Connection

2024/2025 SEASON – SECOND ROUND

You are shown a graph with N vertices and M edges, which connect two vertices each. It is guaranteed that a path exists from every vertex to every other vertex using the edges. It is also known that every pair of vertices is connected by at most 1 edge and there is no edge connecting a vertex to itself.

The owner of the graph plans to remove **exactly one** vertex from the graph and that is why he is interested in how many pairs of vertices there are for which a path will always exist between them, no matter what edge is removed.

Write a program which answers his question.

Input

The first line of the file **connection.in** contains N and M – the number of vertices and edges. Each of the next M lines contains 2 numbers a and b, describing that there is an edge between vertices a and b.

Output

On the only line of the file **connection.out** print 1 number: the desired number of pairs.

Constraints

$1 \leq N \leq 10^5$

$1 \leq M < 5 * 10^5$

Time Limit: 1 sec.

Memory Limit: 256 MB.

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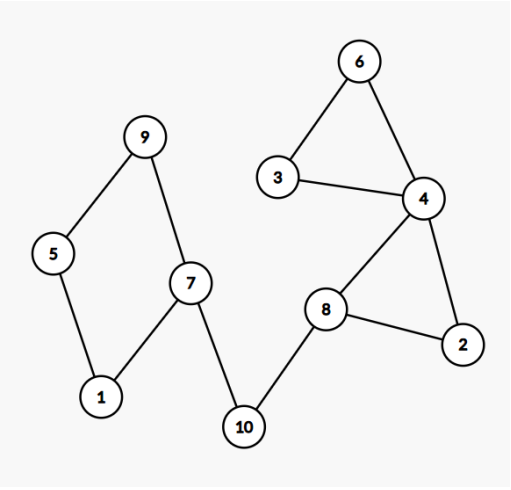
Sample Test

Input (connection.in)	Output (connection.out)
10 12 10 8 4 3 2 8 4 6 5 9 5 1 1 7 10 7 2 4 6 3 4 8 7 9	16

Sample test explanation



Example pairs, which don't follow the requirements are:

- 4 and 9: if the edge 10-7 or 10-8 is removed, there won't be a path between them anymore.
- 10 and 7: if the edge 10-7 is removed, there won't be a path between them anymore.

Example pairs, which follow the requirements are:

- 3 and 4
- 7 and 9