Do Not Turn Back

Input file:	`standard input`
Output file:	`standard output`
Time limit:	4 seconds
Memory limit:	1024 megabytes

You are given a simple connected undirected graph G with N vertices numbered from 1 to N and M edges numbered from 1 to M. Each edge $1 \leq i \leq M$ connects vertices u_i and v_i.

You are given a positive integer K, and you need to find the number of walks of length K from vertex 1 to vertex N such that no edge is used consecutively.

More formally, find the number of sequences $a = (a_0, a_1, \ldots, a_K)$ of length $K + 1$ that satisfy all of the following conditions:

- a_i is an integer between 1 and N for all $0 \leq i \leq K$.
- $a_0 = 1$ and $a_K = N$.
- There is an edge directly connecting a_{i-1} and a_i in G for all $1 \leq i \leq K$.
- $a_{i-2} \neq a_i$ for all $2 \leq i \leq K$.

Calculate the number of such sequences and output the answer modulo 998244353.

Input

The input is given from Standard Input in the following format:

N M K
u_1 v_1
u_2 v_2
$\vdots$
u_M v_M

- $1 \leq N \leq 100$
- $N - 1 \leq M \leq \dfrac{N(N-1)}{2}$
- $1 \leq K \leq 10^9$
- $1 \leq u_i < v_i \leq N (1 \leq i \leq M)$
- G is a simple connected undirected graph.
- All input values are integers.

Output

Print the answer in a single line.

Examples

standard input	standard output
6 8 5 1 2 1 3 2 3 2 4 3 5 4 5 4 6 5 6	2
11 11 2023 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10 11 1 11	1
7 21 1000000000 1 2 1 3 1 4 1 5 1 6 1 7 2 3 2 4 2 5 2 6 2 7 3 4 3 5 3 6 3 7 4 5 4 6 4 7 5 6 5 7 6 7	405422475

Note

In the first example, $1 \to 2 \to 3 \to 5 \to 4 \to 6$ and $1 \to 3 \to 2 \to 4 \to 5 \to 6$ both satisfy the conditions.