# Problem C. Duathlon

Time limit: 1 second
Memory limit: 1024 megabytes

The Byteburg's street network consists of $n$ intersections linked by $m$ two-way street segments. Recently, the Byteburg was chosen to host the upcoming duathlon championship. This competition consists of two legs: a running leg, followed by a cycling leg.

The route for the competition should be constructed in the following way. First, three distinct intersections $s$, $c$, and $f$ should be chosen for start, change and finish stations. Then the route for the competition should be built. The route should start in $s$, go through $c$ and end in $f$. For safety reasons, the route should visit each intersection at most once.

Before planning the route, the mayor wants to calculate the number of ways to choose intersections $s$, $c$, and $f$ in such a way that it is possible to build the route for them. Help him to calculate this number.

## Input

The first line contains integers $n$ and $m$: number of intersections, and number of roads. Next $m$ lines contain descriptions of roads ($1 \leq n \leq 10^5$, $1 \leq m \leq 2 \cdot 10^5$). Each road is described with pair of integers $v_i$, $u_i$, the indices of intersections connected by the road ($1 \leq v_i, u_i \leq n$, $v_i \neq u_i$). For each pair of intersections there is at most one road connecting them.

## Output

Output the number of ways to choose intersections $s$, $c$, and $f$ for start, change and finish stations, in such a way that it is possible to build the route for competition.

## Scoring

### Subtask 1 (points: 5)

$n \leq 10$, $m \leq 100$

### Subtask 2 (points: 11)

$n \leq 50$, $m \leq 100$

### Subtask 3 (points: 8)

$n \leq 100\,000$, there are at most two roads that ends in each intersection.

### Subtask 4 (points: 10)

$n \leq 1\,000$, there are no cycles in the street network. The cycle is the sequence of $k$ ($k \geq 3$) distinct intersections $v_1, v_2, \ldots v_k$, such that there is a road connecting $v_i$ with $v_{i+1}$ for all $i$ from 1 to $k-1$, and there is a road connecting $v_k$ and $v_1$.

### Subtask 5 (points: 13)

$n \leq 100\,000$, there are no cycles in the street network.

### Subtask 6 (points: 15)

$n \leq 1\,000$, for each intersection there is at most one cycle that contains it.

### Subtask 7 (points: 20)

$n \leq 100\,000$, for each intersection there is at most one cycle that contains it.

## Subtask 8 (points: 8)

$n \leq 1\,000$, $m \leq 2\,000$

## Subtask 9 (points: 10)

$n \leq 100\,000$, $m \leq 200\,000$

## Examples

| input | output |
|---|---|
| 4 3<br>1 2<br>2 3<br>3 4 | 8 |
| 4 4<br>1 2<br>2 3<br>3 4<br>4 2 | 14 |

## Note

In the first example there are 8 ways to choose the triple $(s, c, f)$: $(1, 2, 3)$, $(1, 2, 4)$, $(1, 3, 4)$, $(2, 3, 4)$, $(3, 2, 1)$, $(4, 2, 1)$, $(4, 3, 1)$, $(4, 3, 2)$.

In the second example there are 14 ways to choose the triple $(s, c, f)$: $(1, 2, 3)$, $(1, 2, 4)$, $(1, 3, 4)$, $(1, 4, 3)$, $(2, 3, 4)$, $(2, 4, 3)$, $(3, 2, 1)$, $(3, 2, 4)$, $(3, 4, 1)$, $(3, 4, 2)$, $(4, 2, 1)$, $(4, 2, 3)$, $(4, 3, 1)$, $(4, 3, 2)$.