The edges of a directed graph can be classified into three types with respect to a spanning tree computed by DFS:

* A forward edge goes from a node to one of its decendants in the DFS tree
* A back edge goes from a node to one of its ancestors in the DFS tree
* A cross edges is neither of the above two

In this problem we will be counting the number of back edges of a directed unweighted graph.

**Input:**

Your program will be tested in several test Cases.

The first line of each test case contains two Integers **V (3 ≤ V ≤ 50)** The number of Vertices and **E (3 ≤ E ≤ V\*(V-1)/2)** the number of edges. Followed by **E** Lines.

Each line contains two Integers **a** and **b (0 ≤ a, b < V)** representing an edge from **a** to **b**.

## Output:

## For each test case print one single line containing the number of Back Edges the graph contains.