

Running Away

time limit per test: 5 seconds
memory limit per test: 976.6 megabytes
input: standard input
output: standard output
points: 100 · problem code: running · author: inj

You are trying to run away from the police after stealing all of the MAPS prize money. The police begin at location 1 on day 0 and **MUST** move to an adjacent location *at the end of each day*. On day d , how many locations are guaranteed to not have police?

Input

The first line contains integers n, e, d : the number of locations, edges, and given day.

The next e lines contains integers u, v , specifying that location u and v are adjacent.

Output

Output the number of locations which are guaranteed to not contain police.

Constraints

- $1 \leq n, e \leq 10^5$
- $1 \leq u, v \leq n$
- $0 \leq d \leq 10^9$

Example 1

Input

```
10 12 3
1 2
2 3
3 4
4 5
5 6
6 7
7 8
8 9
9 10
7 7
4 6
3 8
```

Output

```
7
```

Example 2

Input

```
20 22 6
1 2
2 3
3 4
4 5
5 6
6 7
7 8
8 9
9 10
10 11
11 12
12 13
13 14
14 15
15 16
16 17
17 18
18 19
19 20
17 15
9 1
15 19
```

Output

```
10
```