Be the President

Description

Long, long ago, there were many cities stays 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 can not 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 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%, $n, m \leq 10$

30%, $n \leq 100, m \leq 500$

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.

Sample Input 1

```
5 5
4 2
1 4
2 1
2 5
1 5
```

Sample Output 1

```
1
```

Sample Input 2

```
10 10
1 8
9 2
7 1
2 6
4 6
7 3
8 3
6 9
1 3
8 7
```

Sample Output 2

```
2
```

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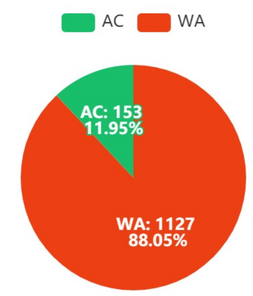
Information

ID	3002
Time Limit	1000MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	root
Level	Low
Score	1000
Tags	Show

Statistic Details



Language: C

Theme: Solarized Light

```
1
```

Submit