Problem L. Travel

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2.5 seconds
Memory limit:	256 mebibytes

"I'm tired of seeing the same scenery in the world." — *Philosopher Pang*

Pang's world can be simplified as a directed graph G with n vertices and m edges.

A *path* in G is an ordered list of vertices $(v_0, \ldots, v_{t-1})$ for some non-negative integer t such that $v_i v_{i+1}$ is an edge in G for all $0 \le i < t-1$. A *path* can be empty in this problem.

A *cycle* in G is an ordered list of distinct vertices $(v_0, \ldots, v_{t-1})$ for some positive integer $t \ge 2$ such that $v_i v_{(i+1) \bmod t}$ is an edge in G for all $0 \le i < t$. All circular shifts of a cycle are considered the same.

G satisfies the following property: Every vertex is in at most one cycle.

Given a fixed integer k, count the number of pairs (P_1, P_2) modulo 998244353 such that

1. P_1, P_2 are paths;
2. For every vertex $v \in G$, v is in P_1 or P_2;
3. Let $c(P, v)$ be the number of occurrences of v in path P. For every vertex v of G, $c(P_1, v) + c(P_2, v) \le k$.

Input

The first line contains 3 integers n, m and k ($1 \le n \le 2000, 0 \le m \le 4000, 0 \le k \le 1000000000$).

Each of the next m lines contains two integers a and b, denoting an edge from vertex a to b ($1 \le a, b \le n, a \ne b$).

No two edges connect the same pair of vertices in the same direction.

Output

Output one integer — the number of pairs (P_1, P_2) modulo 998244353.

Examples

standard input	standard output
2 2 1 1 2 2 1	6
2 2 2 1 2 2 1	30
3 3 3 1 2 2 1 1 3	103