Problem C. Cycles

Time limit 2000 ms
Mem limit 262144 kB

You are given an undirected graph consisting of n vertices and m edges. Your task is to find the number of connected components which are cycles.

Here are some definitions of graph theory.

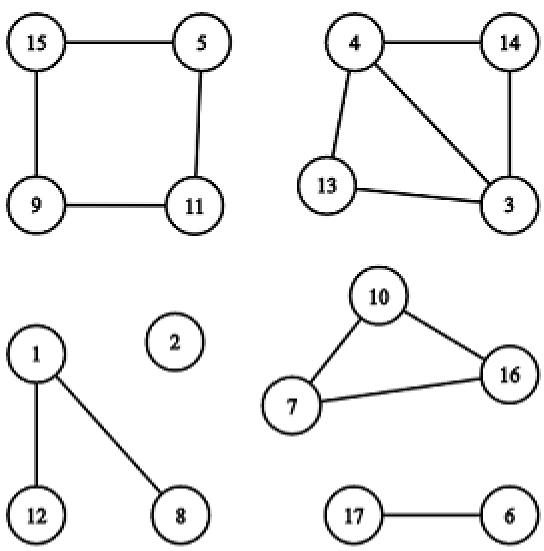
An undirected graph consists of two sets: set of nodes (called vertices) and set of edges. Each edge connects a pair of vertices. All edges are bidirectional (i.e. if a vertex a is connected with a vertex b, a vertex b is also connected with a vertex a). An edge can't connect vertex with itself, there is at most one edge between a pair of vertices.

Two vertices u and v belong to the same connected component if and only if there is at least one path along edges connecting u and v.

A connected component is a cycle if and only if its vertices can be reordered in such a way that:

- the first vertex is connected with the second vertex by an edge,
- the second vertex is connected with the third vertex by an edge,
- ...
- the last vertex is connected with the first vertex by an edge,
- all the described edges of a cycle are distinct.

A cycle doesn't contain any other edges except described above. By definition any cycle contains three or more vertices.



There are 6 connected components, 2 of them are cycles: $[7, 10, 16]$ and $[5, 11, 9, 15]$.

Input

The first line contains two integer numbers n and m ($1 \le n \le 2 \cdot 10^5$, $0 \le m \le 2 \cdot 10^5$) — number of vertices and edges.

The following m lines contains edges: edge i is given as a pair of vertices v_i, u_i ($1 \le v_i, u_i \le n$, $u_i \ne v_i$). There is no multiple edges in the given graph, i.e. for each pair (v_i, u_i) there no other pairs (v_i, u_i) and (u_i, v_i) in the list of edges.

Output

Print one integer — the number of connected components which are also cycles.

Examples

<table>
<tr><th>Input</th><th>Output</th></tr>
<tr><td><pre>5 4
1 2
3 4
5 4
3 5</pre></td><td><pre>1</pre></td></tr>
</table>

<table>
<tr><th>Input</th><th>Output</th></tr>
<tr><td><pre>17 15
1 8
1 12
5 11
11 9
9 15
15 5
4 13
3 13
4 3
10 16
7 10
16 7
14 3
14 4
17 6</pre></td><td><pre>2</pre></td></tr>
</table>

Note

In the first example only component $[3, 4, 5]$ is also a cycle.

The illustration above corresponds to the second example.