Problem B

We play the following game on a directed acyclic graph: At the beginning, there is a token on one of the vertices. The two players alternate, and in each turn, the current player removes a token from a vertex v and adds a token on one or two of the outneighbors of v. A player who cannot make a valid move (because all tokens are on vertices with no outneighbors) loses.

Input and output

The first line contains three integers n, m and t ($1 \leq n \leq 1000$, $0 \leq m \leq 10000$, $1 \leq t \leq n$): The number of vertices and edges of the graph and the number of the vertex t on which there is a token at the beginning of the game. Each of the m following lines contains two distinct integers u and v ($1 \leq u, v \leq n$), indicating that there is an edge from the vertex number u to the vertex number v. There is at most one edge between any two vertices, and the graph does not contain a directed cycle.

Output a single integer, the number of possible starting moves of the first player that guarantee that they will win (if they also play optimally afterwards).

Example

Input:

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

Output:

```
3
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