Parallel

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C++ — 2 sec — 512 MB

Long gone are the days of serialised computing. Bygone is the era of punchcards, smart glasses, and laserdiscs. History now holds the relics of limited computing power. The talented engineers at M.O.T.H.E.R. have just released a fully customisable Parallel Processor... at least, almost fully.

This new parallel M.O.T.H.E.R.board consists of two rows of pins, each labelled from 1 to **n**. Customers can customise their parallel processors by connecting a pin from the top row with a pin from the bottom row, using a colourful wire. So far, green has been the most popular. On purchasing a parallel processor, a customer will submit a set of desired pin connections.

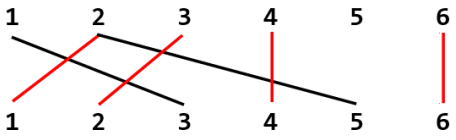
Due to physical constraints, no two wires may cross, but a pin may be connected to multiple wires. Thus, a customer's desired set of connections may not be possible. To placate any frustrated purchaser, the M.O.T.H.E.R. engineers will make the most possible connections from the customer's desired set.

INPUT You will be given integers **n**, the number of pins on both rows of the parallel processor, and **q**, the number of desired connections a customer wants to make. The next **q** lines contain 2 numbers, **a** and **b**, indicating that the customer wishes to connect the **a**th top pin with the **b**th bottom pin.

$5 \leq \mathbf{n} \leq 1{,}000{,}000{,}000$
$1 \leq \mathbf{q} \leq 1{,}000{,}000$

OUTPUT Output a single integer, the maximum number of connections that can made from the customer's desired set.

SAMPLE For example, suppose a customer wishes to buy a parallel processor with two rows of 6 pins. They want to connect the pins (1,3), (2,1), (2,5), (3,2), (4,4), and (6,6). However, many of these wires would overlap. The most connections that could be made is 4, connecting (2,1), (3,2), (4,4), and (6,6).



INPUT	OUTPUT
10 8 1 2	7

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2 6
3 4
4 5
4 9
2 3
3 7
3 8

5 11                                    6
1 3
2 1
1 5
3 1
2 4
3 3
3 5
5 3
4 2
4 5
5 1
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