Bridge Construction

Problem Code: **SAT103**

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Chef recently opened various offices on different islands in a sea.
Only once office can be opened on one island.
With initial capital investment, Chef was able to construct some bridges. A bridge connects 2 different islands.
However, chef ran out of money but he wants to construct zero or more bridges such that each island is connected to every other island.
The cost of constructing a bridge is the product of the island numbers which the bridge connects. Your task is to calculate the sum of money that chef requires to connect all islands. If there are multiple possible answers output the lowest.

Input ::

First Line contains T , no of test cases.
First line of every test contains N , M describing number of islands and the number of bridges constructed by chef till now.
Next M lines of very test contain 2 integers u , v describing the island numbers which are connected by a bridge. Given u != v. Also no parallel bridges are allowed .

Output ::

Print a single integer , minimum money required for construction.

Constraints ::

1 <= T <= 100
1 <= N,M <= 10000
1 <= u,v <= N

Example Input ::

```
2
5 3
2 3
2 4
2 5
6 3
1 2
2 3
3 4
```

Example Output ::

```
2
11
```