

Perimeter

Time limit: 1 sec

You are a commander in an army. During a field exercise, you would like to set up several outposts around your base. There are **n** possible locations for the outposts, each are numbered from **1** to **n**. These locations may have a road connecting them. There are **e** such road, each of which directly connects a pair of locations. These roads have similar distance. Hence, you define the distance to the location as a smallest number of roads that you must walk pass from your base to reach that location.

You want each outpost to be exactly at distance **k**, meaning that you can travel from your base to that outpost over **k** roads. How many locations that you have to setup the outpost.

Input

- The first line of input contains three integers **n**, **e** and **k** where $1 \leq k \leq n \leq 1,000$ and $0 \leq e \leq 10,000$.
- The next **e** lines describe the roads, one road per line.
 - Each line contains two integer **a** and **b** indicating that there is a road connecting location **a** and **b**. The road can be used both way. Be noted that $0 \leq a, b \leq n$, i.e., there are **n+1** possible value for **a** and **b**.
 - The base is numbered as **0**.

Output

There must be **1** line showing the number of location that has a distance of exactly k.

Example

Input	Output
3 4 1 0 1 1 2 1 3 0 3	2
5 0 1	0
3 4 2 0 1 1 2 2 3 1 3	2