Problem J. Determinant of a Graph

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

Consider a connected undirected graph in which the difference between the number of edges and the number of vertices is at most 50. Please find the determinant of its adjacency matrix modulo 998 244 353.

Input

The first line contains two integers n and m: the number of vertices and edges in the graph ($1 \le n \le 2 \cdot 10^5$, $n - 1 \le m \le n + 50$).

The next m lines describe edges of the graph. Each of them contains two integers u and v ($1 \le u, v \le n$): the two vertices connected by an edge.

It is guaranteed that the graph does not contain self-loops and multiple edges. It is guaranteed that the graph is connected.

Output

Print a single integer: the determinant of the graph's adjacency matrix modulo 998 244 353.

Examples

standard input	standard output
4 3 1 2 2 3 3 4	1
5 10 1 2 1 3 1 4 1 5 2 3 2 4 2 5 3 4 3 5 4 5	4
1 0	0
2 1 2 1	998244352