

Problem E. Minimum Spanning Tree

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

MianKing has a graph with n nodes and m edges, where the i -th edge (x_i, y_i) has an edge weight of w_i . The Minimum Spanning Tree of the graph is a spanning tree with the minimum sum of edge weights. MianKing forgot the weights $w_{1..m}$, but he still remembers that $w_{1..m}$ are a permutation of $\{1..m\}$ and that the edge set of the Minimum Spanning Tree of this graph consists of the first $n - 1$ edges. Now you need to help MianKing to calculate how many $w_{1..m}$ satisfy the conditions above. The answer may be very large, so you only need to output the answer modulo 998 244 353.

Input

The first line contains two integers n and m ($2 \leq n \leq 20$, $n - 1 \leq m \leq 100$). Then there are m lines, where the i -th line contains two integers x_i and y_i ($1 \leq x_i, y_i \leq n$). It is guaranteed that the edges $(x_1, y_1), \dots, (x_{n-1}, y_{n-1})$ form a tree with n nodes. Note that the graph may have multiple edges and self-loops.

Output

Output the answer modulo 998 244 353.

Examples

standard input	standard output
3 3 1 2 2 3 3 1	2
4 5 1 2 2 3 2 4 1 4 1 2	25
3 6 1 2 2 3 1 1 1 1 1 1 1 1	720