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## Intermediate vertices

X34137\_en

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Given a directed graph and two different vertices  $u$  and  $v$ , compute how many vertices  $x$  different from  $u$  and  $v$  there are such that there exists some path from  $u$  to  $v$  passing through  $x$ .

### Input

The input consists in several cases. Each case begins with  $n$ ,  $u$ ,  $v$  and  $m$ , followed by  $m$  different pairs  $x y$ , with  $x \neq y$ , which indicate an arc that goes from  $x$  to  $y$ . Assume  $2 \leq n \leq 10^4$ ,  $0 \leq m \leq 10n$ , and that the vertices are numbered between 0 and  $n - 1$ .

### Output

For each case, write the number of vertices that can be visited when going from  $u$  to  $v$  following some path.

### Hint

For each case, essentially the expected solution only makes two traversals, each on the right graph.

### Sample input

```
9 7 4 9
8 7
7 1
7 2
7 5
1 3
2 3
3 4
6 4
4 0

2 0 1 0

3 0 1 2
1 2
2 0

4 0 2 3
0 2
2 3
3 0
```

### Sample output

```
3
0
0
1
```

### Problem information

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