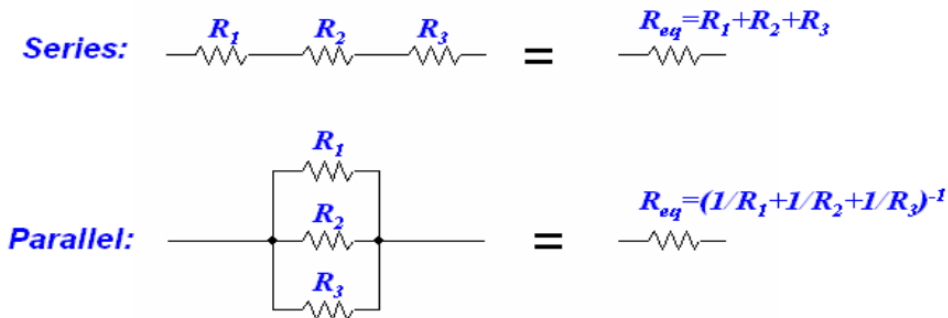


Hobbit has only learnt the parallel and series method of calculating resistance across an electric network graph where there is a single resistor on every edge of the undirected graph  $G$ .



Given an undirected graph  $G$ , and 2 vertices  $u$  and  $v$ , if it is possible to calculate the resistance between  $u$  and  $v$  using only these 2 rules shown above, then the graph  $G$  is called series-parallel decomposable (spdecomposable for short) with respect to  $(u, v)$ . In other words,  $G$  may be turned into just the 2 node graph of  $u, v$  connected by one edge, by a sequence of the following operations:

- Replacement of a pair of parallel edges with a single edge that connects their common endpoints;
- Replacement of a pair of edges incident to a vertex of degree 2 other than  $u$  or  $v$  with a single edge.

## Input

The input contains multiple sets of data. The first line of each set contains 2 positive integers  $n$  ( $1 \leq n \leq 100000$ ), and  $m$  ( $1 \leq m \leq 100000$ ), which represent the number of nodes and the number of edges/resistors in the resistor network. Then, a total of  $m$  lines follows with each resistor edge  $(u, v)$ , such that  $(1 \leq u, v \leq n, u \neq v)$ .

## Output

For each set of data, output on one line the number of unique pairs  $(u, v)$  with  $u < v$ , such that  $G$  is spdecomposable with respect to  $(u, v)$ .

## Sample Input

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

## Sample Output

```
6
```