
So will the dependency input twice?(i.e. 1，2 and then 2，1)

helpful! | 0

Anonymous Poet 13 days ago get it，my bad

helpful! | 0